



GOVERNMENT OF KERALA  
STATE PLANNING BOARD

# **FOURTEENTH FIVE-YEAR PLAN 2022-27**

THIRUVANANTHAPURAM  
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## FOREWORD

Kerala has been, and remains, the most important example in independent India of the power of public action to improve the well-being of the people and to transform social, political, and cultural conditions. Kerala also continues to be the only State in India to use Five-Year Plans as an instrument for the development of the economy and society.

In the fourteenth five-year plan (2022-2027), the government will build upon its strengths in social expenditures (health, education, and housing), social welfare, and social and gender justice. The Fourteenth Five-Year Plan will build on these strengths in human development to create a modern, high-employment, high-productivity, high income economy. During this period, the State will modernise and enhance the system of higher education and provide Kerala's youth with the best forms of skilled employment available in a modern economy. The plan will also focus on developing the information technology sector as a core component of the knowledge economy. Plan Schemes will implement key infrastructure projects in power, transportation, roads, ports, and industrial corridors to accelerate economic growth. The plan will meet the challenges of sustainable development, including issues of climate change, disaster management, coastal protection and biodiversity development, and conservation.

Other major objectives of the fourteenth plan are to end extreme poverty in Kerala, ensure comprehensive systems of waste management, and strengthen Local Governments to become engines of growth. The Plan will also focus on inclusive development; our guiding principle is to leave no person behind. The Plan pays special attention to gender concerns and to the development needs of the people of the Scheduled Castes and Tribes.

All departments of Government and many individuals have contributed to the Fourteenth Five-Year Plan document. I commend the efforts of the officials of the Planning Board and departments, as well as members of Working Groups who contributed to the development of this document. Members of the Board have been very helpful in providing inputs and advice. I thank all those who have supported Kerala's unique planning process, an essential component of its development model.



V K Ramachandran  
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## **Chapter 1**

### **Fourteenth Five-Year Plan: An Overview**

In Kerala, the formulation of Five-Year Plans is an exercise undertaken with people's participation to structure popular aspirations into schemes and programmes, and to invest the scarce resources of the State's economy prudently to attain development goals. Kerala is the only State that has kept the commitment to continue the process of economic planning.

The State has had to confront multiple challenges with respect to natural disasters, the COVID-19 pandemic and limited financial resources, and setbacks caused by adverse Central policies. Yet, Kerala has been acclaimed for its remarkable achievements in several spheres, particularly in health and education. Among the bigger States, Kerala has the lowest infant mortality rate and death rate for children below five years of age. The infant mortality rate in Kerala in NFHS-5 (2019-21) is estimated at 4 deaths before the age of one per 1,000 live births, down from the NFHS-4 estimate of 6. In India as a whole, the corresponding figures are 35 and 40. The under-five mortality rate (U5MR) in Kerala is estimated to be five deaths per 1,000 live births, lower than the NFHS-4 estimate of seven. In India, the under-five mortality rate was 42 per 1,000 live births. Life expectancy in Kerala (75.3 years) is higher than that of India as a whole (69.4 years). Kerala achieved a maternal mortality rate of less than 30 per one lakh live births in 2019, one year ahead of the targeted year to attain the level in the United Nations' Sustainable Development Goals Index. The corresponding figure for India is 103. In terms of school education, Kerala has achieved universal enrolment and has the lowest dropout rate in India.

Maternal health is an important aspect for the development of any country in terms of increasing equity and reducing poverty. In Kerala, 94 per cent of women received antenatal care during the first trimester of pregnancy. Almost all children in Kerala born in the past five years were born in a health facility and the birth took place with assistance from a skilled health provider. However, children's nutritional status in Kerala has worsened since NFHS-4 by most measures. Anaemia is a major health problem in Kerala, especially among women and children. The overall prevalence of anaemia in children increased from 36 per cent in NFHS-4 to 39 per cent in NFHS-5. Anaemia among women has increased by 2 percentage points since NFHS-4. Nearly one-fifth (18%) of men in Kerala are also anaemic.

Kerala retained its top rank in the Sustainable Development Goals India Index for 2018, 2019 and 2020 consecutively. The composite score for Kerala improved from 69 in 2019 to 75 in 2021. Among the States, Kerala has the lowest headcount ratio of poverty and it is the top performer towards the SDG indices of Zero Hunger and Quality Education. Kerala has been selected as the least poverty-stricken State in the Multidimensional Poverty Index (MPI) 2021 of NITI Aayog. According to the MPI prepared based on the parameters of health, education and standard of living, only 0.71 per cent of the population falls below the poverty line in Kerala.

It is evident that the uncompromising efforts of the Government to ensure the welfare of the people despite facing many challenges, including the pandemic and natural calamities, laid the foundations for this achievement.

Three decades of neo-liberal policies followed by the Union Government and the outbreak of the COVID-19 pandemic held back social progress. The rich-poor gap is increasing by the day and the wealth of billionaires is growing exponentially. If in 1991 there was no Indian who was a billionaire, after 30 years there are 142 of them.



The latest analysis of global economic developments by the IMF, “The World Economic Outlook Update, July 2022: Gloomy and More Uncertain”, shows that the global economy, still reeling from the pandemic and the Russia-Ukraine conflict, is facing an increasingly gloomy and uncertain outlook. In the baseline scenario, global growth (real GDP, annual per cent change) is 3.2 per cent in 2022 and moderates to 2.9 per cent in 2023, lower than what was projected in the April 2022 World Economic Outlook by 0.4 and 0.7 percentage point, respectively. For emerging market and developing economies, the negative revisions to growth in 2022–23 reflect mainly the moderation in India’s economic growth. The outlook for India has been revised down by 0.8 percentage point, to 7.4 per cent. The global inflation figure has been revised upwards owing to higher food and energy prices as well as lingering supply-demand imbalances, and it is anticipated to reach 6.6 per cent in advanced economies and 9.5 per cent in emerging market and developing economies this year – upward revisions of 0.9 and 0.8 percentage point, respectively.

India has been on a rising trajectory in the Global Innovation Index – from a rank of 81 in 2015, it rose to the 46th position in 2021. India was ranked first among the Central Asian and South Asian nations and second among the lower-middle income countries. In the India Innovation Index – 2021, the overall score of India is 14.56. Even though it is low, India is striving to enter the league of the top 25 nations in the Global Innovation Index.

The India Innovation Index ranks 36 Indian States based on innovation scores calculated by measuring the performance in Human Capital, Investment, Knowledge Workers, Business Environment, Safety and Legal Environment, Knowledge Output and Knowledge Diffusion dimensions. Among the 17 major States, Kerala had the eighth rank with the overall score of 13.67 in 2021. Known for its quality education and health sectors, the State, unsurprisingly, performed well in the human capital indicator. But the performance on other indicators is more or less stagnant, and concerted efforts are required to improve the rank to a desired-level.

### **13th Five-Year Plan Period**

The preceding five years of the 13th Plan period (2017-22) were unprecedented in many ways. There were extreme weather events: cyclone Ockhi in 2017, and extreme rainfall events followed by floods and mudslides in 2018 and 2019. And the crisis associated with the COVID-19 pandemic unsettled the economy as never before and continues to inflict pain on the economy throughout 2021 and beyond.

During the floods of 2018, Kerala demonstrated exceptional capability in undertaking immediate rescue and relief operations. The Government initiated virtually instantaneous efforts to rebuild and rehabilitate the economy through the Rebuild Kerala Initiative (RKI). During the COVID-19 pandemic, Kerala’s policy response was swift and people-oriented. The Government ensured that no one went hungry, that no one remained without a shelter, and that everyone had access to the health services system. The Government had announced two economic packages, one at the beginning of the pandemic in March 2020 itself, and another to address the second wave in June 2021, each with an outlay of Rs 20,000 crore. Even though, during the COVID-19 pandemic in 2020-21, the economy contracted by 3% in nominal terms from the level of 2019-20, the Government took all possible initiatives to address the pandemic efficiently and mitigate the hardships of the common people.

There has been a huge reduction in the revenues of the State due to the policies adopted by the Union Government in the distribution of financial resources to States. This has pushed Kerala into a financial crisis. There have been consistent reductions in the share of Central taxes made by successive Finance Commissions, thereby penalising a State such as Kerala that has been giving priority for sectors including Health, Education and Social Security. The Union Government is unilaterally increasing the cesses and

surcharges, which are not shareable with States, to compensate its losses from the exemptions in direct taxes given to the corporates, and thereby denying the States their due share.

COVID-19 worsened the fiscal situation of the State, with revenues declining and expenditure commitments rising. Nonetheless, due to the economic rejuvenation measures initiated by the State Government, the economy rebounded strongly, with tax collection including GST collections showing a steady improvement. Government spending including infrastructure spending was stepped up through KIIFB projects to spur demand and sustain growth. Higher capital spending through the Rebuild Kerala Initiative, with the objective of “Build Back Better” with climate resilience, was also ensured. All these collective measures by the Government speeded up economic recovery. The economy is now expected to continue its growth momentum with a GSDP growth rate of nearly 11 per cent in the ensuing financial year.

Kerala being a State that is aiming to step up capital formation, these developments are especially challenging for the Government. The real value of available financial resources can erode and more resources would have to be diverted to providing support to the vulnerable sections that were hurt by the pandemic and are now being burdened with inflation. The uncertainties inherent in the situation weigh heavily on resource mobilisation prospects during the 14th Five-Year Plan.

#### **Formulation of 14h Five-Year Plan**

As Kerala enters the third decade of the 21st century, it has to face a unique set of challenges for all-round development in a scientific and rational manner. While deepening and extending its achievements in human development, these gains will be used as a foundation to create employment opportunities, particularly for the youth, to enhance productive forces and increase incomes from production in agriculture, industry and income-bearing services, and to build infrastructure. The State has to increase its investment in infrastructure significantly to generate funds for social welfare schemes from revenue earned through capital investments and thereby for the creation of a new Kerala (*Navakeralam*). Infrastructure development must be resilient in the face of climate extremes. Disaster prevention must be ensured in the development process and should not come as an afterthought.

With the experience of the 25-year-old People's Plan Campaign, Kerala is in the process of formulating the 14th Five-Year Plan. The general approach of the Plan is premised on the principle that no one should be excluded from the development process. The rapid growth of the productive forces in the economy is part of the general approach. Climate change and disaster management are also becoming part of the development paradigm. The 14th Plan will help meet the challenge of sustainable development scientifically and logically. The challenges include eradicating extreme poverty, building an employable and productive economy, modernising higher education, and creating better employment avenues for the youth.

Empowering women and promoting gender equality in every sphere of life are essential to improving their lives and achieving the Sustainable Development Goals. The Government is giving top priority to improving the living conditions of those suffering extreme poverty in Kerala. A small minority suffers extreme poverty even as Kerala is at the forefront of all dimensions of the index of life, a quarter century since the People's Plan Project. The Government is set to identify such marginalised people and devise micro-plans to help them transcend the poverty line.

The State is entering the 14th Five-Year Plan with an alternative approach to move forward by preserving Kerala's development achievements and addressing its weaknesses. The Government is committed to creating positive changes in the social sector and the infrastructure sector. It is giving priority to measures to speed up infrastructure development, create an investor-friendly environment and make Government

services available to the people sans delay and sans corruption. The Government has formulated schemes with a long-term perspective on development. It aims to develop Kerala as a knowledge society with emphasis on welfare, development and employment opportunities. The Government has adopted the vision of mobilising the people as a whole for development activities.

In September 2021, the State Planning Board began wide consultations and discussions for the preparation of the 14th Five-Year Plan. The Board constituted 44 Working Groups that addressed specific issues and concerns in different sectors. Each Working Group was co-chaired by an expert in the sector and the Additional Chief Secretary or Secretary concerned. The total number of members of all Working Groups put together was about 1,200. The members of the Working Groups included scholars, administrators, social and political activists, and other experts. The reports of the Working Groups formed valuable inputs for the formulation of our 14th Five-Year Plan.

As part of the planning process, the State Planning Board has formulated the Approach Paper (draft), which reflects the general approach of the Five-Year Plan and the strategies to be adopted in different sectors of the economy.

#### **Thrust areas of the 14th Five-Year Plan**

The 14th Five-Year Plan will continue to build on the strengths of the State of Kerala in social investment (particularly in health, school education and housing), social welfare, and social and gender justice. It will use these strengths as a springboard for further and accelerated growth in the productive forces in the economy. The 14th Five-Year Plan will ensure sustained efforts to apply science, technology, cutting-edge skills, and the skills available to a “knowledge economy”, to enhance growth in agriculture, allied activities, modern industry, infrastructure-building, and income-bearing services. Economic policy will be designed to modernise and enhance the system of higher education, and to provide the youth with the best forms of skilled employment available in a modern economy.

The 14th Five-Year Plan aims that, over the next 25 years the standard of living in Kerala will be that of an advanced middle-income country internationally – with the additional feature that this development process will be inclusive. The guiding principle is that the development process under the leadership of the present Government will not leave any person behind.

In five years, Kerala will be set on the path to an innovation society, with innovation as an objective for multiple sectors of the economy and all sections of society. The creation of such an innovation culture, especially in science, technology and productive activity, is indispensable to a modern, democratic and sustainable future. Higher Education will be a major area of priority development for the Government of Kerala.

The main objectives of the 14th Five-Year Plan are the following:

1. To build on strengths in social investment (health, school education, and housing), social welfare, and social and gender justice.
2. To use the strengths of the State in human development to build a knowledge society and accelerate growth of the productive forces in the economy.
3. To apply science, technology and modern skills to enhance growth in agriculture, allied activities, modern industry, infrastructure development, and income-bearing services, including information technology, tourism, and retail trade.
4. To build a modern, high-employment, productive economy.
5. To modernise and enhance the system of higher education and provide Kerala’s youth with the best forms of skilled employment available in a modern economy.
6. To end extreme poverty in Kerala.

7. To establish comprehensive and innovative systems of waste management.
8. To help Local Governments become engines of growth.
9. *To promote an inclusive development process.* The guiding principle of the development process will be to leave no person behind.

#### **Resource estimation for 14th Five-Year Plan**

With respect to resource mobilisation, the 14th Five-Year Plan will face four new challenges. First, in accordance with the 15th Finance Commission's recommendations, the share of Kerala in the shareable pool of taxes will decline from 2.5 per cent to 1.925 per cent. Secondly, the benefits that Kerala received in recent years in the form of revenue deficit grants are due to end in 2023-24. Thirdly, the compensation for revenue losses relative to a promised trajectory of 14 per cent growth ended in June 2022. Finally, the ceiling for borrowing as a proportion of Gross State Domestic Product (GSDP) for States will be brought back to 3 per cent in 2025-26.

Given these challenges and the fact that own tax revenue growth is subdued in the State, mobilising resources for the 14th Five-Year Plan is a challenging task. The Working Group on Financial Resources and Resource Mobilisation appointed for the formulation of the 14th Five-Year Plan suggested that, if the level of spending made in the 13th Plan period (that is, 3.5 per cent of GSDP each year) were maintained in the 14th Five-Year Plan, the resources for the 14th Plan would be around Rs 2.15 lakh crore.

The resource projection for the 14th Five-Year Plan made by the Working Group is based on the following assumptions.

1. The nominal GSDP is assumed to grow at 10 per cent per annum from 2022 to 2024 and thereafter at 11 per cent for the remaining three years of the Plan period.
2. The share of Central taxes is projected to grow at 15 per cent for 2022-23 and then at 12 per cent for the remaining years of the Plan period.
3. The growth in State's own tax revenue is projected at 12.7 per cent over the 14th Plan period. This is based on the current trend of recovery in the economy.
4. The growth in non-tax revenue is projected to grow at 10 per cent.
5. Non-Plan grants, which are mainly grants recommended by the 15th Finance Commission, are projected to grow in line with the recommendations of the Finance Commission.
6. The trend in net borrowing for the 14th Plan is assumed to be as recommended by the 15th Finance Commission.

The resources of the Government will be supplemented by investments from the Kerala Infrastructure Investment Fund Board (KIIFB). KIIFB, established in 2016, has approved 962 projects with a total outlay of Rs 70,762 crore as of February 2022. Investment in infrastructure by KIIFB will have a multiplier effect on the economy.

The 14th Five-Year Plan will support interventions by cooperative institutions in increasing investment in the primary sector, in agricultural marketing and product aggregation, in industry and services, in retail trade, and in other sectors. The Planning Board looks forward to Kerala Bank, the flagship establishment in Kerala's cooperative structure, refining its development role, broadening the portfolio of banking products that it offers to the people, and contributing to economic growth.

The 14th Five-Year Plan will be an important milestone in Kerala's journey from a society that fulfills basic needs to one that is characterised by all-round prosperity, sustainability, and social justice for all.



## Chapter 2

### Financing the Plan: Current Challenges

Kerala is the only State in India to maintain its commitment to the planning process and to formulate Five-Year Plans for the development of the State. The Government of Kerala in the last five years has initiated several steps to enhance the rate of production and income in the economy amidst the most challenging circumstances. As Kerala enters the 14th Five-Year Plan period, the key challenge before the State is the severe constraint in mobilising financial resources for the implementation of the Plan. The framework within which revenue accrues to the State and resources are devolved from the Centre to the State has been altered drastically during the 13th Five-Year Plan period with the implementation of the Goods and Services Tax regime in 2017 and the recommendations of the 15th Finance Commission (FC). Further, the floods of 2018 and 2019, and the COVID-19 pandemic, significantly affected the State's economic activities and resource generation, and also increased debt dependence as a result of enhanced borrowing for relief and mitigation measures. The State is facing constraints in raising additional resources through borrowings because of new restrictions and conditionalities being imposed by the Central Government. In this context, mobilising finances for the Plan is a difficult task before the State Government. To mobilise resources for the development of the State, it is imperative that economic growth gains momentum.

#### Growth Trend in Gross State Domestic Product

Despite natural calamities that were unprecedented in terms of their spread, scale and impact, the State registered positive growth up until 2019-20. The nominal Gross State Domestic Product (GSDP) increased from 9.64 per cent in 2015-16 to 12.36 per cent in 2018-19, against 10.46 per cent and 10.51 per cent nominal GDP growth for the country as a whole during the corresponding period. The floods of 2018, which were of a severe magnitude, adversely affected economic growth in the State, and the GSDP growth declined to 4.58 per cent in 2019-20. The COVID-19 pandemic further accentuated economic losses and the GSDP shows negative growth of 3.01 per cent in 2020-21. Though growth is expected to pick up in the coming years, there are looming challenges in terms of inflation, inadequate finances to revive the economy and the adverse implications of national and global economic crises.

Table 2.1 *Trend in Gross State Domestic Product, 2011-12 to 2021-22, in Rs crore and per cent*

Year	GSDP (Rs in crore)	Growth rate (in %)
2011-12	3,64,048	12.18
2012-13	4,12,313	13.26
2013-14	4,65,041	12.79
2014-15	5,12,564	10.22
2015-16	5,61,994	9.64
2016-17	6,34,886	12.97
2017-18	7,01,588	10.51
2018-19	7,88,286	12.36
2019-20	8,24,374	4.58
2020-21	7,99,571	-3.01
2021-22 (RE)	9,01,998	12.81

Source: Budget documents of various years, State Finance Department, Government of Kerala

#### Fiscal Space of the State

The total tax revenues as per cent of GSDP had been declining continuously after 2012-13, the rate being significant in the case of own tax revenues. The resources generated through GST also fell, partly owing to the design of the tax system and partly because of failures in its implementation. As far as performance on the GST front is concerned, Kerala has fallen short of the projected revenue growth in the case of both SGST and IGST settlement proceeds. Total GST and related revenues garnered by Kerala fell from Rs 21,014.71 crore in 2018-19 to Rs 20,028.31 crore in 2020-21. In the same period, Kerala's dependence

on GST compensation rose from Rs 3,558 crore to Rs 12,145 crore. As the likelihood of States getting full or even partial settlement of compensation after June 2022 is low, the possibility of a significant shortfall in revenue looms large.

The growth of State's Own Tax Revenue (SOTR) had been losing momentum. The major source of SOTR are State Goods and Services Tax, Sales Tax on petroleum and alcoholic liquor on human consumption, Stamps and Registration fees, State Excise Duties, Motor Vehicle Tax and Land Revenue. SOTR growth declined from 23.25 per cent in 2010-11 to 9-10 per cent during the initial phase of the GST regime in 2017-19. The floods of 2018 and the COVID-19 pandemic further affected economic activities, and the tax revenue growth turned negative at (-)0.63 per cent in 2019-20 and (-)5.29 per cent in 2020-21. In fact, the total tax revenue as per cent of GSDP has been consistently low. The ratio of SOTR to the State's GSDP fell from 6.64 per cent in 2016-17 to 5.96 per cent in 2020-21. One silver lining was evidence of some resilience in terms of GSDP figures, which rose from Rs 7,88,286 crore in 2018-19 to Rs 7,99,571 crore in 2020-21 and Rs 9,01,998 crore (RE) in 2021-22.

The State's resource position worsened in 2019-20 because of the fall in Central transfers to Kerala. As a result, the total revenue receipts of the State fell from Rs 92,854 crore in 2018-19 to Rs 90,225 crore in 2019-20. As revenue receipts remained depressed, the revenue and fiscal deficits increased to 2.51 per cent and 4.4 per cent respectively in 2020-21. The revenue deficit has considerably widened in 2020-21 even after receiving revenue deficit grants of Rs 19,891 crore. This level of revenue deficit is, in the present circumstances, unsustainable.

Table 2.2 Overview of State finances, 2016-17 to 2022-23, in Rs crore

Items	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22 (RE)	2022-23 (BE)
<b>Revenue Receipt</b>	<b>75,612</b>	<b>83,020</b>	<b>92,854</b>	<b>90,225</b>	<b>97,617</b>	<b>1,17,888</b>	<b>1,34,098</b>
% of GSDP	11.91	11.83	11.78	10.94	12.21	13.07	13.41
State Tax Revenue	42,176	46,460	50,644	50,323	47,661	58,868	74,098
% of GSDP	6.64	6.62	6.42	6.10	5.96	6.53	7.41
State Non Tax Revenue	9,700	11,200	11,783	12,265	7,327	10,038	11,770
Of which Lotteries Net	7,283	9,034	9,265	9,974	4,873	6,974	8,402
% of GSDP	1.53	1.60	1.49	1.49	0.92	1.11	1.18
<b>Central Government Transfers</b>	<b>23,735</b>	<b>25,361</b>	<b>30,427</b>	<b>27,636</b>	<b>42,628</b>	<b>48,982</b>	<b>48,230</b>
% of GSDP	3.74	3.61	3.86	3.35	5.33	5.43	4.82
Capital Receipt	26,771	27,218	27,215	24,160	41,268	46,912	39,490
% of GSDP	4.22	3.88	3.45	2.93	5.16	5.20	3.95
Total Receipts	1,02,383	1,10,238	1,20,070	1,14,385	1,38,884	1,64,800	1,73,588
% of GSDP	16.13	15.71	15.23	13.88	17.37	18.27	17.36
<b>Total Expenditure</b>	<b>1,02,383</b>	<b>1,10,238</b>	<b>1,20,070</b>	<b>1,14,385</b>	<b>1,38,884</b>	<b>1,64,800</b>	<b>1,73,588</b>
% of GSDP	16.13	15.71	15.23	13.88	17.37	18.27	17.36
Revenue Expenditure	91,096	99,948	1,10,316	1,04,720	1,23,446	1,49,803	1,57,066
Of which expenditure on Lotteries	5,992	7,627	7,819	8,475	4,627	6,305	8,325
% of GSDP	14.35	14.25	13.99	12.70	15.444	16.61	15.71
Loan and disbursement	1,160	1,541	2,323	1,210	2,549	2,771	1,631
% of GSDP	0.18	0.22	0.29	0.15	0.32	0.31	0.16
Revenue Deficit	15,485	16,928	17,462	14,495	20,064	23,176	22,968
% of GSDP	2.44	2.41	2.22	1.76	2.51	2.57	2.30
Fiscal Deficit	26,448	26,837	26,958	23,837	35,204	37,656	39,117
% of GSDP	4.17	3.83	3.42	2.89	4.40	4.17	3.91
Primary Deficit	14,332	11,717	10,210	4,623	14,228	15,541	13,151
% of GSDP	2.26	1.67	1.30	0.56	1.78	1.72	1.32
Outstanding Debt	1,86,454	2,10,762	2,35,631	2,60,311	2,96,901	3,33,592	3,71,692
% of GSDP	29.37	30.04	29.89	31.59	37.13	36.98	37.18
<b>GSDP (Current Price)</b>	<b>6,34,886</b>	<b>7,01,588</b>	<b>7,88,286</b>	<b>8,24,374</b>	<b>7,99,571</b>	<b>9,01,998</b>	<b>9,99,643</b>

Source: Budget in Brief, 2022-23, State Finance Department, Government of Kerala

## GST and Kerala

The implementation of the Goods and Services Tax regime in July 2017 constituted a major transformation of the indirect tax regime in the country. The States ceded taxation rights on as much as 52 per cent of their own tax revenues to the GST Council, with commodities and services subject to a

common set of limited tax rates across the country. More than four years since the launch of the GST regime, evidence suggests that the new tax system has not lived up to its promise of enhancing revenue yields for the State Governments. Systemic design flaws exacerbated by glitches in the technical infrastructure, and difficulties of discovering and implementing a revenue-neutral rate structure are the major reasons. Adding to that, the inherited pre-GST economic slowdown worsened by the Centre's demonetisation exercise contributed to the sluggish growth.

A comparison of the average annual growth rate of taxes subsumed by GST over the pre-GST years 2014-15 to 2016-17 with the growth of SGST and IGST settlement revenues during 2017-18 to 2019-20 reveals that the rates for Kerala fell significantly from 8.67 per cent to 3.47 per cent. Even with a post-pandemic revival in economic activity, therefore, it is unlikely that revenue growth will correspond to the trajectory that would have prevailed if the GST regime had not been introduced. Kerala, along with many other States, are demanding the extension of GST compensation beyond June 2022. Delays in receipt of GST compensation also affected the finances of the State.

### Dependence on Central Transfers

Given the attrition in the State's own tax and non-tax revenues, access to enhanced Central transfers to finance budgetary expenditures grew in importance. However, developments on this front were not all positive. Central transfers to the State include: (i) a share of Central taxes based on the formula recommended by the Finance Commission; (ii) Finance Commission recommended grants-in-aid for purposes such as covering revenue deficit, disaster relief, assistance to local bodies, and financing of sector-specific and State-specific schemes; and (iii) grants disbursed by the Central Government and its Ministries. The growth of Central receipts to the total State receipts increased from 23 per cent in 2017-18 to 30 per cent in 2020-21. Hike in the non-Plan grants during this period is the major reason. In 2017-18, growth of non-Plan grants increased from 7.63 per cent to 16 per cent in 2020-21. The 14th FC increased the States' share of sharable tax revenue of the Centre to 42 per cent from 32 per cent as recommended by the 13th FC. However, these figures exaggerate the benefit accruing to the States, for a number of reasons. To start with, over the years the Centre has relied on surcharges and cesses that are not included in the divisible pool to enhance its revenues, depriving States of a share. The loss to all States on this account from 2012-13 to 2020-21 was around Rs 2.5 lakh crore. For Kerala, the loss was around Rs 6,392 crore. Second, with the abolition of the Planning Commission of India and the Central plans, Central assistance in the form of Plan grants based on the Gadgil formula was withdrawn.

Table 2.3 *Resource transfers from Centre to Kerala, 2010-11 to 2021-22, in Rs crore and per cent*

Year	Share in Central Taxes and Duties		Grants from Finance Commission		Plan Grants		Non-Plan Grants other than FC		Total Transfers	Total transfer to total receipts (in %)
	Amount	% to total Central transfer	Amount	% to total Central transfer	Amount	% to total Central transfer	Amount	% to total Central transfer		
2010-11	5,141.9	70.1	434.4	5.9	1,698.0	23.1	64.2	0.9	7,338.5	18.9
2011-12	5,990.4	61.8	1,174.3	12.1	2,275.8	23.5	259.0	2.7	9,699.6	19.3
2012-13	6,841.0	69.4	600.6	6.1	2,364.1	24.0	56.9	0.6	9,862.2	16.5
2013-14	7,468.7	64.4	1,568.1	13.5	2,458.8	21.2	111.3	1.0	11,606.9	17.5
2014-15	7,926.3	51.4	1,574.3	10.2	5,523.9	35.8	409.8	2.7	15,434.3	20.1
2015-16	12,690.7	58.7	5,171.5	23.9	3,744.0	17.3	5.9	0.0	21,612.0	24.8
2016-17	15,225.0	64.1	4,954.8	20.9	3,260.0	13.7	295.6	1.2	23,735.4	23.2
2017-18	16,833.1	66.4	3,182.0	12.6	3,409.1	13.4	1,936.7	7.6	25,360.9	23.0
2018-19	19,038.2	62.6	1,646.2	5.4	3,953.8	13.0	5,789.0	19.0	30,427.1	25.3
2019-20	16,401.1	59.4	2,343.0	8.5	3,317.2	12.0	5,575.0	20.2	27,636.3	24.2
2020-21	11,560.4	27.7	18,048.8	43.2	5,455.1	13.1	6,721.4	16.1	41,785.7	30.1
2021-22 (RE)	17,332.1	35.4	22,559.0	46.1	6,000.0	12.3	3,091.1	6.3	48,982.2	29.7

Source: Medium Term Fiscal Policy and Strategy Statement, 2021-22 to 2023-24, Government of Kerala



Third, the 14th FC concluded that grants for both sector-specific and State-specific schemes by the FC are not necessary, and compensated States through increase in their Central tax revenue share. And, finally, the Centre's contribution in expenditures incurred for Centrally Sponsored Schemes (CSS) was reduced from 75 per cent to 60 per cent, which diverted more of the States' own resources away from programmes they had prioritised. Central transfers to Kerala have been declining over the years. Among the southern States, the total expenditure by the Centre on CSS has been the lowest for Kerala. Kerala's share is less than 2 per cent, whereas the share of Andhra Pradesh, Karnataka and Tamil Nadu is more than 5 per cent in the total expenditure on CSS by Centre.

### Plan Size over the Years

Having risen from Rs 10,024.57 crore in 2010-11 to Rs 29,896.78 crore in 2017-18, Plan expenditure fell to Rs 24,445.21 crore in 2019-20. It was only the expenditure financed with enhanced borrowing in 2020-21 that took Plan outlay to a new peak (Rs 36,214.22 crore). But that is unlikely to be sustained in the immediate future, and a return to higher levels of Plan spending will require innovative measures for resource mobilisation.

Table 2.4 Trends in Plan outlay and expenditure, 2010-11 to 2021-22, in Rs crore and per cent

Year	State Plan Outlay	Growth Rate (in %)	Expenditure
2010-11	10,025	12.39	10,024.57
2011-12	12,010	19.80	11,758.89
2012-13	14,010	16.65	14,736.93
2013-14	17,000	21.34	14,901.28
2014-15	20,000	17.65	15,567.26
2015-16	20,000	0.00	21,310.70
2016-17	24,000	20.00	24,470.73
2017-18	26,500	10.42	29,896.78
2018-19	29,150	10.00	26,047.32
2019-20	30,610	5.01	24,445.21
2020-21	27,610	-9.80	36,214.22
2021-22	27,610	0.00	27,872.46*

Note: \* Expenditure figures taken from PlanSpace portal of Kerala State Planning Board

Source: Various Annual Plan, Budget in Brief, 2022-23, Government of Kerala

The severe resource constraint faced by the State is affecting the outlay for Plans, especially since 2018-19. The Plan outlay in 2019-20 registered only a 5 per cent increase; in previous years the annual increase was more than 10 per cent. In fact, the outlay for the Plan declined by 10 per cent in 2020-21. In 2021-22, the same outlay as in 2020-21 was maintained. In the 13th Five-Year Plan, though the Plan size envisaged was Rs 2 lakh crore, because of natural disasters and Central Government policy measures, the actual outlay was only Rs 1.40 lakh crore.

### Resources during the 13th Five-Year Plan

Borrowings continued to be the main source of financing during the 13th Plan period. Details of the scheme of financing and realisation versus projection during the 13th Plan are in Table 2.5.

Table 2.5 13th Plan scheme of financing – projection and realisation, in Rs crore

SL. No.	ITEM	2017-18		2018-19		2019-20		2020-21		2021-22	
		BE	Actual	BE	Actual	BE	Actual	BE	Actual	RE	Actual
(i)	Balance from Current Revenues	-5,160.1	-4,155.6	-1,547.3	-7,525.2	1,771.6	-5,776.3	-5,612.8	-7,579.1	-7,396.1	-6,357.4
(ii)	Provident Fund, Small Savings (Net)	4,877.6	7,206.8	4,187.5	9,619.2	4,915.7	8,274.1	5,285.7	11,548.0	6,417.1	18,447.5
(iii)	Miscellaneous Capital Receipts (Net)	-2,227.1	2,875.9	-4,490.6	1,219.4	-8,543.7	-260.3	-5,190.6	-2931.7	-3,819.3	-1,972.4
(iv)	Small Savings (NSSF)-(Net)	-349.2	1,047.7	890.6	1,051.1	778.3	1,787.9	1,597.7	2438.2	1,694.2	2,732.8
(v)	Net Market Borrowings (SLR Based)	20,221.2	16,203.2	20,469.0	13,984.1	21,234.0	12,617.0	22,152.5	23,066.0	21,256.1	18,120.0
(vi)	Negotiated Loans (Net)	-326.9	-274.4	-325.8	353.8	-300.0	-109.7	-407.1	-407.5	-376.2	-507.5

(vii) ACA for EAPs/Other ACA Schemes	1,578.2	577.5	1,296.7	575.0	2,108.2	2,203.9	1,823.7	1,565.9	2,438.0	915.2
(viii) NABARD Loans	1,000.0	600.0	1,000.0	625.9	800.0	637.1	600.0	521.5	750.0	519.8
(ix) Central Loan Repayment	-841.1	-1,037.7	-980.3	-1,197.0	-1,304.6	-1,293.9	-1,447.2	-1,343.0	-1,367.8	-1,400.5
I Total i to ix	18,772.5	23,043.5	20,500.0	18,706.3	21,460.0	18,080.0	18,802.0	26,878.3	19,596.1	30,497.6
II LSGI (II)	6,227.5	5,298.4	7,000.0	5,745.5	7,500.0	4,041.1	7,158.0	7,008.1	7,280.0	6,978.5
III KSEB (III)	1,500.0	1,555.0	1,650.0	1,595.6	1,650.0	2,324.2	1,650.0	2,327.8	1,037.5	2,318.0
Total Outlay (I+II+III)	26,500.0	29,896.8	29,150.0	26,047.3	30,610.0	24,445.2	27,610.0	36,214.2	27,913.6	39,794.2

Source: Budget documents of various years, State Finance Department, Government of Kerala

### Financing the 14th Five-Year Plan

The Government aims to build a modern, high-employment economy and enhance production and income in the State during the 14th Five-Year Plan. To achieve these objectives, the State requires efforts to increase State Own Tax and State Non Tax revenues. In this context, Plans and the planning process play a significant role. Plans define the development approach of the Government and assists in prioritisation of resources to achieve the development vision of the Government. Financing of the Plan, therefore, assumes importance especially in the present context where there is need for a delicate balancing of priorities with available resources.

A Working Group on Financial Resources and Resource Mobilisation was constituted as part of the formulation of 14th Five-Year Plan. Based on GSDP projections during the 14th Five-Year Plan and the average size of Plan in the 13th Five-Year Plan, the Working Group has estimated the amount of resource required during the 14th Plan period.

With the State's economy showing signs of recovery from the adverse impact of COVID-19, nominal GSDP is projected to grow at 12.5 per cent for the first year and 13.5 per cent for the remaining period of the 14th Plan. The projected GSDP figures from 2022-23 to 2026-27 are shown in Table 2.6.

Table 2.6 Projected GSDP for 14th Five-Year Plan, in Rs crore

Year	2022-23	2023-24	2024-25	2025-26	2026-27
GSDP (nominal)	9,99,643	11,24,598	12,76,419	14,48,736	16,44,315

Source: Finance Department, Government of Kerala

During the 13th Plan period, the average Plan outlay was around 3.5 per cent of GSDP. If the same-level of expenditure is to be maintained in the 14th Five-Year Plan period, given the GSDP projections, the resources required would be to the tune of Rs 2,25,000 crore.

### Challenges to Raising Resources in the 14th Plan

Kerala faces several challenges in the 14th Five-Year Plan in raising financial resources for the development of the State. First, the implementation of GST has limited the fiscal space to raise resources through taxes. Also, equal apportionment of GST rates between the Union and State has led to a substantial erosion of the tax base of States. As the likelihood of continuance of GST compensation is bleak, Kerala will face a severe shortage of finances.

Second, as per the 15th FC's recommendations, the share of Kerala in the shareable pool of taxes has declined from 2.5 per cent in the 14th FC period to 1.925 per cent in the 15th FC period (2021-26). The reduction in the share will affect the resources available to the State.

Third, Revenue Deficit Grant will cease after 2023-24. The 15th FC has recommended Revenue Deficit Grant for Kerala of Rs 15,323 crore for 2020-21, Rs 19,891 crore for 2021-22, Rs 13,174 crore for 2022-23 and Rs 4,749 crore for 2023-24.

Fourth, the ceiling of borrowing as a proportion of GSDP for States will be brought back to 3 per cent (it was raised to 5 per cent during the pandemic) in 2025-26. Low resource-base States such as Kerala often

follow the frontload borrowing system to manage their fiscal requirements in the initial months of the financial year. Delay in getting sanction from the Union Government on frontload borrowing arrangements in recent years has created issues of fiscal management for the State.

#### **Suggestions to Augment Resource Mobilisation in the 14th Plan**

Proactive measures are critical to ensure a positive growth trend in State own tax revenues. Unless the decline in growth rates of major components of own tax revenues is reversed, the State will not have adequate fiscal space to discharge its expenditure obligations.

#### **Recommendations of the working group on financial resources and resource mobilisation**

The Working Group on Financial Resources and Resource mobilisation has made the following suggestions to enhance the financial resources of the State.

1. Improving collection of Goods and Services Tax is indispensable. Administrative and enforcement measures of the GST Department need to be focussed to improve tax collection. GST offices have to be modernised and effective systems of tapping information from various sources about tax evasion need to be developed.
2. Thrust to be given to modernise the GST administration. The GST Department may have a Tax Planning Research Unit to collect information on real-time basis. As part of concurrent monitoring, the quarterly trends in sub-sectors of the economy have to be reviewed to focus on potential areas for revenue mobilisation. The Tax Planning and Research Unit can analyse these trends and recommend specific measures to enhance collection. The GST Department needs to have a vision statement to achieve the growth rate of 18 per cent per annum from 2021-22.
3. The concept of jurisdiction in assessment needs to be done away with. Based on a risk-based checklist, cases will have to be centrally selected for scrutiny and given to assessment circles across the State on a random basis.
4. The surveillance on inter-State goods transactions needs to be improved.
5. A concerted effort to explore new sources of non-tax revenues needs to be initiated.
6. Along with all efforts to raise resources through tax and non-tax sources, the State also needs to focus on rationalisation of expenditure, especially revenue expenditure. Various Committees, including the Public Expenditure Review Committees appointed by the Government have reviewed the pattern of expenditure and made suggestions for rationalising it. In the wake of declining resources and rising expenditure, prioritising items of expenditure assumes significant importance.
7. Efforts need to be taken to augment resources by tapping low-cost Rural Infrastructure Development funds of NABARD and funds under CSS and Central schemes.

#### **Crowding-in effect of KIIFB's infrastructure spending**

KIIFB has been pivotal in attracting additional investments into the State and helped in spearheading infrastructure projects in the State. For instance, the development of national highways in the State, which was held up on account of high costs of land acquisition, was revived with KIIFB providing the State's share of 25 per cent of the land acquisition costs to the National Highways Authority of India (NHAI). Timely disbursements of the amount entailed NHAI contributing the remaining 75 per cent for land acquisition, and consequently the NH development work has picked up pace. Investment in infrastructure of this magnitude will have a multiplier effect in the economy. With the expanded scope and structure provided under the amended Act, KIIFB is now mobilising and channelling funds for facilitating planned, hassle-free and sustainable development of both physical and social infrastructure.

The following are other measures suggested to enhance financial resources in the State:

**Generating economic growth**

1. Identify sectors of growth potential such as tourism, food processing, IT, pharmaceuticals, and research and development and encourage growth and employment creation in these sectors.
2. Provide fiscal incentives to improve ease of doing business.
3. Public-Private Partnership model to be adopted in large-scale infrastructure projects, where appropriate.
4. State Export Policy to be formulated with emphasis on improvement of export infrastructure and diversification of goods and services. Sectors such as agriculture, food processing and pharmaceuticals may be accorded priority.
5. Tap the large market for activities in the areas of arts and sports in Kerala. Incentivise organisation of mega sporting events and cultural events, which would lead to generation of economic activity and tourist inflow. These, in turn, will generate tax and non-tax revenues for the State.

**Revenue maximisation**

1. The Government should mobilise additional resources through a combination of rationalising expenditure and expanding the revenue base.
2. Make efforts to reduce tax evasion by means of a broad base, low rates, limited exemptions, easy compliance and effective use of big data and technology.
3. Tapping of hitherto unexplored tax sources, namely, urban immovable property tax, entertainment tax and taxes and duties on electricity. It is necessary to create a database for new tax and non-tax sources with good revenue potential so that they can be adequately tapped.
4. Strengthen own tax revenue mobilisation by improving the growth of major own tax revenue sources. For instance, the e-stamping facility followed in many States such as Tamil Nadu and Karnataka can be introduced to prevent malpractices in land registrations.
5. Considering that revenue from the sale of State lotteries constitute 66.5 per cent of Kerala's own non-tax revenue, enhancing the revenue from lottery may be explored.
6. Review, streamline and digitise the current tax administration with the goal of increasing efficiency, simplifying compliance and creating predictability and consistency in the tax regime.
7. Revitalisation of PSUs would add substantial non-tax revenue in the form of dividends and profits.

**Expenditure rationalisation**

1. Efforts should be made to increase the share of capital expenditure within the budgetary allocations, including in the social sector.
2. In capital expenditure, focus must be on projects where social benefits exceed their economic costs. A well-defined scientific formula by accommodating the net present values of cash flows must be devised for capital expenditure projects.
3. Timely and periodic monitoring of social welfare programmes must be conducted by employing modern technology equivalent to the system of Public Financial Management System implemented by the Union Government.

**Strengthening the essence of fiscal federalism**

1. The share of the States in the Central divisible pool can be increased from 41 to 50 per cent.
2. More voting powers to States in decision-making and removing the effective veto enjoyed by the Centre in the GST Council
3. Union Finance Commission may estimate the actual loss incurred by the State because of implementation of GST and recommend appropriate compensation.
4. The criteria for horizontal devolution of taxes should treat population as a scientific indicator, taking into account the demographic variations within each State.
5. The Central Government should share enhanced amount of resources through CSS.

6. Local Governments need to be given freedom to fix priority in spending devolved funds. The funds may be used for improving the delivery of public services, infrastructure development, plans for local-level development, and strengthening administrative machinery.
7. Deficit targets and borrowing limit should be based on the economic conditions and assessing the growth in fiscal requirement of the State.
8. Adequate freedom should be given to State Governments to mobilise funds including borrowing from outside the Budget for development purposes while ensuring legislative accountability.

Kerala's efforts to improve its finances through the fiscal consolidation path have been jolted by a series of policy setbacks in realms beyond the control of the State Government. These included demonetisation, non-revenue-neutral rate apportionment and implementation problems in GST. The conditions attached by the Centre for availing extra borrowings have invited criticism from States for violating the spirit of cooperative federalism. Cooperative federalism would be meaningful only when adequate fiscal support is forthcoming in times of distress. In order to materialise the objectives of 14th Five-Year Plan, an adequate resource base is indispensable. The State cannot afford any slippage in own-revenue mobilisation. Efforts to strengthen own resource generation must be accorded high priority in the fiscal sphere.

## Chapter 3

### Agriculture and Allied Activities

#### 3.1 AGRICULTURE

##### Overview

Agriculture in Kerala is distinct with its biodiversity, predominance of perennial crops, a large number of marginal farmers and small land holdings, and homestead farming. The sector has witnessed significant changes over the years. There has been a transformation from food crops to non-food crops, changes in the land use pattern and a shift from an agrarian economy to secondary and tertiary sectors.

The annual growth rate of agriculture and allied sectors has been fluctuating. The annual growth rate (GSVA at constant 2011-12 prices) of agriculture and allied activities (including crops, livestock, forestry and logging and fishing and aquaculture), which was (-) 0.65 per cent in 2016-17, went up to 2.11 per cent in 2017-18. The negative growth rate in the subsequent two years due to the unforeseen adversities of two consecutive floods, Ockhi, and the COVID-19 pandemic was compensated to a certain extent in 2020-21 with an increase in growth rate to 3.38 per cent. The growth rate of 5.54 per cent in crop production contributed significantly to the development of the sector in 2020-21.

A substantial number of households still depend on agriculture. As reported in the NSSO's Situation Assessment Survey (SAS) of 2018-19, 33 per cent (14 lakh households) of the 44 lakh rural households in Kerala are "agricultural households", of which 34.4 per cent are self-employed in crop production. As on 2015-16, there are 75.83 lakh operational holdings. The average size of operational holdings in the State has shrunk to 0.18 ha and the total holdings in the size group below 1 hectare accounts for 96.7 per cent of the total number of holdings, indicating the intensification of fragmentation of holdings.

There has been considerable change in the land use pattern as indicated by the increase in the share of non-agricultural area, cultivable wasteland and fallow land other than the current fallow extent in the total geographical area of Kerala in 2020-21 compared to 2000-01. The total cultivated area has declined from 77 per cent to 66 per cent in the same period.

The cropping pattern has undergone significant changes in the State. The share of food crops in the gross cropped area, which was 37.46 per cent in 1980-81, decreased to 11.03 per cent by 2020-21. The share of major cash crops in gross cropped area, however, has increased from 44.59 per cent to 62.3 per cent during the period. Among crops, coconut occupies a significant portion of the total cropped area with 29.9 per cent.

The Department of Agriculture Development and Farmers' Welfare spearheads the implementation of agricultural development programmes in the State. The programmes are categorised under crop husbandry, marketing, storage and warehousing. Vegetable and Fruit Promotion Council, Kerala (VFPCCK), the Kerala State Warehousing Corporation, the Kerala State Horticultural Products Development Corporation (Horticorp) and the State Horticulture Mission, associate themselves with the Department in the implementation of schemes based on the mandates of these agencies. VFPCCK operates with the mandate of promoting vegetable and fruit production, value-addition and marketing. Horticorp has the roles of procurement, processing, storage and marketing, and preventing unreasonable price hikes of horticultural produce. The Kerala State Warehousing Corporation provides scientific storage and warehousing facilities for agricultural produce. The Kerala Agricultural University undertakes programmes for the development of research and education in the fields of Agriculture, Forestry, Agricultural Engineering, and Cooperation and Banking.

### 13th Five-Year Plan

The focus of the 13th Five-Year Plan was on ensuring productivity, profitability and sustainability in the sector. The strategy for agricultural development during the 13th Plan aimed to increase the area under paddy to 3 lakh ha and vegetables to 1.05 lakh ha. With the objective of increasing production and productivity and enhancing farmers' income, importance was given to crop-specific development programmes including for coconut, pepper, millets, medicinal plants, fruit plants, pulses, tubers and floriculture. Farm mechanisation to reduce the cost of cultivation, the extension of agro service centres to all Blocks to address the shortage of labourers, strengthening market facilities in rural and urban areas and promoting value addition to increase the income of farmers were the other areas of focus.

During the 13th Plan, the total budgeted outlay under the State Plan for Agriculture was Rs 3773.75 crore. Of this, an allocation of Rs 3391.47 crore was for crop husbandry, agricultural marketing and other programmes, storage and warehousing, and special area programmes comprising the Wayanad package and Special Agriculture Zone. The allocation to agriculture research and education was Rs 382.28 crore. The financial performance of agriculture including Agriculture Research and Education is shown below. In addition to the State Plan, the fund flow to the agriculture sector during the 13th Plan period included Rs 521.57 crore under the Rebuild Kerala Initiative (RKI) and Rs 100.13 crore under the Kerala Infrastructure Investment Fund Board (KIIFB) for projects that are in different stages of implementation.

Table 3.1 *Budgeted outlay and expenditure of Department of Agriculture, by sub-sector, 13th Plan, Kerala, in Rs crore and per cent*

Subsector	Budgeted Outlay (Rs)	Expenditure (Rs)	Expenditure as proportion of outlay (per cent)
Crop Husbandry (including SS to CSS)	2,952.1	2,637.35	89
Marketing, storage, warehousing	329.92	277.82	84
Other programmes	7.75	23.3	246
Wayanad Package and Special Agriculture Zone	101.7	62.06	61
Sub-total	3,391.47	3,000.53	89
Agriculture Research and Education	382.28	187.47	49
Total	3,773.75	3,188	84

Source: Department of Agriculture

### Major achievements of the 13th Plan

During the 13th Plan period, the downward slide in the area under paddy cultivation could be arrested. From 1.97 lakh ha in 2015-16, this increased to 2.02 lakh ha in 2020-21 despite two consecutive floods, Ockhi, and the COVID-19 pandemic. There has been a steady increase in the production and productivity of paddy since 2017-18. The highest production and productivity for paddy in the last ten years, of 6.27 lakh tonnes and 3,105 kg per ha respectively, were recorded in 2020-21. Another notable achievement is the improvement in the vegetable sector as reflected in the increase in area from 46,500 ha in 2015-16 to 1.02 lakh ha 2020-21, with a rise in production from 6.3 lakh metric tonnes to 15.7 lakh tonnes during the corresponding period.

The major initiatives during the period include the setting up of the Coconut Development Council, the fruit development programme and agro-ecology-based crop planning. The Coconut Development Council was constituted in 2018 with a 10-year development vision to revive coconut farming in the State through replanting and planting high yielding and local varieties, enhancing productivity and ensuring forward linkages with agro industry. The activities during the three years, concentrated mainly on the production and distribution of coconut seedlings of West Coast tall, hybrid and high-yielding varieties. All of 21.66 lakh seedlings were distributed for planting. The *Keragramam* programme implemented for

the integrated management of coconut holdings was extended in 275 *Keragramams* with the objective of increasing production and productivity.

The Comprehensive Fruit Development Programme was introduced in 2020 with the objective of popularising the cultivation of fruit crops including indigenous fruits and exotic fruits. The initial activities were focused on increasing coverage under fruit crops, and 2.20 crore plants including grafts, layers and seedlings of nearly 30 varieties were distributed.

Considering the importance of crop choice and crop management prescriptions on a regional basis to ensure economic and ecological sustainability and farmer welfare, the Department of Agriculture Development and Farmers' Welfare decided to shift to planning and implementation of schemes based on the concept of five agro-ecological zones and 23 agro-ecological units.

A new initiative in the field of agricultural extension was the establishment of Block-level Agricultural Knowledge Centres (AKC) with the participation of scientists of the Kerala Agricultural University, field-level officials, people's representatives and farmer representatives. These came into existence in all the 152 Blocks in the State in 2020-21, to serve as hubs of scientific information for various interventions, and to train farmers in the latest advances.

The Department of Agriculture, with the Animal Husbandry, Fisheries, Cooperation and LSG departments implemented the *Subhiksha Keralam* project launched by the Government of Kerala, during the COVID-19 pandemic to overcome the shortage of food supplies. Through this programme 19,711.89 ha of fallow land was brought under food crops including paddy, vegetables, fruits, tubers, pulses and millets. Rain shelter cultivation was extended to 1,23,142 square metres, and the Integrated Farming System established in 14,680 units. Through these programmes employment was provided to 3,684 Non-Resident Indians (NRIs) and 7,658 youth.

The major achievements with respect to strengthening infrastructure facilities for quality control in the agriculture sector were the establishment of the Bio fertilizer and Organic Manure Quality Control Laboratory (BOQCL) at Pattambi in 2020 to ensure quality control of bio fertilizers and organic manure and the establishment of Pesticide Residue Laboratories at the College of Horticulture, Vellanikkara, the College of Agriculture, Padannakkad and the Regional Agricultural Research Station, Kumarakom, as part of the 'Safe to Eat' programme. For the comprehensive promotion of vegetables and flowers through the adoption of better practices and by creating value chains to fetch higher income to farmers, a Centre of Excellence related to vegetables and flowers is being established in Wayanad District.

In order to address the issue of post-harvest losses due to lack of cold storage and infrastructure facilities, an integrated vegetable and banana packing centre with 20 tonne storage capacity including precooling, cooling and ripening facilities was established in Wayanad with funding support from the Agricultural and Processed Food Products Export Development Authority (APEDA). More than 35 tonnes of fruits and vegetables could be exported from Wayanad. The establishment of a jack fruit trading centre at Idukki under the VFPCCK was a step in this direction.

In order to ensure price stability for farmers' produce, base prices were fixed for 16 varieties of vegetables and fruits. Farmers are compensated with the difference in price whenever the price fell below the base price. This is done under the "Kerala farm fresh *Pazham Pachakkari* – base price" programme introduced in 2021-22. The programme is implemented through 550 selected markets under the Primary Agricultural Credit Societies (PACS) and the Agriculture Department.



Considering the importance of Farmer Producer Organisations in promoting activities in agriculture and allied sectors, the State Government focused on providing a favourable environment for the creation of FPOs by providing necessary technical and managerial skills along with marketing infrastructure facilities. The Kerala Farmer Producer Organisations (FPO) Policy, 2020 was formulated in May 2020 and operational guidelines were issued for FPOs. In 2021-22, FPOs numbering 85 were constituted in the State through the VFPCCK and the Small Farmers' Agribusiness Consortium (SFAC).

As part of promoting value addition and agripreneurship, assistance to establish 48 micro, small and medium enterprises was provided by SFAC, Kerala since 2017-18 and these are successfully functioning in the State.

An important initiative for farmer welfare was the establishment of a Farmer Welfare Fund Board in 2020 to implement the pension schemes and welfare programmes of the Agriculture Development and Farmers' Welfare Department.

As part of strengthening education, research and extension in the agriculture sector, a College of Agriculture was established at the Regional Agricultural Research Station (RARS), Ambalavayal, Wayanad District with an intake of 60 students. The total number of seats for B.Sc (Ag) programme was increased from 210 to 420, and the number of seats in the postgraduate and Ph.D. programmes were enhanced to 352 and 105 from 311 and 79 respectively in the colleges of the Kerala Agricultural University.

Highlights in the field of agricultural research during the 13th Plan period include the release of 35 varieties in different crops. These included eight varieties of rice, nine varieties of vegetables, one variety of coconut, 12 varieties of spices, and five other crop varieties. The development of four secondary micronutrient mixtures, namely, Ayar, Sampoorana, Banana Micromix and Vegetable Mixture, and the KAU Weed Wiper for weed control in the paddy fields of Kuttanad were other highlights. The KAU facilitated the highest number of GI registrations in the country among SAUs to local agricultural produce of Kerala. These include GI registration for Nilambur teak, Chengalikodan nendran banana, Marayoor jaggery and Tirur betel leaf.

#### **Critical gaps**

1. Low productivity levels in comparison to other States as well as with the maximum attainable productivity under scientific practices.
2. Low-level of adoption of technologies, which is identified as a major reason for the low productivity and the yield gap of crops in the State.
3. Lack of availability of quality planting materials to meet demand.
4. Shortage of labour.
5. Lack of machinery designed for small farms.
6. Small and fragmented production leading to a largely fragmented supply chain, riddled with numerous intermediaries such as distributors and re-sellers extracting high margins.
7. Absence of a well-developed marketing mechanism for agricultural commodities, depriving farmers of remunerative prices. Lack of an efficient supply chain, facilities for aggregation of commodities and adequate market infrastructure with cold storage facilities.
8. Underdeveloped post-harvest facilities and cold chain infrastructure.
9. Weak research extension linkages and lack of an efficient extension mechanism.
10. Lack of convergence and coordination across departments in implementing programmes.

#### **14th Five-Year Plan**

The major thrust of the 14th Five-Year Plan will be to revive the growth rate in the agriculture sector focussing on increasing productivity, intensifying and bridging the yield gap adopting modern

technologies. Marketing interventions will give importance to aggregation, supply chain development and linkages with value addition and agro-processing sectors. Emphasis will be given to enhance farmers' income and ensure profitability. Considering the importance of farming becoming resilient to climate change, thrust will be given to innovations in agricultural research for climatically adapted, environmentally sustainable scientific agricultural practices integrating digital technology.

#### **Objectives of the 14th Plan**

The objective of the 14th Plan is to achieve productivity improvement, income growth, food security and nutrition security. With the predominance of fragmented small holdings and homestead farming in the State, thrust will be given to reorient schemes towards a system-based approach encompassing crops, livestock, fisheries, and activities such as beekeeping and sericulture. Integrated farming system models suited to homesteads and specific to Agro Ecological Units (AEUs) will be evolved and popularised on the basis of a farmer participatory approach. With the objective of minimising crop loss risks and maximising income per unit area, a crop diversification and integrated farming system approach will be popularised in farms.

Considering the importance of achieving a rapid increase in production of its major crops over the next decade, the crop development programmes of the State encompassing rice, vegetables, coconuts, fruits, spices, pulses, tubers, and minor crops such as sesamum, groundnut, sugarcane and millets will be promoted with focus on productivity, ecological sustainability and economic viability. The concept of AEU-based crop planning will be integrated, enabling a scientific selection of crops and crop management prescriptions on a regional basis. An AEU-based package of practices for different crops will be developed by the Kerala Agricultural University, for adoption at the field-level.

The major thrust will be on raising the area under paddy to 3 lakh ha and to double the production of vegetables in the State. The strategy for doubling vegetable production will lay stress on commercial cultivation in potential AEUs through a cluster-based approach adopting AEU-based production protocols and modern technologies. Targets built on a production plan and a marketing plan developed for each AEU will be focussed on crop development programmes with the activities of all stakeholder departments and agencies converging. Production programmes will be restructured to ensure linkages with value addition and agro processing and marketing.

Good agricultural practices including organic farming will be promoted under proper certification and traceability mechanisms. In this context, the promotion of export-oriented crops, especially of GI-tagged produce will be a priority.

Climate-smart agriculture will be given importance with the objective of increasing production and incomes, adapting and building climate resilience and reducing greenhouse emissions. While agricultural programmes will strive to reduce the carbon footprint through environment-friendly activities, scientifically proven strategies will be upheld.

Demand-based supply of quality seeds and planting materials will be enabled through the development of an efficient seed supply chain linking agencies such as the KAU, the VFPCCK, the Department of Agriculture, the National Seeds Corporation (NSC) and identified seed companies. This will be supported through the development of a seed production plan at the State and district-level. Attention will be given to the modernisation of State farms to undertake seed multiplication and popularisation of new varieties, with farmer participation and ensuring quality control through seed certification mechanisms. Along with the popularisation of new varieties, equal importance will be given to conservation of local germ plasm collection.

In order to sustain soil and water resources through judicious and scientific usage, strategies will be designed to tap the full irrigation potential of the State to increase crop productivity by coordinated efforts of the Departments of Agriculture and the Department of Irrigation. Soil testing-based site-specific recommendations will be popularised. The thrust will be on integrated nutrient management and integrated pest management. Soil Health Cards distributed to farmers will facilitate this.

The development of land use plans at the Panchayat-level for efficient and sustainable use of natural resources will be given importance. The average holding size being 0.18 hectare, small farm mechanisation is a critical factor in addressing the issue of labour shortages. Farm mechanisation efforts will give a thrust to the development of machines and implements suitable for small farm sizes and their utilisation in farms. Single window delivery of services including the supply chain for hiring machinery will be targeted by integrating Agro Service Centres, *Karshika Karma Senas* and Custom Hiring Centres.

Involving local unemployed youth in agriculture will be the aim, by training them in the technologies that can be employed in production systems and for establishing a specialised workforce with skills by means of skill development in various segments.

Strategies to strengthen the extension mechanism and effective research-extension linkage will focus on greater involvement of research institutions through the Block-level Agricultural Knowledge Centres, capacity-building of micro-level extension personnel, through increased interface by research institutions and through the use of Information and Communications Technology (ICT) platforms. Efficient extension support for technology transfer will be enabled through On-Farm Trials (OFT), and Field Level Demonstration (FLD) units of the KAU, farm schools and capacity-building initiatives by the Agricultural Technology Management Agency (ATMA).

Krishi Bhavans in the State will be modernised to become “Smart Krishi Bhavans”. They will focus on productivity-enhancing interventions for farmers through scientific land use and crop production strategies, timely supply of quality inputs, and interlinking output marketing to realise maximum value by utilising latest technologies including Information Technology.

With the 14th Plan focussing on increasing production and productivity, the agricultural marketing system will be equipped to handle the quantity of produce generated for better price realisation and income to farmers. Market development will concentrate on the creation of aggregation facilities and strengthening market infrastructure including cold storage facilities involving Local Governments, the VFPC, the Department of Agriculture and other stakeholders with support from the KAU. Besides the development of a regulated supply chain network for inputs, services and products, establishment of markets linked to farmers or farmers’ cooperatives or farmers’ producer companies will be given preference. Digital connectivity of markets and the development of a unified e-commerce platform will be planned to enable better price recovery and provision of real time market information to farmers. Alongside the creation of markets, formation of more farmer producer organisations will be encouraged with a mandate for production, aggregation, storage, processing, marketing, and export of agricultural produce.

With wastage of agricultural produce adding up to 30 per cent of production each year, thrust will be given on improving post-harvest facilities and cold chain infrastructure. Importance will be given for the creation of federations of markets for viable linkage of production with the value-addition and processing sectors. Private investments will be encouraged in the sectors of value-addition and agro-processing.

With the objective of attracting youth to agriculture and creating employment avenues, the State will strive to promote entrepreneurship in agriculture and facilitate agri start-ups and agri-incubators.

Empowerment of women in agriculture will focus on providing technical skill-based training in production, processing and marketing, as well as in floriculture and apiculture.

Digital agriculture will be promoted through the application of digital technology. This will seek to increase efficiency in production systems, improve access to output, input and markets, strengthen quality control and traceability. This will enable an innovative ecosystem with open datasets, digital platforms, digital entrepreneurship, digital payment systems and digital skills for equitable technology adoption.

While aiming for increased productivity through scientific agriculture, agricultural research needs to be responsive. Agricultural research will be equipped to meet the emerging challenges especially in the context of climate variability and changing cropping patterns. Adoption of new applications in research such as biotechnology, gene editing (CRISPR) and nanotechnology will be encouraged to develop high-yielding crop varieties resistant to pests and diseases, acidity, alkalinity, salinity, flooding and high temperatures. Strategies for agricultural research will concentrate more on the development of technologies and strengthening agricultural research infrastructure to sync with new technologies such as Artificial Intelligence and robotics and their application in agriculture.

Convergence of activities among different departments and utilising the strengths of decentralised governance and the cooperative movements in the State will be the key focus during the 14th Plan period, to enable the judicious use of the available resources.

#### **Key initiatives proposed in the 14th Five-Year Plan**

A major initiative proposed during the 14th Plan is the farm plan-based development with the objective of tapping the resource potential scientifically at the basic farm unit-level and providing maximum returns per unit area to the farmer through multiple cropping and farming systems. Under this programme, each farm unit will be developed on a scientific plan based on the resource potential of the farm. Integrated Farming System models encompassing crops, livestock, fisheries and other enterprises such as apiculture and sericulture will be part of this approach. This programme has been initiated in 2022-23 under three schemes encompassing pre-production, production and post-production support.

Programmes for the promotion of value-addition and agro-processing, including agripreneurship development, will be supported in coordination with PACs, Local Governments, cooperatives, Kudumbhasree and the Industries Department. The Value Added Agriculture Mission (VAAM) will be responsible to undertake measures to address the existing institutional, infrastructural, financing, marketing, and knowledge and information constraints in the promotion of entrepreneurship in agriculture.

Agriculture research programmes will concentrate on the development of scientifically validated recommendations on crops and cropping patterns, including the varieties and production packages for each AEU. Other major focus areas of research will include development of short-duration, stress-tolerant, climate-resilient varieties, protocols for precision farming and innovations in digital agriculture. The programmes of the KAU will be aligned to the broader strategies of agriculture development undertaken by the State Department of Agriculture.

### **3.2 ANIMAL HUSBANDRY AND DAIRY**

#### **Overview**

The livestock sector contributes significantly to incomes in the economy. Livestock play an important role in agriculture by supplying inputs, additional nutrition for family members, providing employment opportunities and supplementing incomes, particularly for women and landless labourers. Modernisation and value addition in the sector offer enormous growth opportunities, especially for the youth and women. The dairy sector also plays a pivotal role in achieving Sustainable Development Goals 1, 3, 5, 8 and 10.

According to the Situation Assessment Survey (SAS, NSS 70th round Report), only 51.6 per cent of all agricultural households in Kerala were involved in animal farming in 2012-13, while the corresponding national average was 71.9 per cent. The average monthly income of an agricultural household was Rs 17,915 in Kerala, of which only Rs 1,050 (5.8 per cent) came from animal farming. Currently it is a minor additional source of income for Kerala's agricultural households.

In the agricultural sector, livestock contributed 27.1 per cent of Gross State Value Added (GVSA) in 2017-18 and the figure was 28.21 per cent by 2020-21. In addition, its share of GVSA increased from 2.57 per cent in 2017-18 to 2.66 per cent by 2020-21. The major livestock products in the State are milk, meat and eggs. During the 13th Plan period, there has been an increase in livestock numbers. The results of the 2019 Livestock Census demonstrate the effectiveness of the interventions in the sector. The livestock population of the State rose from 27.3 lakh to 29 lakh between 2012 and 2019 (6.5 per cent). There has been a moderate increase in cattle populations (1.02 per cent) within the livestock population. The population of goat (9.07 per cent) and pigs (86.19 per cent) rose substantially. Between 2012 and 2019, the poultry population in Kerala increased by about 54 lakh.

As of 2020-21, the State produced 25.34 lakh metric tonnes of milk, and the total requirement was 33.37 lakh. Egg production declined from 235 crore in 2017-18 to 217.68 crore by 2020-21. It is estimated that about 11 lakh chickens perished during the 2018 floods. The meat supply was 4.55 lakh tonnes while the total requirement was 4.94 lakh tonnes, and 0.28 lakh tonnes of processed meat was imported, leaving a deficiency of 0.11 lakh tonnes.

Multiple agencies are associated with the Animal Husbandry Department to ensure the development of technologies, dissemination of scientific knowledge, and overall development of the sector. They include the Kerala Veterinary and Animal Sciences University, the Kerala Livestock Development Board, the Kerala Cooperative Milk Marketing Federation, the Kerala State Poultry Development Corporation, Meat Products of India and Kerala Feeds. These agencies have provided substantial allocations to improve the performance of the sector in terms of productivity, disease control, fodder production, value addition, adoption of scientific breeding practices and so on during the 13th Plan period.

### **13th Five-Year Plan**

During the 13th Five-Year Plan period, Rs 908.68 crore was allocated to the sector and an expenditure of Rs 793.74 crore was incurred. About 87 per cent of the allocated amount was expended by the Department. Considerable increase in Plan allocation was noticed in the first two years of the 13th Plan period. The devastating floods during 2018 and 2019 marred the Plan allocation to the sector but a slight hike was visible during the last two years. The total Plan allocation for the dairy sector also showed a rising trend during the first three years. The allocation rose from Rs 97.75 crore in 2017-18 to Rs 108.5 crore in 2019-20, registering a growth rate of 11.02 per cent. It is noticed that the outlay was expended almost fully by the Department during the 13th Plan period.

The 13th Plan focussed on the promotion of allied sectors, inter-sectoral linkages, technical and extension support, measures to attain self-sufficiency, promotion of 'Safe to Eat' products, marketing, branding,

standardisation and processing, insurance coverage and risk management, enabling institutional and organisational forms, climate, natural resource management issues, policy and advisory services, 24X7 veterinary and consultancy services, promotion of innovation and entrepreneurship, food safety issues with regard to milk, meat, egg and other products, and so on.

Table 3.2 *Budgeted outlay and expenditure of Animal Husbandry and Dairy Development Department, 13th Plan, Kerala, in Rs crore and per cent*

Year	Animal Husbandry Department			Dairy Development Department		
	Budgeted Outlay	Expenditure	Expenditure as proportion of the outlay	Budgeted Outlay	Expenditure	Expenditure as proportion of the outlay
2017-18	19,271	15,878.01	82	9,775	12,863.4	132
2018-19	19,810	16,919.28	85	10,753	11,399.55	106
2019-20	18,967	12,691.15	67	10,853	7,598.52	70
2020-21	16,320	17,863.57	109	9,621	9,464.68	98
2021-22	16,500	16,022.16	97	9,621	8,639.62	90
Total	90,868	79,374.17	87	50,623	49,965.77	99

Source: Department of Animal Husbandry and Department of Dairy Development

With respect to milk production, the Government's objectives were to improve the production and distribution of livestock feed, increase fodder production, re-orient extension services, expand insurance facilities in the field and strengthen and modernise milk cooperatives, linking them at the State-level with the help of a unified software solution.

#### Major achievements of the 13th Plan

Serious interventions were made during the 13th Plan period to increase the benefits from the animal husbandry and dairy sectors. Certain achievements directly caused an enhancement in production and productivity, while some others were of importance from the policy perspective. The opening of 31 veterinary hospitals working 24X7 covering around 45 Blocks across the State was a major achievement during the period. An insurance scheme for cattle has been introduced, covering 85,000 animals. Four regional laboratories under the Animal Resources Department have received accreditation. Two tele-veterinary units have been established. About 500 artificial insemination centres for goat have been opened. The Animal Husbandry Department has developed Geographic Information System (GIS)-based mapping of farmers, named *Bhoomika*, to build a geospatial data base of farmers engaged in animal resources activities, for the effective management and monitoring of health, breeding, production, risk and disaster management, and human resource management. Enterotoxaemia vaccine production started at the Institute of Animal Health and Veterinary Biologicals in Palode. Special emphasis was provided for promoting goat production during the 13th Plan period through schemes such as the Goat Satellite scheme.

Another achievement was the commencement of the Kerala Chicken programme, the project intended to supply safe broiler chicken at reasonable price to consumers, and to develop a viable livelihood opportunity for farmers. Eighty-two Kerala Chicken outlets have been opened so far, with sales reaching Rs 106 crore. In order to ensure consistent supply of good quality cattle feed at a reasonable price to dairy farmers of northern Kerala, a 300 TPD (tonnes per day) cattle feed plant with a budgetary support of Rs 46 crore was set up at Thiruvangoor in Kozhikode.

During the period, there was a 16.46 per cent rise in milk procurement, moving the State towards self-sufficiency in milk production. Dairy cooperatives numbering 134 have been newly registered and 120 dormant societies revived and made functional. In Kerala, around eight lakh families are involved in

dairying activities. The dairy cooperative societies are the backbone of the sector in Kerala. Membership in dairy cooperatives has risen by 25,000 during the 13th Plan period. Annual milk production of the State is 26 lakh tonnes, and collection through dairy cooperatives reached a record figure of 21.37 lakh litres per day in December 2021. There was around 30 per cent hike in milk procurement during the period from 2015-16 to 2020-21. Around 9.5 lakh person-days of employment were generated every year in the dairy cooperative sector. The Integrated Dairy Development Programme and the Dairy Zone Programme in select districts or blocks provided an impetus to dairy development. Establishment of heifer parks and calf adoption programme helped stabilise the dairy sector. As a part of herd induction programme, financial assistance was extended for acquiring 29,577 milch animals and 7,576 heifers. The Comprehensive Dairy Insurance Scheme *Ksheera Sandhanam*, covering the cattle (18,278) and cattle owner (60,792) ensures the socio-economic stability of farmers. To stabilise the dairy sector, the Kerala Co-operative Milk Marketing Federation (KCMMF) has initiated preliminary works for a milk powder factory of 10 metric tonnes a day at an estimated cost of Rs 54 crore at Moorkanad in Malappuram District.

### **Critical gaps**

Elevated production cost induced by high labour cost, fodder shortage and low-level of mechanisation continue to be the major issues confronting the sector. The high genetic quality of Kerala's cattle population has contributed to a rapid rise in milk production in the State. But the lack of commercial dairy farms with larger herd sizes stands as an impediment in attaining self-sufficiency in milk production. The productivity of milch cattle is also comparatively less. Considering a population of 348 lakh, the demand for milk in Kerala is 36.07 LMT a year. But the total milk production for the State is calculated to be only 28.18 LMT a year. The State is 21.87 per cent deficient. Thus, there is a gap of 22 lakh litre per day, or 7.89 LMT per annum. The average milk yield per animal per day in the country for exotic and crossbred animals is 11.88 kg and 8.09 kg respectively. Kerala stands second in the highest per day milk production per animal with 10.22 litres, Punjab being the first with 13.4 litres per day per animal. The average milk yield per animal per day during 2012, 2015 and 2020 was 9.11, 10.18 and 10.22 litres respectively with the total lactation yield during the same years being 2,779, 3,105 and 3,117 litres respectively. Kerala's success in milk production has not been replicated in meat or egg production. Lack of quality animals for meat production, non-availability of land for farming practices, lack of scientific infrastructure for production, processing and marketing of meat, highly fragmented and unorganised nature of the meat sector and so on are challenges faced by the sector. Domestic demand for meat has been growing at a fast rate. It is expected that the domestic demand would be 7.4 lakh tonne by 2030. In order to fill the gap, production has to grow at least 4 per cent a year.

A similar situation is visible in egg production. The Experts sub-group on poultry report of 2021 illustrates state has a shortage of 316.23 crore eggs, which necessitated the import of 234.92 crore eggs. Only 0.1 per cent of the broiler poultry market share is handled by the Government and the public sector undertakings including the cooperative sector. Lack of an organised marketing network for backyard egg production is another issue.

## **14th Five-Year Plan**

### **Approach of 14th Five-Year Plan**

The 14th Five-Year Plan period envisages holistic development of the animal husbandry and dairy sectors through modernisation and mechanisation, which are crucial to create an ambient environment for farmers to continue in the sector with dignity and satisfaction. There should be a good ecosystem to encourage private entrepreneurs to make investments in the sector, by simplifying and rationalising rules and licence guidelines. The department concerned should have a Meat Sector Strategic Plan. The plan must have strategies to increase the livestock population, establish scientific slaughter houses, mechanisms

for the regular supply of raw materials to slaughter houses and rendering plants. It should ensure the scientific operation and management of slaughter houses and rendering plants. Another important factor is insurance. The insurance schemes should be extended to cover poultry, ducks, goats and pigs to attract investors to these sub-sectors. Measures should also be taken to scale up the Kerala Chicken programme across the State on a faster pace.

The 14th Five-Year Plan period should be a period in which efforts are made to improve the productivity of milch cattle in the State. Raising milk productivity requires a set of specific interventions in the dairy sector. First, the genetic base of Kerala's milch cattle population must be improved. Secondly, there is a serious shortage of fodder in the State; schemes must be designed to encourage fodder cultivation in garden land and homesteads. Thirdly, the cooperative sector must make efforts to raise the share of milk sold through dairy cooperatives from the existing 25 per cent to at least 50 per cent. Dairy cooperatives also need modernisation and to use modern digital management systems.

#### **Objectives of the 14th Plan**

In the dairy sector, the thrust areas of the 14th Plan are an increase in per animal productivity through the adoption of better breed, feed and management practices. Scientific and time-bound breeding practices are required to reduce the age of maturity and inter-calving period for attaining high per-animal productivity. Based on the present scenario, the milk productivity target could be fixed at 13.5 litres per day per animal. The major thrust will be on increasing the milk production of the State to 33.8 LMT by the end of the 14th Plan period. Realising the importance of the dairy cooperatives in the development of the sector thrust will be on increasing the milk handled by the dairy cooperative sector from the present-level of 23 per cent to a minimum-level of 50 per cent. Establishment of heifer stations is essential to ensure the availability of quality breeds across the State. Lack of quality fodder and high cost of cattle feed leads to under-feeding of animals, resulting in suboptimal production of milk. Necessary steps need to be taken to improve fodder availability and ensure optimal feeding to increase productivity to their optimum potential. To achieve this, the State should have a feed and fodder policy. The welfare and health status of the animals have to be increased as part of sustainable management practices.

The livestock population of the State currently shows a positive trend, but both policy and administrative-level interventions are required to augment the benefits offered by the sector. The formulation of a meat strategic plan and relaxations in the guidelines/licensing procedures will offer a boost to farmers. In order to attain self-sufficiency in meat availability, production has to grow at the rate of 5% per annum. Establishment of modern scientific infrastructure for slaughter operations, value addition and strengthening of human resource development for trained personnel are the immediate needs in the sector to ensure supply of wholesome, clean and safe meat. Such scientific infrastructure would eliminate environmental pollution, prevent the spread of infectious diseases and emerging zoonotic diseases, and generate economic returns from by-products and waste. With respect to the poultry sector, the availability of quality breeds is the issue. Hence, chick production has to be decentralised with more breeder farms and mother farms. In addition to the strengthening of backyard poultry arrangements, attention should be given to the establishment of commercial farms. Entrepreneurship in the animal husbandry sector is possible with regard to farming and breeding, products of animal origin, services and inputs. Knowledge, innovation, technology, branding and marketing are the key factors that must be considered for the futuristic development of the sector. Proper registration, easy licensing, and assured financial support will create an atmosphere of trust and an entrepreneurship culture in this most promising sector.

#### **Key initiatives proposed in the 14th Plan**



Most of the schemes proposed by the Animal Husbandry Department in the 14th Plan period represent a continuation of the schemes of the 13th Plan period. The department proposes to open 24X7 veterinary hospitals in the remaining 107 Blocks during the 14th Plan period. Focus will also be given to the enhancement of fodder production at the grass root-level and popularisation of Total Mixed Ration (TMR) and silage feeding among farmers. Universal insurance coverage of all categories of the livestock population will also be given priority. The KLD Board has proposed schemes such as distribution of premium bull semen, adoption of advanced technologies for accelerated production improvement, heifer multiplication programmes, establishment of satellite piggery units and goat breeding units. Kerala Feeds Ltd has undertaken a project for the promotion of maize cultivation for the purpose of using it as an ingredient in the production of compounded cattle feed. The KSPDC has proposed schemes to augment stocks, setting up of new hatcheries, modern packing stations, marketing hubs, the use of enterprise resource planning, and so on.

In the dairy sector, the key initiatives proposed include the establishment of a model dairy farms by Self-Help Groups/Joint Liability Groups (SHGs/JLGs), integrated dairy farming systems, calf adoption scheme, development of district-based centralised skilled labourers to establish low-cost scientific dairy farms (District Dairy Labour Force/Ksheera Karma Sena (KKS), assistance for establishing container mode refrigerated milk HUBS (SHUDH), and so on. The department has also given priority for the improvement of milk quality and activities to present milk products in farm-to-fork mode. Upgradation of Dairy Training Centres to Dairy Entrepreneurship-cum-Incubation and certification centres and preparation of a fodder plan have also been given priority.

### **3.3 SOIL AND WATER CONSERVATION**

#### **Overview**

Conservation of soil and water resources is a matter of prime concern for the State for the sustainability of agriculture, environment and the overall sustenance of biodiversity. Both planners and policymakers have raised concerns over efficient use of land, water and other natural resources to achieve sustainable development. Soil is the most fundamental resource to achieve the basic requirements of food, fibre and shelter.

Kerala is gifted with rich diversity of soils. It has coastal alluvium, mixed alluvium, acid saline, *kari*, laterite, red, hill, black cotton and forest soils. Soils in Kerala are deficient in major and minor nutrients for reasons including erosion due to continuous floods, landslips, acidification, pollution, and so on, and this situation threatens not only the sustainability of agriculture, but also the overall livelihood system of the people. It necessitates the need for a scientific and efficient soil fertility assessment and soil health management strategy.

The main implementing agencies involved in soil and water conservation activities in the State are the Department of Soil Survey and Soil Conservation, the Kerala State Land Use Board (KLUB), the Kerala State Remote Sensing and Environment Centre (KSREC) and the Kerala Land Development Corporation (KLDC). The Department of Soil Survey and Soil Conservation is vested with the responsibility of inventorisation of the soil and land resources, implementation of various soil and water conservation measures and synergising the agriculture sector by enhancing productivity. The KLUB acts as the agency to assist the Government to frame policies for optimum land use and natural resource management in the State. The KSREC is responsible for implementing projects by utilising remote sensing, GIS and other geomatic tools for planning and development. The KLDC undertakes consultancies, project preparation, design and execution of projects, and schemes of other departments and agencies in the State. The major sources of funds to this sector are NABARD-assisted RIDF schemes.

### 13th Five-Year Plan

In the 13th Plan, the State had given importance to organised and effective soil and water conservation activities, especially conservation of natural resources through the watershed approach. During the period the department and other agencies implemented a variety of scientific and suitable soil and water conservation schemes to prevent soil erosion, regulating water flow, promoting *in situ* conservation of water, moderating floods and related damages, controlling saline intrusion in drainage lines, and enhancing ground water recharge to facilitate increased productivity and to synergise the agriculture sector. As part of the digitisation drive, soil maps of 205 Panchayats were digitised. The State Soil Museum was renovated with additional infrastructure and new exhibits including 20 soil monoliths representing various agro-ecological regions of India were installed. Under the scheme, “Creation of data bank for classification of land”, a data bank for 67 Panchayats of Thrissur, Wayanad, Kottayam and Trivandrum Districts was prepared.

In the 13th Plan period, an area of 39,751 ha was protected through soil and water conservation activities. The renovation of 56 ponds in Palakkad under the NABARD-assisted RIDF scheme was completed. Stabilisation activities were undertaken in 3,736 ha of landslip-prone/affected areas in Idukki, Palakkad, Ernakulam, Kottayam, Kozhikode, Pathanamthitta, Malappuram and Wayanad Districts. Under the project, “Protection of catchments of water supply schemes”, an area of 631 ha in the catchments of Aruvikkara, Sasthamcotta and Peruvannamoozhi have been protected. An area of 492 ha has been treated during the 13th Plan period under the scheme ‘Development of Micro Watersheds’ in Taliparamba of Kannur District and Kattakada of Thiruvananthapuram.

KLDC had initiated the Thrissur Ponnani Kole Development Project under the Rural Infrastructure Development Fund (RIDF), which benefited 17,692 ha of kole area under paddy cultivation. KLDC completed 120 ponds under “Sahasra Sarovar Scheme” during the period, and the State Land Use Board developed a Web-based land resource information system for 14 districts along with a watershed information system for entire State.

In the 13th Plan, the budgeted outlay was Rs 539.40 crore and the expended amount was Rs 514.62 crore.

Table 3.3 *Budgeted outlay and expenditure of Department of Soil and Water Conservation, 13th Plan, Kerala, in Rs crore and per cent*

Sub-sector	Budgeted outlay	Expenditure	Expenditure as proportion of outlay
Land Use Board	16.27	10.023	61.62
KSREC	14.8	6.215	41.95
Department of Soil Survey and Conservation	253.18	141.93	56.06
KLDC	255.15	356.44	139.7
Total	539.4	514.62	95.41

Note: Expenditure includes Supplementary Demand for Grants

Source: Department of Soil and Water Conservation

### Critical gaps

1. Spatial and non-spatial data required for land use-based plan preparation are to be pooled in a common portal.
2. A unified and integrated platform is to be developed for soil sample collection and distribution of Soil Health Cards.
3. Many Government institutions have digitised layers of maps including roads, rivers and streams, and cadastral details. Sharing of these details in an open platform is required to help the Department to reduce the time lag in the dissemination of soil survey information to stakeholders.

4. Conservation of natural resources/watersheds is now done by different agencies. These need to be brought on a single platform.
5. A Web/mobile-based soil resource information system at the Panchayat-level is required to help the generation of reports and maps pertaining to individual areas of interest.
6. Each Panchayat needs to develop an appropriate watershed and crop plan, based on detailed soil tests in each region.

#### **14th Five-Year Plan**

Natural resources management through watershed based development is the approach and strategy during the 14th Plan, to realise the perspective of sustainable and holistic development. During the 14th Plan, thrust will be given to developing a digital spatial database on soil and land information, evolving a suitable soil and land management plan at the Panchayat-level and data base generation for sustainable land productivity and eco-restoration.

Watershed development plans should be developed in an integrated manner, in convergence with various departments and Local Governments for the holistic uplift of the watershed area, ensuring natural resource conservation, integrated production systems and livelihood enhancement. Care must be taken for ensuring increased farm and home income and better socio-economic infrastructure, soil health, and employment opportunities, by using geospatial techniques in mapping, planning and implementation, periodic monitoring and evaluation, impact studies and post-project maintenance of assets, developing model watersheds, all this with people's participation.

In the 14th Five-Year Plan, focus will be given to soil fertility assessment for evolving a sound soil health management strategy in the State by providing a soil health management support system and issuance of Soil Health Cards to farmers in the entire State.

Availability of spatial and non-spatial data is central to land use-based plan preparations. The database available with various departments needs to be converged under a single platform and should be made available for the planning process.

Land use-based activities such as map-making and plan preparation necessitate specialised technical know-how and geographical awareness. As the personnel dealing with land use at the Local Government-level are not equipped with the knowledge or tools to handle the geospatial data for land use planning, the need for providing technical support to Local Governments for the preparation of Land Use Plan based on land capability becomes evident.

#### **Key initiatives proposed in the 14th Plan**

The Soil Survey and Soil Conservation Department proposes a unified and integrated platform for soil sample collection and distribution of soil health cards by integrating the activities of various agencies involved in soil testing and soil health card distribution. During the 14th Plan period, focus will be given to the distribution of soil health cards in the entire State. The spatial, non-spatial database available with different departments and emerging databases need to be converged on a single platform.

### **3.4 FISHERIES AND COASTAL AREA DEVELOPMENT**

#### **Overview**

The fisheries sector is considered an emerging venture that possesses the potential to contribute to the State's economy. The sector adds significantly to the economy by augmenting incomes, generating employment and ensuring the food and nutritional security of fish farmers. Kerala, one of the prominent

maritime States in India with a coastline of 590 km, is blessed with a wide variety of aquatic fauna and flora and has the potential to achieve the Sustainable Development Goal of Life Below Water.

The share of the fisheries sector in the total GSVA (at constant price) in 2020-21 constitutes 0.85 per cent and accounts for 0.74 per cent of GSDP. Fisheries and aquaculture contributes 9.03 per cent of the GSVA. The fisherfolk population in Kerala is estimated to be around 10.50 lakh, including 2.4 lakh inland fish workers. They reside in 222 marine fishing villages and 113 inland fishing villages.

Kerala occupies an inimitable position in the fisheries map of India, as a principal marine fish producer and exporter. Fish and fishery resources occupy a unique position in the economy of Kerala. The total fish production in 2020-21 was 6.14 lakh metric tonnes, of which marine fish landings accounted for 3.9 lakh tonnes and inland fish production 2.24 lakh tonnes. Recent years have seen a decline in the quantity and value of marine products exported from Kerala. Kerala's fisheries sector is marked by the predominance of marine production over inland production; the reverse is true for India as a whole. Kerala is deemed to have already attained an optimum-level of production in marine fish resources. The State needs to move towards sustainable fish management measures, responsible fishing, and stock enhancement.

All the development and management programmes envisaged by the State for the well-being of the fisherfolk are implemented by the Department of Fisheries. Sustainable utilisation and development of fisheries resources for the economic and social welfare of the State is the major vision of the Department. The Department of Fisheries is implementing the policies, programmes and schemes for the improvement of the aquaculture sector with the help of Kerala State Cooperative Federation for Fisheries Development Ltd (Matsyafed), the Agency for Development of Aquaculture, Kerala (ADAK), the Kerala Fishermen's Welfare Fund (KFWEB), the State Fisheries Resource Management Society (FIRMA), the Fish Farmers Development Agency (FFDA), the Kerala State Coastal Area Development Corporation (KSCADC), the National Institute of Fisheries Administration and Management (NIFAM) and the Society for Assistance to Fisherwomen (SAF).

The Harbour Engineering Department (HED) is the service department of the Fisheries Department for the execution of infrastructure projects. The HED does investigation, planning, execution and monitoring of various projects in coastal areas, including the construction and maintenance of fishing harbours and fish landing centres, fishery infrastructures such as hatcheries, ponds, farms, shore-based tourism projects and infrastructure of ports and coastal roads. The Kerala University of Fisheries and Ocean Studies (KUFOS) is devoted to studies in fisheries and ocean sciences.

### **13th Five-Year Plan**

During the 13th Plan period, the focus was on improving the livelihood security of fish workers, the provision of better amenities including sanitation, health care, drinking water, electricity, and library facilities in the coastal regions and reducing mortality at sea. Regarding inland fisheries, the Plan focussed on higher seed production and the establishment of fish feed mills and aquatic animal health labs. The Plan focussed on making Kerala self-sufficient in fish production by promoting open water fishing and aquaculture. Within freshwater aquaculture, the focus was on increasing productivity, adopting innovative technologies, and introducing new species, especially genetically improved varieties and locally preferred species. In brackish water fishing, the emphasis was on sustainable fishing practices. Making Kerala self-sufficient in fish production, adopting sustainable fishery management measures, conservation, checking the degradation of water bodies, adopting innovative technologies, ensuring the availability of good quality of fish seed, reducing fish wastage, the maintenance and modernisation of existing fishing harbours, and improving the basic social facilities in the coastal areas, especially housing, were the thrust areas identified in the 13th Plan.

The total State Plan outlay during the 13th Plan period was Rs 1,998.40 crore and the expenditure was Rs 1,725.23 crore.

Table 3.4 *Outlay and expenditure of fisheries and coastal area development, by sub-sector in 13th Plan, Kerala, in Rs lakh and per cent*

Sub-Sector	Outlay	Expenditure	Expenditure as proportion of budgeted outlay
Fisheries	1,10,421	84,196.46	76.25
Coastal Area Development	89,419	88,326.79	98.78
Total	1,99,840	1,72,523.25	86.33

Source: Department of Fisheries

The share of the fisheries sector in agriculture and allied activities during the 13th Plan period was about 23.78 per cent. By focussing on the thrust areas as envisaged in the Plan, the sector expended 86.33 per cent of the Budget allocation.

Table 3.5 *Annual budgeted outlay and expenditure of fisheries sector, in 13th Plan, Kerala, in Rs lakh and per cent*

Year	Budgeted Outlay	Expenditure*	Expenditure as proportion of Budgeted outlay
2017-18	22,558	18,292.01	81.09
2018-19	24,005	19,130.08	79.69
2019-20	23,610	9,729.34	41.21
2020-21	19,884	18,589.62	93.49
2021-22	20,364	18,455.41	90.63
Total	1,10,421	84,196.46	76.25

Note: Expenditure includes Supplementary Demand for Grants

Source: Department of Fisheries

The 13th Plan expended 76.25 per cent of the total allocation by undertaking various developmental, employment-generating, infrastructural and women empowerment programmes.

Table 3.6 *Annual budgeted outlay and expenditure of coastal area development, in 13th Plan, Kerala, in Rs lakh and per cent*

Year	Budgeted Outlay	Expenditure*	Expenditure as proportion of budgeted outlay
2017-18	23,600	23,692.99	100.39
2018-19	26,260	15,614.67	59.46
2019-20	14,460	14,661.35	101.39
2020-21	12,499	14,439.18	115.52
2021-22	12,600	19,918.6	158.08
Total	89,419	88,326.79	98.78

Note: Expenditure includes Supplementary Demand for Grants

Source: Department of Fisheries

During 13th Plan an amount of Rs 89,419 lakh was allocated for the protection and management of coastal areas. The Government's efforts to improve the livelihood, sanitation, health care and other basic amenities of the fisherfolk were achieved by expending 98.78 per cent of the total budget.

A holistic approach was adopted for the sustainable development of fisheries and aquaculture to achieve the objectives of the 13th Plan, by optimising production and productivity, generating livelihood opportunities and improving the socio-economic conditions of the fisherfolk and fish farming community. Development of sustainable fishing practices, implementation of KMFRA, reducing mortality at sea by introducing the Sagar Mobile App and marine ambulances, conservation and management of fishery resources by implementing the project *Suchitwa Sagaram* (Clean Sea), improving livelihood security among fish workers, development of coastal infrastructure and improving the basic social facilities in the coastal areas, especially housing, providing better amenities such as sanitation, health care, drinking water, electricity, and library facilities in the coastal region, were given thrust.

In inland fisheries, introduction of diversified fish species, genetically improved varieties and locally preferred species, innovative farming techniques, promotion of paddy field-fish farming, production of quality seeds for fish farming, establishment of fish feed mills and aquatic animal health labs, stock enhancement through ranching for management of fishing in rivers and lakes, ensuring farm hygiene and sound management practices including disease diagnosis and control as well as certification and quarantine were adopted.

With respect to reservoir fisheries, new technological interventions, newly developed fish varieties and cage cultures were introduced. Promotion of social and livelihood security including ensuring the income security of fisherfolk through micro enterprises, improvement of marketing infrastructure and quality assurance of fishes marketed, reducing fish wastage, maintenance and modernisation of existing markets, landing centres and harbours, promotion of extension and e-governance programmes were also implemented.

Key initiatives during the Plan period were the *Janakeeya Matsyakrishi-Subhiksha Keralam* project, providing basic infrastructure facilities, sea safety and sea rescue operations, insurance coverage for fishing implements, modernisation of fish markets, value addition, *Anthipacha*, the project that sources fish directly from fisher folk and transports chemical-free fish to spots in and around the city in an insulated van, *Theeramythri* programmes, e-governance, call centre facility at Directorate and capacity building programme for functionaries.

In order to address the infrastructure requirement of the sector, a total of 1,600 coastal roads were constructed between 2017 and 2021, and more than 65 fish markets were built. The fishing harbours at Muthalapozhi, Chellanam, Chettuva, Tanur, Thalai, Vellayil, Koyilandy, and Manjeswaram were completed and commissioned. An exclusive transportation facility 'Samudra' was initiated for fish vending women as a joint venture by the Fisheries Department and the Kerala State Road Transport Corporation (KSRTC), which provided free logistic support to fish-vending women of Thiruvananthapuram District.

The full potential of the fisheries sector is yet to be achieved due to the existence of critical gaps such as lack of good quality fish seed in adequate quantity, problems in harvest and post-harvest operations due to weak marketing and extension network, lack of a reliable database relating to aquatic and fisheries resources, environmental, economic, social and gender issues prevalent in the sector, delay in land acquisition, seasonal climatic changes and lack of traceability, which in turn has led to increased use of harmful chemicals.

#### **14th Five-Year Plan**

The efforts in the 14th Five-Year Plan will concentrate on scientific inland aquaculture as it is an assured means of raising the incomes of small-scale farmers. Youth are also interested in entering this sector. Regarding inland fish production the Plan will renew the efforts which were initiated in the 13th Plan. Rural areas in Kerala are rich in small ponds, canals, and other water bodies. The Plan will seek to promote commercial inland fisheries in a specified number of water bodies in every Panchayat. To improve inland fisheries, the use of latest technologies will be encouraged and a variety of species will be added into the basket of the aquaculture system. Hydel reservoirs in the State may also be used for this purpose. The 14th Plan will focus on ensuring investment in more hatcheries and nurseries to ensure the availability of seed for inland fisheries. The emphasis will be on developing participatory seed production in the backyards and establishing hatcheries to attain self-sufficiency in seed production. The 14th Plan will attempt to establish a Matsya Bhavan in each Block by the end of the Plan period. The task of the Matsya Bhavans is to ensure the efficient implementation of Government schemes, as well as to lead extension efforts in inland fisheries. Paddy field-fish culture can help raise the incomes of paddy farmers

and reduce the conversion of paddy land to non-agricultural purposes. Hence special efforts will be made to promote paddy field-fish culture in the Pokkali, Kaipad, and Kol regions.

The marine fisheries sector will receive special attention by means of steps to ensure sustainable and physical security, social security, and economic security of fish workers. A network of sea safety security guards with the participation and representation of active fishers, trained youth and women for initiating sea rescue facilities will be formed. Programmes dedicated to reduce the debt burden of fish workers will be given emphasis. A strategy will be designed for cooperatives and collectives of fish workers to move into deep-sea fishing in collaboration with Government agencies as agents and facilitators of the effort. KUFOS will be engaged in a horizontal and participative concept of “interaction.”

### **Objectives**

The 14th Five-Year Plan envisages the attainment of self-sufficiency in fish seed production, by enhancing the seedling production to 25.00 crore by establishing hatcheries and improving existing hatcheries and seed farms. By adopting scientific and modern aquaculture practices the inland fish capture is targeted to increase from the present 34,987 metric tonnes to 60,000 tonnes. The development of an efficient system for aquatic animal health management and surveillance will improve aquaculture production. The schemes proposed during the Five-Year Plan will ensure the empowerment of fisherwomen through the development of micro-enterprises for alternative livelihood and thus providing additional income to fisher families. The Plan will focus on ensuring the availability of good quality fish in the domestic market by enhancing per capita fish consumption and facilitating health security. The road map includes the establishment of *Matsya Bhavans* in every Block, thus providing fisheries extension services to fisherfolk and fish farmers for optimum utilisation and sustainable management of resources. Another major objective is to improve the hygienic standards of harbours by satisfying HACCP (Hazard Analysis Critical Control Point) norms and thus increasing the revenue generated from the harbours. The Five-Year Plan also focusses on establishing a comprehensive and permanent data bank by conducting techno-economic feasibility studies, which are essential to work out appropriate mitigation strategies. It will focus on establishing a well-managed machinery with strong linkages between the State Fisheries Department, KUFOS and the farmers.

The key initiatives proposed for the Plan include increasing the seed production capacity of existing seed farms and hatcheries by creating additional infrastructure facilities, promotion of backyard seed production and establishing new hatcheries there by achieving self-sufficiency in seed production, increasing aquaculture production by strengthening inland *Matsya Bhavans*, mitigating the problems related to housing of the fish worker population residing along the coastal areas that are prone to erosion and destruction, the commissioning of the Chethy, Arthungal, Kasaragod and Parappanangadi fishing harbours, full operationalisation of the existing fishing harbours and extension of *Suchithwa Sagaram* project to major fishing harbours. Enhancing KUFOS as a hub of higher education in fisheries and ocean studies by strengthening academic activities and focussing on stakeholder research activities.

The new drives initiated in the Annual Plan 2022-23 include allocating a specific amount to the *Punergham*, scheme to mitigate the housing problems of fish workers residing along the coastal areas that are prone to erosion and destruction. Extending support to Kerala Aquaventure International Limited (KAVIL) for the production of high value aquarium fish for global markets is included as a new initiative in the Plan. The 2022-23 Plan includes a scheme to provide aquaculture extension service, necessary technical guidance and monitoring to fish farmers through Inland *Matsya Bhavans* for enhancing inland fish production. The setting up of small backyard seed production units by procuring brood fish fingerlings from ADAK is also included in the road map for attaining self-sufficiency in seed production.

### 3.5 FORESTRY AND WILDLIFE

#### Overview

The land area of Kerala is only 1.20 per cent of the total area of the country, but the forest cover is 2.30 per cent of that in India. Forests in Kerala fall in two biogeographic provinces, Western Ghats and the Western Coast, and are rich in biodiversity and vital for environmental protection and considered to be a repository of rare and endangered flora and fauna.

The recorded area of the forest in the State is 11,521.90 sq km or about 29.65 per cent of the State's geographical area (38,863 sq. km). However, the actual forest area including those outside the reserved forests is much more. As per the Forest Survey of India's State of Forest Report 2021, the total area under forests including plantations is 21,253 sq km, which is 54.7 per cent of the State's geographical area. The area under forest in the State has increased by 0.52 per cent, in comparison to the previous assessment of 2019. However, the area under very dense forests is only 1,944 sq km, or just about 9 per cent of the forest cover, and the extent of moderately dense forests is 9,472 sq km, accounting for 45 per cent of the total forest cover. On the other hand, open forests account for 9,837 sq km, or 46 per cent of the forest cover.

The share of forestry and logging in total GSVA at base prices was 1.03 per cent in 2020-21 and the share of primary sector in GSDP was 8.53 per cent. The revenue from the forestry sector by way of sale of timber and other forest produce was Rs 236.8 crore in 2020-21. Forests in Kerala are being managed mainly for sustaining the life support systems and biodiversity conservation through various programmes. It includes protection from encroachments, poaching and tree-felling, protection from biotic interference and fire, river bank protection, enhanced involvement of tribal people in forest management, rehabilitation of degraded forest areas, and protection of fragile eco-systems.

The Kerala Forest Development Corporation Limited (KFDC) was set up to address the needs of production forestry. The major activities undertaken by the KFDC include felling and thinning of plantations, production and sale of cash crops such as cardamom, coffee, tea and pepper, and promotion of ecotourism.

#### 13th Five-Year Plan

The 13th Five-Year Plan provided a comprehensive approach to the development of the State's forestry sector, outlining a clear vision of how forests are to be managed with the strategy. Major focus areas included natural forest management, productivity enhancement of plantations, infrastructure development, biodiversity conservation, protected area management, resources planning, and research.

In the 13th Plan period, Rs 1,069.69 crore was budgeted for the sector, which was 36 per cent higher than in 12th Plan (2012-17). Total expenditure during the period was Rs 853.63 crore, an increase of 38 per cent against the 12th Plan.

Table 3.7 *Budgeted outlay and expenditure of Department of Forest and Wildlife, in 13th Plan, Kerala, in Rs crore and per cent*

Year	Budgeted outlay	Expenditure	Expenditure as per cent of outlay
2017-18	237.50	162.55	68
2018-19	243.72	141.52	58
2019-20	208.72	138.98	67
2020-21	179.25	219.36	122
2021-22	200.50	189.00	94
Total	1,069.69	851.41	80

Note: Includes KFDC outlay and expenditure



The important achievements under the forestry sector are in line with the broad approach of the 13th Five-Year Plan. Under boundary consolidation an area of 1300 km was consolidated by constructing about 63,760 cairns. During the period, under Forest Rights Act, 26,867 individual records of Rights, 183 Community Rights and 495 Developments Rights were issued. Under the Green India Mission Project, an area of 5216.37 ha was afforested and 270 alternative fuel energy systems were supplied. Sixty-three Vanasree eco shops, including two mobile units, were established, and online marketing of 'Vanasree' products was introduced. Thus, 5,000 people including tribal people benefited under Vanasree. The zoological parks at Puthur in Thrissur and the elephant rehabilitation centre at Kappukad in Thiruvananthapuram were established. Karimpuzha in Malappuram was declared as a new wildlife sanctuary during the period. Under extension forestry activities, 315 lakh seedlings were planted through Haritha Keralam. Intense and enhanced forest protection and conservation measures helped in the rise of populations of tiger and elephant, the two important Schedule-I species in Kerala. The Periyar Tiger Reserve received the SKAL International Award in 2019 in the category of best community-based ecotourism programme and for best managed tiger reserve.

The gaps identified in the 13th Plan in relation to Plan formulation and the implementation stage needed strategic solutions. Forest management systems in general focussed on long-term output of a narrow set of commodities and services, and as such wide gaps existed in incorporating the ecological dimensions of forest management practices. The situation has been compounded by alarming changes in climate and associated vulnerabilities, which call for enhancing the ecological resilience of forests. The practical snags related to claimed and recognised areas in the Individual and Community Forests Rights, claimed and recognised areas, post-recognition intervention, and non-delineation of Critical Wildlife Habitats have all impeded the implementation of the Forest Rights Act. Human-wildlife conflict has increased over the years and need long-term mitigation strategies along with short-term adaptation measures.

#### **14th Five-Year Plan**

Forests in Kerala are rich in biodiversity, a repository of rare and endangered flora and fauna, and vital for environmental sustainability. The focus of the 13th Five-Year Plan in this sector was on forest protection and management. While continuing this emphasis, the Plan will pay attention to increasing water security in forests, addressing human-wildlife conflicts, securing the lives and livelihoods of forest-dependent communities, and developing forests as a safeguard against climate variability. As part of the 14th Five-Year Plan, the State Planning Board had constituted a Working Group on Environment and Forestry; with separate Expert Sub Groups (ESGs) for Human-Wildlife Interactions, Forest Rights Act, and Sustainable Management of Forests.

Major focus areas in the 14th Five-Year Plan are as follows.

1. Development of comprehensive action plans for watersheds that cover, from ridge to valley, forest ecosystems as well as agro-ecosystems.
2. On the conservation of biodiversity and protection of wildlife, the Plan will support efforts to discourage human interventions inside forests, reduce degradation of vital habitats. It will favour clearing wildlife corridors.
3. Human-wildlife conflicts are complicated, and the Plan will continue to support different means to address the problem. Incidents of human-wildlife conflict have increased in recent years, as have demands for higher compensation. The Plan will support the design and implementation of a comprehensive strategy on human-wildlife interaction that includes long-term and short-term prevention and mitigation measures.

#### **Key initiatives**

Key initiatives proposed in the 14th Five-Year Plan are as follows.

1. Management of natural forests for improved water yield and biodiversity conservation and management of protected areas. The ESG on sustainable management of forests recommended focussing on enhancing climate resilience and the hydrologic regime through improved forest management including eco-restoration, augmenting ecosystem health and multi-functionality of natural forests, biodiversity conservation and management of wildlife and protected areas.
2. Management of human-wildlife interface should follow the recommendations of the ESG, including infrastructure and human resource development, provision of crop insurance, life insurance and ex-gratia to victims of wildlife attacks, involvement of LSGs and line departments in conflict management, strengthening of people's participation, habitat improvement of wild animals in the forest, training, awareness-creation and promotion of research.
3. Management of trees outside forests including home gardens and urban forestry/Nagara Vanam, Vidhya Vanam, and so on.
4. Improvement of livelihood of forest dependent communities through VSS/EDCs/SHGs and sustainable ecotourism/eco development. In this regard, forest-based livelihood, socio-cultural dimensions and sustainable ecotourism, participatory forest management, improvement of forest governance and capacity-building are recommended by the ESGs. As part of transforming the NTFP management practices, an online solution, namely, NTFP-IMS or the virtual godown has been developed.
5. As part of implementation of the Eco-Restoration Policy 2021, emphasis will be given to phasing out exotic monoculture plantations, demarcation of forests, eco-restoration of failed plantations, removal of invasive alien species from natural habitats, forest fire protection, collection/value addition of non-timber forest produce for the welfare of forest-dependent communities, conservation of unique habitats, protection of coastal and riverine areas, and establishment of miniature forests in urban spaces and educational institutions.
6. Timely settlement of forest rights claims as recommended by the ESG. The necessity to map tribal settlements and forest-dwellers for forest rights claims, delineation of Critical Wildlife Habitats (CWH), and institutional support to recognised titleholders (Both IFR and CFR) are part of proposed action plans. Increased intervention of the Tribal Department and grama sabha-level involvement are also relevant in this regard.
7. *Carbon neutrality.* Rich and vibrant biodiversity in the forests of the Western Ghats and high-water availability and geographical features play a significant role in increasing carbon storage and thereby reducing global warming. It is high time to create greenwoods in the urban and semi-urban areas to improve the micro-climatic conditions and counter the impact of climate change, and for a gamut of other benefits.
8. *Use of technology in preparation of working plans.* The Van System app, which has been developed recently, will be used for collection of forest resources data for the preparation of working plans and also for forest management in the 14th Plan.
9. *The Kerala Forest Development Corporation.* Key initiatives of the Kerala Forest Development Corporation in the 14th Five-Year Plan include:
  1. Revitalisation of cardamom plantations under the KFDC.
  2. Infrastructure maintenance and eco-tourism development of sites under the KFDC.
  3. Converting eucalyptus plantations into grassland shola forests in Silent Valley and in Munnar.



## Chapter 4

### Industry, Information Technology, and Tourism

#### 4.1 Industry

##### Overview

Industries play an important role in Kerala's social and economic progress. Industry creates value, employment and incomes. The manufacturing sector in Kerala is relatively small in size. It accounted for a share of 11 per cent of Kerala's GSVA (at constant 2011-12 prices) in 2020-21. In comparison, the manufacturing sector accounted for 17 per cent of India's GDP in 2020-21. According to Periodic Labour Force Survey (PLFS) data, the manufacturing sector in Kerala employed 15 lakh workers (which comprised 12.8 per cent of the State's total workforce of 127 lakh) in 2017-18. They include workers in the factory sector numbering 3.1 lakh in 2017-18. The factory sector is almost identical with the organised manufacturing sector. The Micro, The Small and Medium Enterprises (MSME) sector is emerging as a major income-generating and employment providing sector in Kerala. As per the MSME Survey and Quick Results of 4th Census, Ministry of MSME Government of India, 5.62 per cent of MSME enterprises in India are in Kerala.

The State is committed to a programme of industrial development in the private, cooperative and public sectors. In the 14th Five-Year Plan period, the State shall adopt effective measures to ensure that Kerala remains an investor-cum-industry friendly destination. Industrial development shall be promoted taking into account the resource base; and the distinct advantages and limitations of the State. 'Responsible Investment, Responsible Industry' will be the guiding principle for industrial development. The State shall promote responsible industries based on the Environmental, Social, and Governance (ESG) Criteria. Importance will be given to ethical manufacturing taking into consideration the labour, environment and requirements of society.

The State will focus on the development of "sunrise sectors", especially new emerging sectors with modern technology in the fields of life sciences, biotechnology, agro and food processing, pharmaceuticals and drug manufacturing, petrochemicals and speciality chemicals and so on, and the revival of traditional industries for a sustainable path of growth by introducing modern technologies and finding new segments of opportunities. In both the segments, special focus will be on innovative and market-responsive MSMEs. The objective of this strategy is to generate employment for educated youth and protect jobs in the traditional sector by making investments necessary for a financially sustainable path.

To maximise benefits from smart industrialisation, it is essential to explore the vital linkages that exist between the primary, secondary and tertiary sectors of the economy; and the private sector. Technology upgradation will continue to be one of the priorities and; the scope of foreign technology agreements and technology transfer needs to be explored. The State has to reap the benefits from multi-sectoral integration and coordination.

The following objectives are set for the sector as a whole, with specific objectives defined for sub-sectors within industry:

- 1. Investment.** Attracting investment in the industrial sector and in emerging areas will be a priority. Investments from sources such as public funds, private sources and international agencies will be encouraged. Public investment attracts investments from other sectors and hence it will be increased specially to ensure adequate infrastructure. The Government will explore new models for industrial infrastructure development. This has to involve the private and cooperative sectors. Avenues for Public Private Partnership (PPP) will be explored.

2. **Industrial promotion.** Necessary and timely changes in the legal and regulatory framework guiding industries shall be continued. Steps in continuation to the Kerala Investment Promotion and Facilitation Act 2018, the Kerala Micro Small Medium Enterprises Facilitation Act 2019 and online single window clearance mechanism shall be taken up for implementation. Simplification and rationalisation of the regulatory framework shall be the guiding principle to ensure ease of doing business. The State shall put in place a mechanism for the timely resolution of grievances from entrepreneurs.
3. **Employment.** A congenial climate for employment generation will be ensured in the industrial sector especially, in the private sector. New employment in the industrial sector will be achieved through entrepreneurship development, skill development and career guidance. The existing workforce will be up-skilled to take up new responsibilities in modern industries. The skilling process will be demand-driven and linked to education.
4. **Education-research-industry continuum.** It shall be fostered so that the content of teaching and research becomes more industry-focussed. Research that opens up new opportunities and addresses existing problems in the industrial sector has to be supported.
5. **Local Governments.** Local Self-Government Institutions will play a greater role in industrial promotion, business facilitation and attracting investment. They will provide the pillar for rural industrialisation. Proactive steps for the decentralisation of the manufacture and promotion of nano-household units will be explored.
6. **Promoting entrepreneurship.** The Government will take steps to promote entrepreneurship. Non-Resident Keralites, women's self-help groups like Kudumbashree, and students are three sections that can contribute to an entrepreneurship drive. The State will build on its good ecosystem in IT-based start-ups, and promote start-ups in non-IT industries.
7. **Resilient industries.** The State shall develop and promote resilient industries in order to withstand disasters such as floods and Covid and shocks like recession. Such industries will be able to bounce back from shocks or disasters faster with necessary systems and structures supporting them. Resilience will be one of the guiding principles to industrial planning and implementation.
8. **Share of industry.** The State will increase the share of the manufacturing sector in Kerala's GSVA. The share of manufacturing in GSVA increased from 9.8 per cent in 2014-15 to 12.5 per cent in 2019-20. A target of 15 per cent is set. Improving productivity and creating more value per worker are means to this end that the State will explore.
9. **Data management.** The process of data-driven decision-making will be put in place, and the whole system of data collection, processing and end-use will be strengthened to ensure the availability of real time data. The Data Management System will be developed with the active participation of all stakeholders.

### Sources of Growth

Greater focus will be placed on areas that have high potential for growth. Such sources of growth have been identified taking into account factors such as availability of inputs, location of production centres, favourable markets, future prospects, competition within and outside the State, advantages/resource base of the State, and so on. The areas include i) agro and food processing; ii) chemicals and petrochemicals including paint, urea, titanium minerals and cement; iii) electronics; iv) medical equipment, health care and biotechnology; v) anchor industries including industrial corridors, ports, shipping logistics and inland water transport system; vi) textiles and garments; vii) handloom and powerloom; viii) traditional sectors such as cashew processing and coir-making; ix) construction; x) power – gas and allied industries, and xi) high-technology enterprises. Modern industries capitalising on the State's strengths in the areas of health and education, such as the manufacture of pharmaceuticals and medical equipment, will be promoted.

#### **4.1.1 MEDIUM AND LARGE INDUSTRIES (INCLUDING STATE PUBLIC SECTOR UNITS)**

Kerala has achieved substantial progress in modernising and diversifying its industrial sector. The manufacturing sector is relatively small in size. It accounted for a share of only 11 per cent of Kerala's GSVA (at constant 2011-12 prices) in 2020-21. However, a new set of modern industries are growing in size in Kerala. The top industries with respect to value added are chemicals, refined petroleum products, rubber and plastic products, electronics and pharmaceuticals and medicinal botanical products. Bharat Petroleum Corporation Ltd (BPCL) – Kochi Refinery has been undergoing a major expansion of its refining and petrochemical production capabilities and this holds great promise for the chemical and allied industries in Kerala.

Kerala has a number of State and Central public sector units engaged in diverse areas of manufacturing, mainly chemicals, engineering and electronics. In the financial year 2020-21, the PSUs under the Industries Department were reported a combined turnover of Rs 3,321.67 crore. Out of 42 PSUs under the Industries Department 10 units earned profit and 32 units incurred loss in 2020-21. The major profit-making PSUs in the year include Kerala Minerals and Metals Ltd (KMML), Kerala State Drugs and Pharmaceuticals Ltd, Kerala State Electronics Development Corporation Ltd and Malabar Cements.

The State is setting up industrial parks specifically for the growth of petrochemicals, pharmaceutical manufacturing and life sciences. Particular attention is paid to the growth of defence electronics and light engineering. The expansion and growth of Cochin Shipyard, Kochi Refineries Ltd and KSEB have provided opportunities for downstream industries.

One of the notable achievements for Kerala in the sphere of industry has been a favourable change in perception among potential entrepreneurs over the last few years. The general impression had been that Kerala was not a suitable investment destination. This is no longer the case today. The reason is that the nature of industrial growth itself has changed with the growing importance of knowledge and skill based industries. In addition to the availability of skilled labour, Kerala offers possibilities for entrepreneurs to set up knowledge-based industries across the State.

#### **Major Agencies in Medium and Large Industries**

Kerala State Industrial Development Corporation Ltd (KSIDC), Kerala Industrial Infrastructure Development Corporation (KINFRA), Centre for Management Development (CMD). Public Sector Restructuring and Internal Audit Board (RIAB) and Bureau of Public Enterprises (BPE) are the agencies concerned with medium and large industries.

#### **13th Five-Year Plan**

##### **Thrust**

1. Achieve significant increase in industrial production in private, cooperative and public sector enterprises, with funding from multiple sources of investment.
2. To build a strong manufacturing base in Kerala, with emphasis on industries that has strong linkages with the State's agricultural, natural and marine resources.
3. Promote food and agro-based industries in the State.
4. To strive for a long-term revival of manufacturing public sector units by rethinking their product lines and technologies.
5. Transform PSUs into facilitators for high-technology enterprises in the private sector.
6. Make use of the latest advances in biotechnology, nano technology, biomedical sciences and biochemical engineering to produce new and value-added products.
7. Set up research institutes in the development and application of biotechnology.

8. Promote entrepreneurship among Keralite engineers and professionals, self-help groups, notably Kudumbasree, and students.

The thrust areas for development include restoring the manufacturing and service sectors through capital support and incentive schemes, and creating new investment and employment by means of investment subsidies in land, plant, machinery and common infrastructure.

Main targets during the 13th Five-Year Plan can be analysed agency-wise.

1. The Kerala State Industrial Development Corporation (KSIDC) focused on the following areas – improve Ease of Doing Business, launch Kochi-Coimbatore Industrial Corridor, Mega Food Park, Cherthala, Life Sciences Park, Electronic Hardware Park, steps to foster start-ups and women enterprise initiatives.
2. The Kerala Industrial Infrastructure Development Corporation (KINFRA) focused on the following areas
  1. Acquisition of land in various parts of the State for industrial development.
  2. Development of electronics manufacturing cluster, Kakkanad.
  3. Setting up Petrochemical Park, Kochi.
  4. Setting up Defence Park, Ottapalam.
  5. Expanding the operation of Mega Food Park, Palakkad.
3. The targets for Public Sector Undertakings included
  1. Turnaround of loss-making PSUs.
  2. Capacity expansion in profit-making PSUs.
  3. Technology upgradation and product diversification.
  4. Harnessing synergy among PSUs. In select cases, merger of PSUs operating in similar lines of activity.

In the 13th Plan, Rs 2,680.25 crore was provided as the total outlay, and the expenditure was Rs 1,572.92 crore. The agency-wise and year-wise outlay and expenditure during the 13th Plan are given in Table 4.1.

**Table 4.1 Annual outlay and expenditure of medium and large industries, in 13th Plan, Kerala, in Rs crore**

Agency	2017-18		2018-19		2019-20		2020-21		2021-22	
	Outlay	Expenditure	Outlay	Expenditure	Outlay	Expenditure	Outlay	Expenditure	Outlay	Expenditure
KSIDC	96.27	159.05	134.35	76.57	116.01	15.9	109	84.32	109	48.74
KINFRA	111.32	55.02	96	34.83	107.03	20.6	92.53	85.14	302.53	175.88
CMD	3.1	1.82	1.3	1.27	1.29	0.75	1.29	0.99	1.29	1.29
BPE	0.4	0.364	0.75	0	0.75	0.44	0.95	0.19	0.95	0.18
RIAB	1.86	1.86	3.5	3.5	3.5	2.1	3.5	3.07	5.5	4.71
PSU	270	157.71	297.35	140.52	299.35	100.28	260.79	213.21	248.79	182.62
<b>TOTAL</b>	<b>482.95</b>	<b>375.82</b>	<b>533.25</b>	<b>256.69</b>	<b>527.93</b>	<b>140.07</b>	<b>468.06</b>	<b>386.92</b>	<b>668.06</b>	<b>413.42</b>

Source: Department of Industries and Commerce

**Table 4.2 Physical achievements of PSU, in 13th Plan, Kerala, in Rs crore and number**

Annual Plan	2017-18	2018-19	2019-20	2020-21	2021-22
Total Number of Units	41	42	42	42	42
Total Turnover	2,879.47	3,415.73	3,068.37	3,303.97	3,892.13
Units in Operating profit (Nos)	14	15	15	16	21
Operating Profit	188.66	182.3	28	47	386.05
Net Profit/Loss	-6.52	-16.23	-137.44	-206.63	103.54

Note: SAIL-SCL was non-operational during 13th Plan

Source: Department of Industries and Commerce

## Major achievements during 13th Five-Year Plan

### Kerala State Industrial Development Corporation (KSIDC).

1. Kerala Rubber Ltd formed in 2019.
2. DPR on manufacturing certain rubber products prepared by KITCO.
3. Approach paper was formulated on the potential activities and structure of KRL.
4. Rubber Board engaged to prepare revised DPR based on the approach paper.
5. Land measuring 143 acres (approximately) earmarked for KRL, by the Government of Kerala.
6. During the last four years, KSIDC had organised a series of seminars, business meets, road shows (over 100 across various initiatives) and promotional strategies like media campaigning, participation in domestic/international conferences/business meets, trade fairs, creation of publicity materials, brochures, PR activities, and so on.
7. Two editions of Ascend Kerala – Ascend Kerala 2019 was aimed at propagating the earnest and proactive steps taken by the State Government in creating a hassle-free environment for doing business for both existing and potential entrepreneurs.
8. *Kerala Single Window clearance mechanism (KSWIFT)*. The objective is to ease the setting up of industrial projects in the State. KSIDC is the nodal agency. Services of more than 15 departments/agencies are available here. A total of 27 meetings of the Kerala State Single Window Clearance Board have been held so far under the chairmanship of the Chief Secretary.
9. KSIDC has been supporting young entrepreneurs/innovators through various initiatives such as seed fund assistance, incubation facility and mentoring support. Innovative ventures are given seed fund by way of soft loan or equity share capital at 90 per cent of the project cost or Rs 25 lakh, whichever is lower. The seed fund-assisted companies of KSIDC have created employment opportunities for more than 1,000 persons.
10. *Life Science Park*. A start-up company in the biotech sector has commenced operation in the Park. A start-up, Polyskin Life sciences India Pvt. Ltd, has established R&D facilities in the Park. The Life Sciences Park is being established in two phases. The first phase is coming up on 75 acres of land and support infrastructure facilities such as internal roads, power and water are in place. The second phase of development is envisaged on 131 acres, and acquisition of land is in the final stages.
11. The development of an online Intelligent Building Plan Management System (IBPMS) is progressing.
12. KSIDC, as part of a joint initiative with the Sree Chitra Tirunal Institute for Medical Sciences and Technology (SCTIMST), has conceived a Rs 260-crore project for setting up a Medical Devices Park (MedSpark) on nine acres of land in the Life Sciences Park (Phase-I).
13. KSIDC has developed a food park at IGC Pallippuram, Cherthala on 84 acres of land with specific focus on the seafood processing sector and it is operational.
14. Acquisition of 115 acres of land for the development of a Coconut Industrial Park at Kuttiyadi at Velom village of Kozhikode District has been completed.
15. KSIDC has also established a dedicated Investment Zone at Palakkad with specific focus on the Light Engineering sector.
16. Women Entrepreneurship Mission aims to identify, promote and provide support to existing women entrepreneurs for scaling up their business ventures. The mission aims to develop a new culture of entrepreneurial thinking among women.

### Kerala Industrial Infrastructure Development Corporation (KINFRA).

1. Projects completed by KINFRA are KINFRA International Apparel Park, Menamkulam, Thiruvananthapuram (45 acres), KINFRA Film and Video Park, Thiruvananthapuram (50 acres) KINFRA Export Promotion Industrial Park (KEPIP), Kochi (180 acres), KINFRA Food Processing Park, Kakkancherry, Malappuram (30 acres), KINFRA Neo Space, Kakkancherry, Malappuram



(85,000 sq. ft), KINFRA Small Industries Park, Menamkulam, Thiruvananthapuram (40 acres), KINFRA Small Industries Park, Mazhuvannur, Ernakulam (65 acres), KINFRA Small Industries Park, Koratty, Thrissur (30 acres), KINFRA Small Industries Park, Kalpetta, Wayanad (50 acres), KINFRA Small Industries Park, Thalassery, Kannur (50 acres), KINFRA Small Industries Park, Seethangoli, Kasaragod (278 acres), KINFRA Small Industries Park, Kunnamthanam, Pathanamthitta (36 acres), KINFRA Small Industries Park, Adoor, Pathanamthitta (35 acres), KINFRA Food Processing Park, Adoor, Pathanamthitta (50 acres), KINFRA Textile Centre, Nadukani, Kannur (126 acres), SEZ for Animation and Gaming, KINFRA Film and Video Park, Thiruvananthapuram (25 acres), and so on.

2. KINFRA has also implemented a single window clearance system in all the parks. It has helped investors to establish units without any hassles.
3. KINFRA has created world class infrastructure in 24 industrial parks, of which nine are catering exclusively to the small and medium enterprises. It has completed infrastructure development in 12 key industrial sectors.
4. KINFRA has successfully completed India's first international apparel park at Thiruvananthapuram, export promotion industrial park at Ernakulam, infotainment park, Film and Video Park at Thiruvananthapuram and Food Processing Industrial Park at Malappuram.
5. KINFRA has developed Small Industries Park at Thiruvananthapuram, Pathanamthitta, Ernakulam, Thrissur, Wayanad and Kasaragod.
6. Industrial Park, Ottappalam; construction of a standard design factory has been completed and allocation of built-up space is under progress. Internal roads and other common facilities have been completed.
7. KINFRA has been the nodal agency for the development of the National Institute of Fashion Technology (NIFT) Kannur.
8. KINFRA has been instrumental in the operationalisation of Kannur International Airport Limited (KIAL). It is the nodal agency for land acquisition of KIAL.

#### **Centre for Management Development (CMD).**

1. Consulting and project management support to KIIFB.
2. Conduct of national-level monitoring of MoRD schemes.
3. Conduct of rehabilitation programmes for overseas returnees.
4. Conduct of sustainable agricultural intervention among Scheduled Tribes.
5. Impact assessment of flood/landslides on biodiversity and the ecosystem.
6. Training programmes for various Government bodies.
7. Preparation of Review of Public Enterprises in Kerala.
8. Concurrent Monitoring and Third Party Evaluation of Kerala State Vegetable Development Scheme.

#### **Public Sector Restructuring and Internal Audit Board (RIAB).**

1. The overall performance of PSUs has improved. Turnover and operating profits have registered an increase of 32.41 per cent and 105.68 per cent respectively in 2021-22 as compared to 2017-18.
2. KMML, KELTRON, TTPL TCCL, and KELTRON Component Complex registered record performance.
3. Out of the 17 textile mills, five attained operating profit and the rest reduced their losses substantially in 2021-22.
4. Capital expenditure to the tune of Rs 770 crore has been incurred during the 13th Plan period.
5. Takeover of Hindustan Newsprint Ltd (HNL) and BHEL-EML (Bharath Heavy Electricals Ltd-Electrical Machines Ltd).
6. KSDP, KMML, TTP, TCCL, KCCPL and KSIE developed new products/services to help the Government fight the COVID-19 pandemic.

7. KMMML commissioned 70 TPD oxygen plant and increased the capacity of liquid oxygen to 10 TPD.
8. TCCL commissioned 75 TPD caustic soda plant and HCL synthesis unit.
9. KSDP commissioned a non-betalactum plant. Plants for LVP/SVP and ophthalmic medicines are in the final stages of completion.
10. KELTRON Developed NavIC receiver for fishermen, and signed MoUs with NPOL and Cochin Shipyard for new product development.
11. Autokast Ltd. successfully completed the manufacture of Casnub bogies and handed them over to Indian Railways.
12. KAL developed and manufactured e-autorickshaws.
13. As part of training and capacity development, conducted training/workshops for members of boards of directors, managing directors and employees.
14. Cleared audit pendency and ensured timely completion of audit in most of the PSUs.
15. Prepared master plans for 41 PSUs, for their sustainable growth through the implementation of various expansion/modernisation/diversification projects as short, medium and long-term goals.

#### **Bureau of Public Enterprises (BPE).**

1. BPE functions as the Secretariat of the Public Enterprises Board (PEB).
2. Preparation of annual review reports of State Public Sector Enterprises, making an overall review of their performance.
3. Coordinating the functions of the Kerala Public Enterprises Selection Board (KPESB) for the appointment of Managing Directors/CEOs in State Public Sector Undertakings.
4. Organising periodic refresher training programmes for the managerial personnel of PSUs.

#### **Critical gaps**

##### **Kerala Rubber Products Ltd.**

1. Inadequate information on potential and viable products and product groups.
2. Lack of quality and consistency of products.
3. Absence of adequate facilities for testing and certification of quality of goods.
4. Inadequate technical assistance to units in the MSME sector.
5. Lack of proper awareness of the export market and adequate and timely assistance for export.
6. Lack of infrastructure such as suitable land for starting industries with water, power and communication facilities.
7. Need for effective pollution control methods and disposal after proper treatment.
8. Delay in obtaining clearances and licences for new units.

##### **Industrial sector.**

1. COVID-19 pandemic situations.
2. Natural calamities affecting inventory management.
3. Lack of suitable land for industrialisation.
4. Lack of sufficient other infrastructure facilities.
5. Skilled labour gap.
6. Underutilisation of NRI funds and poor capital formation.
7. Competition from multinational companies.
8. Lack of sufficient industrial raw materials.
9. Ineffective digital marketing strategies.
10. Issues relating to waste management.

##### **Public Sector Restructuring and Internal Audit Board (RIAB).**

1. Lack of exposure of PSUs to competitive business practices.
2. Lack of clarity in authority and responsibilities.
3. Lack of delegation with responsibilities.
4. Lack of state-of-the-art technical expertise in PSUs.
5. Lack of timely capital upgradation.
6. Delayed project implementation.
7. Poor management of working capital and pendency in audit.
8. Departure of banks from financing PSUs.
9. Lack of state-of-the-art IT infrastructure.
10. Lack of knowledge in management of supply chains.
11. Delayed decision-making.
12. Decreased focus on training and capacity-building from board-level to operational-level.
13. Lack of productivity linked incentive system.
14. Absenteeism, mainly in textile sector PSUs.
15. Lack of clear-cut strategies and legislations leading to ad-hocism in decision-making.
16. Absence of company-level performance audit and management audit system.

#### **14th Five-Year Plan**

##### **Approach**

Industries create value, employment and incomes, and play a vital role in the social and economic progress of a society. Kerala is committed to a programme of industrial development in the private, cooperative, and public sectors. Given the significance of the sector, attracting investment in existing industries and in emerging areas is a priority for the State. The State shall take effective measures to ensure that it remains an industry-friendly and investor-friendly destination.

Industrial development shall be promoted taking into account the resource base, distinct advantages, and special geographical features of the State. Industrial development in Kerala must have its own features and must follow a path with specific characteristics.

The strategy for developing industries under the 14th Plan will have the following components.

1. The 14th Five-Year Plan will seek to strengthen the existing industrial base in all ownership sectors (private, public, and cooperative) to strengthen resilience, particularly in the context of COVID-19 and to protect existing employment. Special emphasis needs to be placed on helping units that were closed down during the pandemic to restart operations and reach full capacity. There will be a special focus on MSME development by facilitating the growth of micro and small enterprises to medium size and by linking medium industry to national and global markets. The State Government will initiate assistance programmes to revive and lead existing MSMEs to a path of recovery. The State will place special emphasis on attracting high-productivity units in this sector.
2. The 14th Five-Year Plan will promote modern MSMEs by leveraging the specific competitive advantages of Kerala. Land for industrial use is scarce in Kerala. Hence, public sector industrial promotional agencies such as KSIDC and KINFRA are mandated to develop industrial parks with modern facilities to support MSMEs. The Government will explore new models for development of industrial infrastructure. This has to involve the private and cooperative sectors. Common facility centres may be developed for specific industries, regions and clusters. Efforts will be made to create land banks for industries by identifying unutilised land with existing State public sector undertakings as well as local bodies.
3. State PSUs are being strengthened by means of a technology modernisation programme. Unit-specific DPRs are under preparation to revive these units. To improve the governance and

administration of PSUs, measures are being taken to reform regulations and to provide them more professional autonomy.

4. Special focus has been given to develop infrastructure for the information technology (IT) industry and IT-enabled service sector in urban and rural centres. The success of this sector critically depends on the availability of highly specialised human resources. Career guidance, skill development, and entrepreneurship development programmes can help create new employment in the industrial sector. These objectives are to be met by institutions such as the Digital University and organisations and programmes such as the Additional Skill Acquisition Programme Kerala (ASAP) and Information and Communication Technology Academy of Kerala (ICT-K). Industry-education links shall be fostered so that certain sectors of teaching and research support industrial development. Strengthening science and technology institutions will not only facilitate fundamental research in sciences but also help develop talents in advanced areas of information technology.
5. A large section of our people continues to depend on traditional industries such as handlooms, coir, cashew processing and handicrafts. The sector needs support in terms of market access, inputs for production, improvements in production processes, and product design. A comprehensive study for the revival of the handloom sector is under way. Similar studies need to be conducted of other traditional industries as well. Industries such as coir and cashew need technology infusion in production processes and diversification of their outputs.
6. Kerala is a high-consumption State, but one where demand in many segments is met by commodities produced elsewhere. Efforts are being made to promote a dual-circulation economic strategy in which capacity is built within Kerala to meet domestic demand and national and international trade is developed in areas of strength including value-added plantation products and modern technology-based services. The development of agro-based industry is a key component of this strategy.
7. The industrial sector in Kerala must make effective use of advanced technologies, including biotechnology, nanotechnology, biomedical sciences, electronics, computing, media technologies, and biochemical engineering to produce new and more value-added products. Areas such as (i) agro-based industry and food processing; (ii) chemicals and petrochemicals, including paint, urea, titanium, minerals, and cement; (iii) electronics; (iv) medical equipment, health care and biotechnology; (v) anchor industries including industrial corridors, ports, shipping logistics and inland water transport systems; (vi) textiles and garments; (vii) handlooms and powerlooms; (viii) traditional industries such as cashew and coir; and (ix) construction and allied activities offer high potential for growth.
8. The plantation industry, particularly with respect to crops such as rubber, coffee, tea, and spices, has been under great stress because of the World Trade Organisation (WTO) regime. A new Directorate for Plantations was formed under the Industries Department during the 13th Plan to address issues of the plantation sector. Rubber and other commodity boards are directly under the Central Government and funds allocated by the Centre to these Boards are steadily declining. Investments in biotechnology and other areas can help protect the large number of smallholders in the plantation sector. Such efforts assume particular importance in the context of emerging climate-change concerns related to the plantation sector.
9. A robust and resilient industrial sector is feasible only when Kerala's industry is a part of national and global supply chains. Efforts are being made to prepare and strengthen local industry and trade for the global changes in supply chains to meet environment, social, and governance (ESG) requirements. Kerala's traditional strengths with respect to enlightened labour and social policy and environment policy can be used to advantage in this context. Government support in terms of appropriate regulations, infrastructure, marketing, export promotion, business facilitation, and incentives shall be pursued with greater vigour. Changes in the legal and regulatory framework guiding industries shall be continued.

## **Objectives**

### **KSIDC.**

1. To facilitate and finance industries and catalyse the development of physical and social infrastructure required for industrial growth in the State.
2. To create an ecosystem for start-up initiatives like seed funding for innovative start-ups, business incubation centres, mentoring sessions for young entrepreneurs and so on.
3. To facilitate clearances and approvals for initiating business ventures.
4. To focus on sector-specific investor targeting and development of new business concepts to enable sustainable investments.
5. To undertake reforms to help place the State on an equal footing amongst performing States for the creation of a better business environment.

### **KINFRA.**

1. To improve the industrial water supply scheme to the Kakkanad industrial area to cater to the requirement of the existing KINFRA Export Promotion Industrial Park (KEPIP), Infopark Phase 1, Smart City, and the increased demand from the expansion of KEPIP, EMC, Infopark Phase 2, Petrochemical Park as well as industrial zone with downstream products of BPCL and others.
2. To set up a spices processing cluster at Thodupuzha on an area of 33.57 acres in Idukki District.
3. To promote a Petrochemical Park in the Ambalamugal region adjacent to the Kochi Refinery of BPCL, the raw material source.
4. To establish Comprehensive Waste Management systems in KINFRA Parks.
5. To construct a 12.5 MLD water treatment plant.
6. To extend the Kochi-Bengaluru Industrial Corridor to the Chennai-Bangalore Industrial Corridor Project approved by the Government of India.
7. To develop a land bank in Kannur District on an area of 4,896 acres.
8. To improve road connectivity to KINFRA Hitech Park, Kalamassery.
9. To set up Special Economic Zone for Animation/IT/ITeS in the KINFRA Film and Video Park, Kazhakuttam.
10. To set up an International Exhibition and Convention Centre (IECC), Ernakulam.
11. To promote the KINFRA brand and to bring in more entrepreneurs to KINFRA Parks for setting up their units for manufacturing.

### **Centre for Management Development (CMD).**

1. Identification of new and viable sectors and diversification of all PSUs in Kerala.
2. Study on Modernisation and Technology upgradation of PSUs in manufacturing sector.
3. Study on identifying Niche Markets for State PSUs in the productive sectors.
4. Identification of latest technologies and agencies for enabling technology transfer for State PSUs.

### **RIAB.**

1. To implement viable projects proposed in the master plan.
2. Placed a Project Management Unit in RIAB headed by Advisor Master Plans. Nine professionals have been placed.
3. Delegation with Responsibility in PSUs based on the Paul Antony Committee Report.
4. E-commerce portal for PSUs.
5. Effective utilisation of unused land of PSUs for the industrial development of the State.

6. Increase the number of profit-making PSUs.
7. Industry-institution linkage for R&D development in PSUs.
8. Formation of the Kerala Public Enterprises Selection and Recruitment Board.
9. Induction of more professionals in the boards of PSUs.
10. New HR policy in PSUs for internal promotions.
11. To support MSMEs, public sector industrial promotional agencies such as KSIDC, KINFRA, and others are mandated to develop industrial parks with modern facilities.
12. To give special focus to develop infrastructure for the information technology (IT) industry and IT-enabled services sector in urban and rural centres.

#### **Bureau of Public Enterprises (BPE).**

1. BPE proposes to organise periodic refresher training programmes for the supervisory/managerial personnel of State PSUs (other than those coming under the administrative control of the Industries Department, for which RIAB is organising training programmes separately).
2. BPE proposed to prepare an Annual Review of Public Enterprises, which is an overall review of the performance of State Level Public Enterprises with an aim to help the enterprises identify problems early and effect appropriate corrections.
3. BPE is coordinating the functions of the Kerala Public Enterprises Selection Board.

#### **Key initiatives proposed**

##### **KSIDC.**

1. Innovation Acceleration Scheme.
2. Chief Minister's Special Assistance Scheme – financial assistance to MSMEs/start-ups/micro enterprises and NRKS.
3. COVID-19 *Samashwasa Padhathi* to overcome hurdles faced due to Covid lockdown.
4. Medical devices park.
5. Life science park, Thiruvananthapuram.
6. Coconut Industrial Park, Kuttiyadi. KSIDC has acquired 115.13 acres of land at Kuttiyadi in Kozhikode District for the development of a Coconut Industrial Park.
7. KSIDC's industrial space park, Kasaragod to develop a Standard Design Factory Building measuring approximately 1 lakh sq ft with basic infrastructure facilities to be rented out to interested entrepreneurs within the 1.99 acres of land at Kasaragod.
8. Seed Fund for industrial activities and start-ups in the MSME sector that are commercially viable, economically feasible and ecologically sustainable.
9. We Mission, to support new ventures/MSMEs by way of seed fund scale-up.
10. Investment facilitation and industrial promotion to make sustained efforts to improve ease of doing business in the State.
11. Industrial Growth Centre, Cherthala Infrastructure development in the remaining 25 acres of land at IGC Cherthala.
12. IGC Calicut Infrastructure development in the remaining area of Phase I of the land in Kozhikode.
13. IGC Kannur – Development of 100 acres of land as Phase II of the project.
14. Business Incubation Centre and office complex building at Kakkanad.

##### **KINFRA.**

1. Petrochemical Park, Kochi.
2. Kochi-Bengaluru Industrial Corridor (KBIC).
3. Spices Park, Muttom, Thodupuzha.
4. Water Supply for Infopark, Smart City and KEPIP.
5. Industrial Land Bank, Kannur.

6. Hi-tech Park-Road Connectivity to Seaport Airport Road.
7. Integrated Rice Technology Parks.
8. Comprehensive waste management for KINFRA Parks-ETP, STP, Incinerator.
9. Water treatment plant at IIPT, Palakkad.

**CMD.**

1. Strengthening Financial Management Systems and Market Capitalisation of State PSUs.
2. Modernisation and Technology Upgradation of PSUs in the Manufacturing Sector.
3. Market Development of State PSUs.
4. Professionalisation of the workforce in PSUs.
5. Re-engineering and restructuring of PSUs.
6. Corporate Governance in State PSUs.
7. Development of policy environment and business environment.
8. Development of an innovation ecosystem.
9. Investment facilitation.

**RIAB.**

Implementation of viable projects proposed in the Master Plan.

**BPE.**

1. Studies may be conducted on the operations of continuously loss-making PSUs and analyse reasons for the losses and other problems faced by these enterprises in their operations and recommend measures for improvement.
2. Performance monitoring and preparation of revival plans/future business plans of PSUs with the professional support of the Centre for Management Development (CMD).

**New initiatives already started in Annual Plan 2022-23**

**KINFRA.**

1. SDF-Special Economic Zone for Animation/IT/ITeS in KINFRA Film and Video park, Kazhakkuttam.
2. International Exhibition and Convention Centre (IECC), Ernakulam.
3. Business Promotion and Marketing Initiatives of ongoing projects.
4. Upgradation of industrial infrastructure of KINFRA Parks.
5. Development of new KINFRA Industrial Parks.

**RIAB.**

1. *Electronic Hardware Technologies Hub.* Creation of an electronics hub for manufacturing and testing of Electronic Hardware/Software/Technical services under a comprehensive eco-system.
2. *Green Mobility Technologies Hub.* Creation of an Electrical Vehicle Zone-Creation of an anchor industry for the development of electric vehicles and green mobility technologies in all segments in Kerala.

#### **4.1.2 MICRO, SMALL, AND MEDIUM ENTERPRISES (MSME)**

**Overview of the MSME Sector**

Micro Small and Medium Industries play an important role in the social and economic progress of Kerala. The sector is emerging as a major income-generating and employment – providing sector in the State with relatively lower investment. Kerala has a relatively high share of MSMEs in the country. As per the

MSME Survey and Quick Results of 4th Census, 5.62 per cent of MSME enterprises in India are in Kerala. Kerala, with its excellent connectivity, communication network, availability of highly skilled human resources, and relatively good industrial infrastructure, is highly suited for the growth of the MSME sector.

#### **Department/Agencies under the MSME Sector**

The Directorate of Industries and Commerce is implementing various schemes to increase production and employment in this sector and is taking an anchor role in driving various industrial-promotional activities and is responsible for promoting, sponsoring, financing and advising MSMEs. It is the controlling office of 14 District Industries Centres, Common Facility Service Centres at Changanachery and Manjeri and the documentation centre. The Kerala Bureau of Industrial Promotion (K-Bip), an autonomous body under the Directorate of Industries and Commerce, is the Implementing Agency for Industrial Cluster Development activities throughout the State. The agencies under the Directorate for the development of the handicraft sector are Surabhi, Handicrafts Development Corporation of Kerala (HDCK), Kerala Artisans Development Corporation Limited (KADCO) and Kerala State Bamboo Corporation.

#### **13th Five-Year Plan**

##### **Objectives of the 13th Five-Year Plan**

1. Promote entrepreneurship among the three groups, namely Keralite engineers and professionals, Self Help Groups (SHGs), notably Kudumbasree, and students.
2. Achieve significant increase in industrial production in private, cooperative and public sector enterprises, with funding from multiple sources of investment.
3. Build a strong manufacturing base in Kerala, with emphasis on industries that have strong linkages with the State's agricultural, natural and marine resources
4. Promote food and agro-based industries in the State.
5. Make use of the latest advances in biotechnology, nanotechnology, biomedical sciences and biochemical engineering to produce new and value-added products.
6. Set up research institutes in the development and application of biotechnology.

#### **Thrust areas**

##### **Directorate of Industries and Commerce.**

1. Developing 5.86 lakh sq ft space through Standard Design Factories.
2. Cluster development.
3. Identify potential clusters through industrial potential surveys.
4. Developing a web portal for marketing.

##### **Traditional sector development.**

1. Focus on the development of handicrafts, bamboo, palmyrah sectors.
2. An integrated artisanal development programme combining cluster development programme, assistance to apex organisations and employment generation in traditional sectors.
3. The Assistance Scheme for Handicraft Artisans (ASHA) to transform traditional artisans into entrepreneurs.
4. An integrated programme to link the handicrafts sector to tourism by means of souvenirs, craft tourism.
5. Widen the product range in hand-woven fabrics through the National Institute of Fashion Technology (NIFT).
6. Develop an online marketing portal for hand-woven fabrics.



- Expand the school children uniform cloth scheme to give sustained employment as a safety net to the sector.

#### Handicrafts sector.

- Integrated development of the handicrafts sector by brand marketing of products made in clusters.
- Signature showrooms for Kerala handicrafts by a collective marketing strategy for PSUs.
- Design and technology intervention with support from institutions such as NIFT and the National Institute of Design (NID).

Table 4.3 Outlay and expenditure of small-scale industry, commerce and handicraft, in 13th Plan, in Kerala, in Rs lakh

Sector	2017-18		2018-19		2019-20		2020-21		2021-22		2022-27	
	Outlay	Expenditure	Outlay	Expenditure	Outlay	Expenditure	Outlay	Expenditure	Outlay	Expenditure	Outlay	Expenditure
Small Scale Industries	12,806	9,235.65	15,106	9,186.10	16,389	5,189.67	13,414	10,664.07	13,894	6,954.59	71,609	41,230.08
Commerce	400	396.95	440	278.6	1543	476.83	1600	864.05	1,200	1,535	5,183	3,551.43
Handicrafts	595	500.52	455	351.26	355	404.28	465	1,208.43	335	197.06	2,205	2,661.55
Total	13,801	10,133.12	16,001	9,815.96	18,287	6,070.78	15,479	12,736.55	15,429	8,686.65	78,997	47,443.06

Source: Planspace, Kerala

An amount of Rs 78,997.00 lakh was provided as budgeted outlay for the MSME sector to implement Plan schemes and Rs 47,443.06 lakh was spent (60 per cent) during the 13th Five-Year Plan period.

#### Major physical achievements during the 13th Plan

- A total of 69,814 MSMEs were established with a total investment of Rs 6,667.15 crore, generating 2,47,601 jobs.
- 5,305 MSME units were benefited under Entrepreneurship Support Scheme (ESS), the flagship Programme of the department, with a total subsidy of Rs 27,394.2 lakh disbursed.
- All the 13 services rendered by Directorate of Industries and Commerce have gone online
- Assistance was given to 392 units under the scheme for margin money grant to nano units and to 648 units under the scheme for interest subvention under 'Nano household units' scheme.
- Assistance was given to 117 artisans in the handicrafts sector under ASHA.
- 1,856 MSMEs benefited under the Vyavasaya Bhadratha Scheme and 245 MSMEs under the Stressed MSME rehabilitation scheme.
- Formation of Commerce Mission to encourage and develop trade and commerce in the State and to market indigenous products in domestic and global markets.
- Kerala Institute for Entrepreneurship Development (KIED) as a Centre of Excellence in entrepreneurship development.
- Launched the websites, [www.keralamsme.org](http://www.keralamsme.org) and [www.keralamsme.com](http://www.keralamsme.com), for accessing national and international markets. E-Market web portal has been launched to provide better marketing facilities to MSMEs and PSUs.
- 305 Entrepreneurship Development Clubs have been set up in educational institutions to promote entrepreneurship among students.
- Completed Modernisation of the Common Facility Service Centre (CFSC) at Changanassery.
- Implemented a special package, *Vyavasaya Bhadratha*, to provide relief and financial assistance to MSMEs in the wake of COVID-19.
- Setting up of a central inspection framework and an online "Kerala – Central Inspection System (K-CIS)" to carry out all inspections on a single platform.
- Conducted 'Meet the Minister' Campaign to address the grievances of investors in the State/those who are planning to launch new enterprises with the help of the DICs. Organised 'Meet the Investor Programme' for interactions with investors to promote new ventures in the State.
- Kerala become the first state to adopt 'Responsible Investment, Responsible Industry' programme as

part of an industrial growth strategy.

16. The website of the Directorate of Industries has been completely revamped with new contents and interactive features.
17. Industrial and Commercial Policy 2018, Kerala Micro Small Medium Enterprises Facilitation Act 2019 and Kerala Industrial Single Window Clearance Boards and Industrial Township Area Development (Amendment) Rules, 2021 launched.

#### **Gaps/issues in the MSME Sector**

1. Lack of quality support infrastructure facilities, scaling up of existing MSMEs from Micro to Small, Small to Medium, linkages with industry and R&D institutions, adequate credit facility at reasonable interest rates, business ideas and an entrepreneurial attitude.
2. Low access of entrepreneurs to new technologies, shortage of skilled workers.
3. Inadequate collaboration between technology providers and entrepreneurs, and limitations in absorbing global market and export trends.
4. Slow process in modernisation and in the use of new designs and innovations.
5. Start-ups are mainly only in IT or IT-related sectors.
6. Inadequate marketing facilities and handholding support for forward and backward linkages.

#### **14th Five-Year Plan**

Kerala is committed to industrialisation principally by means of the MSME sector given the encouraging results of the 13th Five-Year Plan. There is a need for a Policy Framework in the MSME sector to help with the identification of industries, prioritisation based on geography, sourcing of funds, supply chain and logistics evaluation and market exploration and product positioning. The 14th Plan aims to transform the State into a vibrant and favorable destination for industrial investments that are eco-friendly, productive and able to create new employment opportunities and thereby ensure sustainable economic growth. With the COVID-19 pandemic yet to subside, the thrust in the sector will be on restoring production in the manufacturing and service sectors through capital support and incentive schemes and creating new investment and employment through investment subsidies in land, plants, machinery and common infrastructure.

#### **Approach to 14th Five-Year Plan**

1. Special focus on MSME development by facilitating the growth of micro and small enterprises to medium size and linking medium industry to national and global markets.
2. The State Government will initiate assistance programmes to revive and lead existing MSMEs to a path of recovery. The State will place special emphasis on attracting high-productivity units to Kerala in this sector.
3. Promotion of modern MSMEs by leveraging the specific competitive advantages of the State.
4. The 14th Plan will promote modern MSMEs by leveraging the specific competitive advantages of Kerala where land for industrial use is scarce. Hence, public sector industrial promotion agencies such as KSIDC and KINFRA are mandated to develop industrial parks with modern facilities to support MSMEs. The Government will explore newer models for the development of industrial infrastructure. This has to involve the private and cooperative sectors. Common facility centres may be developed for specific industries, regions and clusters. Efforts will be made to create land banks for industries by identifying unutilised lands with existing State public sector undertakings (PSUs) and local bodies.

#### **Objectives of 14th Plan**

1. To start 1,00,000 MSME units and to create one lakh employment opportunities every year.
2. To apply sectoral focus on suitability of an industry with respect to Kerala.
3. To augment the transition of MSMEs from Micro to Small/Medium in the State.

4. To address the delivery of Technology Enablement to MSMEs to increase the survival rates of MSMEs.
5. To improve the entrepreneurial drive among Kerala's youth.
6. To modernise all aspects of business and upgrade skills and outlook.
7. To focus on product and market development and the sustainability of new and existing MSME units.
8. To promote products specific to Kerala.

#### **Key initiatives proposed for the 14th Plan**

1. Attractive schemes for the scaling up of MSMEs, start-ups in manufacturing, facilitating market infrastructure for MSMEs, Export Promotion, Enterprises in Service, Trade sectors.
2. Setting up of one lakh enterprises.
3. Promotion of private industrial parks/estates.
4. Pooling land under the ownership of PSUs, cooperative societies registered with the Industries Department and Local Governments.
5. Establishing more Multistoried Industrial Estates/Galas.
6. Research and Development and technology induction.
7. Developing industrial entrepreneurship.
8. Greater focus on the services sector and improving Kerala's contribution to the value addition chain.
9. Setting up a supermarket chain with the cooperative sector for 'Made in Kerala' products.
10. Enhanced use of Information Technology.
11. Emphasis on the ideation process.
12. Exploring new and emerging sources and types of finance.
13. Utilising nano enterprises (including service and trade sector) is for creating employment opportunities for the unemployed, especially among women.
14. Policies/Programmes targeting current issues, new areas and emerging opportunities.

#### **Initiatives already started in Annual Plan 2022-23**

1. The year 2022-23 has been declared to be celebrated as the 'Year of Enterprises'. The target is to establish one lakh MSME's through the joint efforts of various departments, and to create one lakh jobs in 2022. Strategies for the growth of MSMEs include assistance for upscaling units, export promotion, promotion of private industrial parks and the 'One Family One Enterprise' scheme. In order to achieve this, a Special Package Scheme for MSMEs' has been included in 2022-23, which envisages providing formal assistance to functional MSMEs (in their running stage) and providing support for scaling up existing enterprises from Micro to Small, Small to Medium, and so on.
2. Internships for 1,155 youth in the age group of 18-35 (with a qualification of BTech/MBA) in 941 grama Panchayats, 88 municipalities and six city corporations in the State as part of Industry Internship Programme for the promotion of one lakh enterprises in the State.
3. Formation of a Plantation Directorate with a vision to enable the development of the plantation sector in the State to ensure optimal and sustainable utilisation of natural resources and welfare of labourers by promoting value addition and effective marketing of plantation produce.
4. Training to 50,000 persons under Capacity Building Programme.
5. Revival of small and medium scale cashew factory units.
6. Support to 2,650 units under Entrepreneurs Support Scheme for creating more employment opportunities in the MSME sector through capital incentive support to new/existing MSME units attracting more investment, business and employment.

### **4.1.3 TRADITIONAL INDUSTRIES**

#### 4.1.3.1 COIR INDUSTRY

##### Overview of the coir sector

Kerala is the home of the Indian coir industry, particularly white fibre, accounting for 61 per cent of coconut production and over 85 per cent of coir products. The coir industry is one of the earliest industries to have emerged in Kerala. Now the industry is concentrated in Alappuzha District and employs nearly 1.5 lakh workers, of which 80 per cent are women.

##### Agencies involved in the sector

The Directorate of Coir Development acts as a facilitator for the promotion of the coir industry in the State. Kerala State Coir Corporation, Foam Mattings (India) Ltd (FOMIL), Kerala State Cooperative Coir Marketing Federation (Coirfed), National Coir Research and Management Institute (NCRMI), Kerala State Coir Machinery Manufacturing Company, Kerala State Coir Workers Welfare Fund Board and Coir Board are the agencies in the sector.

##### 13th Five-Year Plan

The 13th Plan proposed concentration on five major areas of the coir sector in Kerala.

1. Technology-enabled procurement and decentralised fibre extraction.
2. A distinct strategy for traditional spinning and weaving involving four key differentiators (history of coir and eco-tourism positioning, capacity-building and training of homestead and Kudumbashree, spooling unit-based tracking, design), support for improving the socio-economic conditions of the workers in the traditional sectors, and modernisation.
3. Product diversification of industrial coir with focus on non-woven material.
4. Institutional support for research and development.
5. Support to Coirfed.

Table 4.4 *Budgeted outlay and expenditure in coir sector, 13th Plan, Kerala, in Rs lakh*

Annual Plan	Budgeted Outlay	Expenditure	Expenditure as share to total budgeted outlay
2017-18	12,812	9,874.61	77.07
2018-19	14,108	12,943.26	91.74
2019-20	14,151	13,968.30	98.71
2020-21	11,274	23,996.09	212.84
2021-22	11,274	10,059.49	89.23
Total	63,619	70,841.75	111.35

Source: Planspace Kerala

##### Achievements in the coir sector during the 13th Plan

1. Implementation of the “Second Reorganisation of Coir Industry”, a comprehensive revival package to modernise the coir sector while protecting the incomes of workers.
2. Social protection for coir workers with better working environment and increased wages.
3. Through the operation of new defibering units, the husk utilisation in the State has risen from 12.5 per cent to 14.8 per cent.
4. With the introduction of over 25,000 good quality electronic ratts, and 1,000 Automated Spinning Mills (ASMs) in over 100 societies, yarn production has jumped from 7,880 tonnes in 2016 to 25,000 in 2021.
5. The daily wage of ASM workers has increased to about Rs 500 a day.
6. New applications for pith and short fibre were discovered. As a result, the value of raw coir pith has risen from Rs 0.50 a kg. to Rs 6 a kg.
7. A coir composite manufacturing plant has been established.

**Critical gaps or issues to be addressed in the coir sector**

1. Shortage of raw material, namely coconut husk.
2. Low utilisation of available coconut husk in the State.
3. Hindrances to mechanisation, such as problems related to availability of power and maintenance issues in some units.
4. Shortage of working capital.
5. Low productivity along with higher wages in the products sector and its impact on the cost of export products.

**14th Five-Year Plan**

**Approach.** Modernisation, product diversification, effective marketing and distribution strategy are the three basic pillars for the development of coir and other traditional industries in the 14th Five-Year Plan.

**Objectives of coir sector in 14th Plan**

1. Emphasis to shift from 'starting new units' to 'ensuring sustainability of units started/modernised'.
2. Modernisation will continue to be the main thrust area for the coir sector.
3. Ensure better availability of raw material for the coir industry in the State. Technology enabled procurement and decentralised fibre extraction to be carried out.
4. The traditional spinning and weaving sector will build linkages with eco-tourism projects (which highlight the history of coir).
5. Diversification into industrial coir with a focus on non-woven, coir geo textiles, coir composite/injection-moulded coir and coir composite board to be pursued with greater vigour.
6. Promote mechanisation in household units by promoting mechanical spinning machines with solar power.
7. Preservation of skill in the sector with emphasis on training, especially among young workers.
8. Focus shall be given for ensuring the quality of the product manufactured through certification such as IS Certification.

**Key initiatives proposed for the 14th Plan in the coir sector**

1. Publicity/propaganda, including trade exhibition fairs.
2. Coir Kerala international exposition.
3. Market Development Assistance.
4. Coir Geo-Textiles Development Programme.
5. Regulated Mechanisation of Coir Industry.
6. Training and Management Improvement scheme.
7. Cluster Development Programme in the Coir sector.
8. Price Fluctuation Fund Scheme.
9. Reorganisation of the Coir Industry.

**4.1.3.2 CASHEW INDUSTRY****Overview of the cashew sector**

The cashew industry is a major traditional agro-based industry in Kerala. There are several cashew processing units in Kollam District, which has earned the title of the 'cashew capital of the world'. By traditional estimates, there are about 830 formal and informal cashew processing units in Kerala employing about 3 lakh workers, of which 90 per cent are women. However, a large number of cashew processing units (about 730) are not functioning due to losses. It is currently held that the number of working cashew processing units are about 100 where about one lakh workers are employed. Cashew

processing is concentrated mainly in the private sector. The cooperative sector has limited presence in cashew processing. Cashew is a significant item of export from Kerala. However, Kerala's share of cashew exported from India has fallen over the years.

#### Agencies involved in the sector

Kerala State Cashew Development Corporation (KSCDC), Kerala State Cashew Workers Apex Cooperative Society (CAPEX), Kerala State Agency for the Expansion of Cashew Cultivation (KSACC) and the Kerala Cashew Board (KCB) are the agencies involved in this sector. The Cashew Export Promotion Council of India (CEPCI) and the Directorate of Cashew and Cocoa Development (DCCD) are the other agencies involved in the promotion of cashew.

#### 13th Five-Year Plan

The 13th Plan aimed to rejuvenate the cashew industry by increasing domestic raw nut production, partial mechanisation in processing, increasing value addition, product diversification, promoting cost effectiveness, and ensuring better marketability. It also aimed to promote exports and provide employment. The Plan proposed to promote modernisation and up gradation, branding and market awareness, and development of new value-added products. One of the thrust areas was the role of the newly formed Kerala Cashew Board. It was proposed that the Board will take steps to procure and import raw cashew from within India or outside; process, value add and market the produce in domestic and international markets; supply raw cashew nut to domestic cashew processors at fair price; and promote scientific cultivation of cashew involving land owners, processors and other stakeholders to enhance domestic raw nut production.

Table 4.5 Budgeted outlay and expenditure of cashew industry, in 13th Plan, in Kerala, in Rs lakh

Year	Budgeted Outlay	Expenditure	Expenditure as per cent of total budgeted outlay
2017-18	4,950	9,604.57	194.03
2018-19	5,445	6,471	118.84
2019-20	5,445	1,470.29	27.00
2020-21	5,530	1,130.9	20.45
2021-22	5,530	4,270.50	77.22
Total	26,900	22,947.26	85.30

Source: Planspace Kerala

#### Achievements in the cashew sector during the 13th Plan

1. Modernisation works have been undertaken in KSCDC and CAPEX
2. Formation of KCB for import of raw cashewnut for CAPEX and KSCDC.
3. In 2019-20 cashew kernel export from Kerala was 30,478 tonnes, valued at Rs 1,742.54 crore. The share of exports from Kerala in total exports from India is about 50 per cent.
4. The area under cultivation of cashew increased to 98,821 hectares in 2019-20, with significant gains from 2015-16 onwards.
5. Thrust on cashew cultivation. Model Cashew Farms and Model Cashew Gardens along with distribution of cashew grafts undertaken by KSACC to expand cultivation.
6. Training and seminars for the dissemination of planting techniques, maintenance and protection.
7. KSCDC. Partial mechanisation and the introduction of cutting machines has increased the processing of RCN per day from 100 tonnes to around 125 tonnes. The installation of 1,250 cutting machines in recent years has resulted in enhanced productivity by about 56 per cent.

#### Critical gaps or issues to be addressed in the cashew sector

1. Shortage of raw nuts at competitive prices
2. Fall in domestic availability and rise in price of domestic and imported cashew
3. Higher processing costs
4. Slow adoption of modern processing technologies

5. Stiff competition from other processing nations/regions
6. Fall in Kerala's share of exports over years
7. Pressure on land
8. Restrictions on cashew cultivation because of land ceiling laws
9. Incidence of fungal diseases,
10. Competition from other crops such as rubber
11. The slow spread of high-yielding cashew varieties and of modern cultivation techniques
12. Inability of KSCDC and CAPEX to pay KCB for the import of raw cashew

## **14th Five-Year Plan**

### **Approach**

Modernisation, product diversification, effective marketing and distribution strategy are the three basic pillars for the development of cashew and traditional industries in the 14th Five-Year Plan. The Government will ensure decent-level of wages, employment and incomes to workers engaged in this sector.

### **Objectives of the 14th Five-Year Plan**

1. Ensure the sustainability of functioning cashew processing units by reducing the cost of production, increasing productivity by adopting economies of large-scale processing, mechanisation and process automation.
2. Steps to restart the operations of closed private cashew factories, which have the potential to be revived.
3. Increase the domestic availability of raw cashew in Kerala via expansion of cashew cultivation and reduce dependence on imports
4. Increasing value addition and processing of cashew.
5. Decrease the cost of processing cashew for units in Kerala to remain economical and competitive.
6. Develop new value-added products such as hand-crafted cashew, and also products which make use of cashew apple.
7. Greater emphasis on R&D for expansion of cultivation and development of new machines, new products, and market research.
8. Greater efforts to develop new markets and marketing strategies which can retain and make gains from the identity of 'Kerala Cashew'.
9. Steps to ensure timely circulation of funds among KCB, KSCDC and CAPEX.

### **Key Initiatives proposed for the 14th Five-Year Plan in the cashew sector**

1. Initiatives by KSACC to increase the area under cultivation of cashew
2. Modernisation and partial mechanisation of Cashew factories to increase productivity and provide additional employment to the underprivileged, especially women.
3. Brand building and market awareness programmes to ensure greater market share and sales from KSCDC and CAPEX.
4. KCB will import/procure RCN from within India or outside; and supply them to KSCDC and CAPEX at fair prices.

### **Initiatives already started in Annual Plan 2022-23 in the cashew sector**

Pilot project for Ultra High Density cashew planting.

## **4.1.3.3 HANDLOOM AND POWERLOOM INDUSTRY**

## Overview

The handloom industry is a major traditional industry in Kerala. It is mainly concentrated in Thiruvananthapuram and Kannur Districts and in some parts of Kozhikode, Palakkad, Thrissur, Ernakulam, Kollam and Kasaragod Districts. The major items produced in the handloom sector are dhotis, furnishing material, bed sheets, shirting, saris and lungis. The handloom and powerloom sectors provide employment to a large section of the population in Kerala, especially the poor and women. There were 1.7 lakh workers in the textile industry in Kerala in 2011-12. Around 90 per cent of these workers are in the informal sector, including those in the handloom sector. The handloom industry is dominated by the cooperative sector, which currently covers more than 93 per cent of the total looms. The rest of the industry is owned by private sector firms.

## Agencies involved in the sector

The Directorate of Handlooms and Textiles, Kerala State Handloom Weaver's Co-operative Society (Hantex), Kerala State Handloom Development Corporation (Hanveev) and the Indian Institute of Handloom Technology (IIHT), Kannur, are the important agencies involved in the development of the handloom sector. The cooperative segment in the textiles sector is involved in spinning and weaving activity (both powerloom and handloom). To promote the weaving sector, the Government provides budgetary support to powerloom co-operative societies in the State. The spinning mills are mostly under the Kerala State Textile Corporation Limited (KSTC) and the Kerala State Cooperative Textile Federation Limited (Texfed).

## 13th Five-Year Plan

The thrust areas in the 13th Plan period included making quantifiable increases in areas like number of registered looms, number of working looms, per day wage of the worker, per day weaving (metres per weaver), annual production (in lakh metres), annual production (in value terms), export value, and average days of employment per year. In the 13th Plan, the measures proposed included, widening the product range in hand-woven fabric with assistance from NIFT ; developing private marketing channels for hand-woven fabric; modernising and re-organising Hanveev and Hantex outlets; increased use of mechanised techniques without depriving the essential character of the industry; providing rebates to encourage production within the State; developing an online marketing portal for hand-woven fabrics; exploring value addition through silk weaving and expanding the school children uniform cloth scheme to provide sustained employment to workers in the sector. Improving the lives of handloom weavers and allied workers is a key target. Regulated modernisation and adoption of new technology in production, design and marketing were found to be crucial to reviving this sector. Effective product diversification and value addition methods in accordance with new trends were recommended. The handloom industry was facing severe threats from powerlooms and fully automatic machinery. Hence it was recommended that effective steps should be taken to upgrade the handloom industry to compete with other industries.

Table 4.6 Budgeted outlay and expenditure in handloom and powerloom sector, in 13th Plan, in Kerala, in Rs lakh

Annual Plan	Budgeted Outlay	Expenditure	Expenditure as per cent of total budgeted outlay
2017-18	7,192	6,948	96.61
2018-19	7,092	4,313.1	60.82
2019-20	5,601	3,551.03	63.4
2020-21	5,139	5,850.79	113.85
2021-22	5,139	3,959.8	77.05
Total	30,163	24,622.72	81.63

Source: Planspace, Kerala

## Achievements in the handloom sector during the 13th Plan



1. Kerala handloom school uniform project has been strengthened. Workers have benefited from higher days of employment and better wages.
2. Value of cloth purchased by Hanveev almost doubled from Rs 8.60 crore in 2015-16 to Rs 16.68 in 2019-20. Its sales turnover increased from Rs 19.03 crore in 2015-16 to Rs 20.30 crore in 2019-20.
3. Modernisation of powerloom cooperatives is picking up pace. After the modernisation of looms, the productivity and wages of weavers have increased.
4. Completed the first phase of modernisation of the Malappuram Cooperative Spinning Mill and Kannur Cooperative Spinning Mills.

#### **Critical gaps or issues to be addressed in the handloom sector**

1. Modernisation and infrastructure development.
2. Branding of handloom products and marketing.
3. Promotion of private entrepreneurship.
4. Enhancing R&D.

#### **14th Five-Year Plan**

##### **Approach**

Modernisation, product diversification, effective marketing and distribution strategy are the three basic pillars for the development of the handloom and powerloom industries. The Government will ensure decent-level of wages, employment and incomes for those in traditional industries. The sector will be provided support in terms of market access, inputs for production, improvement in the production process and product design.

##### **Objectives of the 14th Plan**

1. Modernisation including technological and organisational innovations to increase productivity, improve wages, and avoid job losses.
2. *Product diversification.* Focus on conversion of cloth into garments, re-imagining and re-inventing the traditional products to transform them into niche products, and focussing on export markets.
3. *Marketing.* Branding focussing on specific aspects like tradition and heritage aspects, basing it on a good story, using online marketing platforms and exploring the potential to link with tourism.
4. Develop composite weaves to develop new textures.
5. Strong measures to curb the practice of selling powerloom products as handloom (counterfeiting).
6. R&D to be enhanced to improve yarn and fabric quality and finish, raw materials, products and marketing methods.
7. Put in place and maintain high standards for quality and durability.
8. Start-ups and incubation centres in these sectors to be provided incentives. Incubation centres to be developed as centres for collaboration and idea generation with the participation of multiple institutes, organisations and individuals.
9. Sustainability of the industrial establishments will be given priority over preserving them on the grounds of heritage.
10. Ensure better convergence of the programmes of the Union Government and national agencies; with State Government programmes.

##### **Key initiatives proposed for the handloom and power loom sector in the 14th Plan**

1. Promotion of online marketing in the handloom sector.
2. Promote private entrepreneurship in textiles.
3. Enhancing research and development.
4. Establishment of dyeing centres in the fabric sector.
5. Enhancing linkage between Central and State Government schemes.
6. Ensuring insurance coverage to weavers.

7. Establishing cotton raw material banks.

#### **Initiatives already started for the handloom and power loom sector in Plan 2022-23**

A new scheme, the 'National Handloom Development Programme', to ensure synergy with Government of India schemes and tap more funds.

#### **4.1.3.4 KHADI AND VILLAGE INDUSTRIES**

##### **Overview**

The primary objective of the khadi and village industries is to generate employment opportunities, particularly for the rural poor. The khadi sector in Kerala has a strong base with its historical significance and social and political patronage. There are 29 khadi institutions including the Kerala Khadi and Village Industries Board (KKVIB), KKVIB-aided institutions (14) and KVIC-aided institutions (14) registered with the Khadi and Village Industries Commission engaged in khadi production and sales. KKVIB is a statutory body with the responsibility to organise and promote khadi and village industries in the State. The board implements programmes through cooperatives, registered institutions, individuals, and departmental units by availing assistance from the Government of Kerala, the Khadi Commission and nationalised banks. The Board is the State-level implementing agency for KVIC programmes. KKVIB has been giving emphasis on diversifying the production line to cater to the market potential and create employment opportunities at present this sector provide employment to 13000 persons, predominantly rural women.

##### **13th Five-Year Plan**

The 13th Plan aimed at the integrated development of the khadi and village industries sector. It aimed to introduce solar-powered charkhas to reduce physical strain of the artisans and increase productivity; develop capacity through training and refresher courses for the technical staff and artisans; increase the total value of khadi yarn production to Rs 50 crore by the end of 13th Plan; increase the number of artisans under the Khadi Board from 15,000 to 30,000 including other khadi institutions as well; generate 7,000 jobs in the rural village industries section; modernise major sales outlets with a view to connect with tourism; and introduce a common brand name for khadi and village industries products such as honey, gingelly oil, and washing soap. It was proposed that in the 13th Plan efforts will made to reduce procurement and sales of khadi from outside the State and increase local production; establish modern designing centres and a research and development wing; establish silk cloth manufacturing units in the State; organise training programmes for new artisans in the khadi and village industries sector; and start new outlets in public areas, malls, and shopping complexes. The Khadi Grama project proposed to provide, within five years, employment to 1,000 artisans each year and additional employment opportunities numbering 500 a year with the support of Local Governments. Under the scheme, the Board provides charkas and looms to new artisans.

##### **Key initiatives proposed in the 13th Plan in khadi and village industries**

1. Strengthen silk reeling and weaving in Kerala.
2. Skill training for young entrepreneurs.
3. Assistance to cooperative societies (for working units to meet additional requirements).

*Table 4.7 Budgeted outlay and expenditure of khadi and village industries, in 13th Plan, in Kerala, in Rs lakh*

Year	Budgeted outlay	Expenditure	Expenditure as per cent of the budgeted outlay
2017-18	1,691.00	723.78	43
2018-19	1,086.00	1,066.56	98
2019-20	1,443.00	667.15	46
2020-21	1,610.00	1,248.45	78
2021-22	1,610.00	1,286.47	80

Total	7,440.00	4,992.41	67
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Source: Planspace, Kerala

### Physical achievements in the 13th Plan

1. The Khadi and Village Industries Board generated 54,910 new jobs.
2. Strengthened silk weaving in the State.
3. Khadi Board provided 3,907 employment opportunities through 1,207 units under its Special Employment Generation Programme (Ente Gramam).
4. Expansion and modernisation of sliver projects at Ettukudukka resulted in providing employment to 91 people.
5. Provided skill training for youth entrepreneurs.

### Critical gaps

1. Huge gap between production and sales.
2. Under-utilisation of production capacity.
3. Low wages to artisans.
4. Dependence on other States for high-quality muslin and silk fabrics.
5. Lack of professional management.
6. Widespread production and use of spurious khadi.
7. Lack of infrastructure facilities in sales outlets.
8. Lack of marketing infrastructure.
9. Village industries products suffer due to high competition, low publicity and advertisement and lack of technology.

### 14th Five-Year Plan

Kerala has to focus on developing new products in the khadi sector and also the revival of village industries units.

### Objectives of 14th Five-Year Plan in khadi and village industries

1. To achieve 25 per cent hike in production in khadi and village industries products in each year.
2. To provide 10,000 new jobs in the khadi sector, and 1,000 employment opportunities in the bee-keeping industry.
3. To establish 1500 new units targeting 5,000 jobs.
4. To support opening of 75 new sales outlets for khadi products, one in each taluk headquarters town, in PPP mode.
5. To achieve self-sufficiency in khadi production in the State.
6. To revitalize khadi cooperative institutions and village industries units.
7. To improve the standard of living of the workers and promote their social uplift.
8. To focus on export promotion.

### Key initiatives proposed for 14th Plan

1. Proper maintenance of charkhas and looms.
2. Improving facilities/amenities in production centres.
3. Modernisation of existing outlets and digitalisation of the head office, district offices and showrooms.
4. Publicity/promotion for the familiarisation of products; Strengthening of village industries units and promotion of new products as per requirements.
5. To start at least one industry in each village to create employment opportunities.
6. Implementation of e-marketing system for khadi and village industries products.
7. Opening of new khadi grama soubhagyas along with khadi weaving centres.
8. Revival of defunct village industrial units.

**Initiatives already started in Annual Plan 2022-23**

1. Bee-keeping Cluster Programme for assured income generation to farmers/bee-keepers and continuous production of honey and other beehive products and creation of more than 500 employment opportunities.
2. Creation of 200 jobs by providing support to khadi cooperatives.

**4.1.4 MINING AND GEOLOGY****Overview**

The Department of Mining and Geology has its headquarters (Directorate) in Thiruvananthapuram and has one sub-office each in all the 14 districts. The Department is broadly divided into two divisions:

1. **Mineral Development and Mining Lease Division.** This is of regulatory nature, engaged in the enforcement of the Acts and Rules.
2. **Exploratory and Prospecting Division.** This is engaged in mineral exploration, primarily responsible for the implementation of Plan schemes.

**13th Five-Year Plan****13th Plan achievements**

1. Investigation for China Clay in Kollam District.
2. Investigation for low-grade China clay/Aluminous laterite/Bauxite in Kannur District.
3. Investigation for low-grade China clay/Aluminous laterite/Bauxite in Kannur District.
4. Investigation for Brick Clay/China Clay in Thrissur District.
5. Investigation for Brick Clay/Tile Clay in Malappuram and Kozhikode Districts.
6. Preparation of District Survey Reports.
7. Mineralogy and Gem Testing Laboratory.
8. Chemical Laboratory.
9. Programme to train technical and ministerial personnel of the Department.
10. e-Office has been implemented in the Directorate.
11. Study on use of advanced technology for measurement of mines and quarries using drones – LIDAR survey.

**Critical gaps and issues**

**Limited infrastructure.** Shortage of technical staff and department vehicles for inspection of sites and clearing backlog of applications, such as those for the grant of mineral concessions.

**14th Five-Year Plan****Approach**

The State shall draft a new mining policy, to address the multiple requirements of environment, industry, and livelihoods.

**Objective**

Ensure proper utilisation and management of natural earth materials including minerals and rocks by adopting appropriate technology while ensuring adequate safeguards to environment and society.

**Key initiatives**

1. Mineral investigation.
2. Human resources development and training.
3. Modernisation of the Department.

4. Implementation of e-Governance Project – An IT-based Mineral Surveillance System for mapping mineral resources, regulation, monitoring, evaluation and post-closure activities in the sector integrating e-governance initiatives.

## 4.2 Information Technology and e-Governance

### 4.2.1 INFORMATION TECHNOLOGY

#### Overview

The Information Technology sector occupies a significant space in the State's economy. IT is an integral element of the technology of the twenty-first century. The IT sector in Kerala presents some particular issues that are important to recognise, even if there are many that are in line with the all-India picture. The software side of the IT sector is heavily dominant in the State, with only a limited presence in electronics manufacturing.

Kerala possesses some very significant advantages. The State has a remarkable-level of mobile/telephone penetration. Internet penetration through broadband and mobile is also very high. Kerala's achievements in literacy and school education have clearly stood the State in good stead in achieving computer literacy. Currently, Kerala's IT footprint in the national IT sector is reasonably significant given the relative size of the State's economy.

One very positive sign for the future is the active start-up ecosystem in the State that has been nationally recognised for its efforts. The extent to which such investment in the IT industrial sector can be regionally on spatially decentralised remains open, despite the State's commitment in recent years to a hub-and-spoke model that sought to have a more decentralised investment pattern.

The Government of Kerala is aware of the potential and critical importance of IT, and has made earnest efforts to create world-class infrastructure for the sector and to develop the State's digital technology capacities and resources. This has enabled the State to be at the forefront in implementing information and communication technology products, e-governance initiatives, an e-literacy programme and in the creation of basic IT infrastructure facilities.

Technopark, Infopark, Cyberpark, Kerala Start-up Mission (KSUM) and Kerala State Information Technology Infrastructure Limited (KSITIL) are the major agencies involved in the implementation and promotion of Information Technology related activity in the State.

#### Overview of Major Agencies in IT Industry Sector

1. **Technopark.** Electronics Technology Park – Kerala (Technopark) is an autonomous body under the Government of Kerala, a premier IT destination in the country. Technopark was set up as an autonomous organisation fully owned by the Government of Kerala to create global-standard infrastructure and to provide support required for the development of information technology industries.
2. **Infopark.** The objective of Infopark is the creation of state-of-the-art infrastructure facilities such as space for IT/ITES companies, supply of power, water, and so on. Infopark, Kochi is the second largest IT hub in Kerala with spokes at Cherthala and Thrissur. Since its inception in 2004, Infopark and its co-developers have created over 9 million sq ft built-up area and provided employment to over 53,000 IT professionals through 420 IT companies that have taken up space in its Parks.
3. **Cyberpark.** The purpose of Cyberpark is to provide friendly, cost-effective and top-of-the-line infrastructure to IT/ITES investors, thereby acting as a catalyst for the development of the Malabar

region. Cyberpark was established on the lines of Technopark in Thiruvananthapuram and Infopark in Kochi, based on a hub-and-spoke model. It was set up to bridge the IT infrastructure gap along the west coast starting from Kochi to Kasaragod. It is the responsibility of Cyberpark to interface between the Government and industry. It interacts with potential investors, strengthening the IT/ITeS base, holding promotional campaigns and developing human resources for IT and ITeS. Kerala State IT Infrastructure Limited (KSITIL) holds the ownership of the entire area of 43 acres of land at the Kozhikode Cyberpark.

4. **Kerala Start-Up Mission.** Kerala Start-Up Mission is the nodal agency for entrepreneurship development and incubation activities in the State. It started operations in 2007. The Kerala Start-up Mission, formerly known as 'Technopark Technology Business Incubator, is India's first successful non-academic business incubator. The objective of the Mission is to identify and develop entrepreneurial talent among youth and students in Kerala, address the technology-based entrepreneurship development requirements in the traditional sectors, build training programmes suitable for Kerala's socio-economic culture and identify market niches for technology products and services, by interfacing and networking among academic and R&D institutions, industries, and financial institutions, and establishing a platform for speedy commercialisation of the technologies developed in the institutes to reach end-users.
5. **Kerala State Information Technology Infrastructure Limited (KSITIL).** Kerala State Information Technology Infrastructure Ltd. (KSITIL) is a public limited company formed for the creation of infrastructure for IT/ITeS in the State. The business model for the company is to acquire land, create value addition by providing basic infrastructure like electricity, water and road, obtain SEZ status and Government approvals and allot developed land to private investors for starting business units in IT SEZs and IT Parks. The company leverages the valuable land assets owned by the Government and through viable financial models, generates funds for building IT infrastructure in the State in a Public-Private Participation model. Major projects of KSITIL are the Kozhikkode IT Park, the Kannur IT Park, the Kasaragod IT Park, the Kollam IT Park, the Koratty IT Park and the Cherthala IT Park.

### 13th Five-Year Plan

#### 13th Plan goals

**IT parks.** Establish Kerala as a preferred IT hub for emerging technologies.

#### KSUM.

1. To create a leading knowledge start-up ecosystem in India.
2. Create a sustainable and inclusive ecosystem for developing knowledge based start-ups through multiple interventions.

**KSITIL.** Transform KSITIL into a top-class agency for the development of physical and electronic infrastructure required for the IT sector.

**Hardware Mission.** Act as a single point of contact for international connects and enable the growth of the electronics and hardware industry in the State.

Table 4.8 Outlay and expenditure of agencies in the IT Sector, in 13th Plan, in Kerala, in Rs crore

Name of Department/Scheme	2017-18		2018-19		2019-20		2020-21		2021-22	
	Outlay	Expenditure	Outlay	Expenditure	Outlay	Expenditure	Outlay	Expenditure	Outlay	Expenditure
Technopark	84	67.65	84	23.46	84	0.5	2	1.75	24.05	21
Infopark	67.05	66.01	67.05	37.01	67.05	20	10	6	35.55	34.55
Cyberpark	25.69	33.07	25.69	5.81	22.69	0.58	0.01	0	12.37	0
Kerala Start-up Mission	79.99	31	80	44.2	80	44.68	73.5	52.19	68.75	55.77
KSITIL	55.6	20.3	52.37	25	148	48.12	212.75	102.29	201.9	87.5
Hardware Mission	—	—	30	10.19	—	—	—	—	24	14

Total	312.33	218.03	339.11	135.48	401.74	113.88	298.26	162.23	366.62	212.82
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Source: Planspace, Kerala

### Major achievements during 13th Five-Year Plan

1. **Technopark.** The Park is now home to nearly 460 companies, employing more than 63,000 IT/ITeS professionals. With the launch of Technocity project in Kazhakuttam, the largest integrated IT Township on 424 acres of land, the Kazhakuttam-Kovalam route (NH 66) has become the first IT corridor in Kerala.
2. **Infopark.** Infopark has five campuses spread over 323 acres in various phases of development. Infopark undertook necessary balance fit-outs, modifications/rectifications in the fitted-out space and now the facility is mainly used for providing office space for start-ups.

Table 4.9 Number of companies, employment strength, export, and built-up space in IT sector, in 13th Plan, in Kerala, in number, Rs crore and lakh square ft.

Annual Plan year	Number of Companies	Employment strength (in number)	Export figures (in Rs crore)	Built-up space (in lakh square ft)
2017-18	345	35,400	4,013	77
2018-19	392	40,000	4,500	80
2019-20	427	47,000	5,200	80.5
2020-21	401	51,000	6,310	81
2021-22	420	55,000	*8,000	81

Note: \*tentative figures

Source: Department of Information Technology

### 3. Cyberpark.

1. Functions in a built-up area of 3 lakh sq ft with 62 per cent occupancy. Currently 52 companies are operational in the Special Economic Zones (SEZ).
2. Earmarked built-up space of 12,391 sq ft for non-SEZ IT operations. Half the space is currently allocated to start-up companies working under KSUM.
3. Created around 917 direct jobs
4. Export revenue reached Rs 26.17 crore.

### 4. IT Parks.

1. Developed 4 million sq ft additional space
2. Acquired 40 acres of additional land
3. Generated 45,000 new jobs
4. Started 350 new companies
5. Earned Rs 1,500 crore through exports

### 5. Kerala Start-up Mission.

1. Started 3,100 new start-ups.
2. Equity investment reached Rs 4,200 crore.
3. Started 63 new incubators, accelerators and CoE.
4. Started 320 mini-incubators.
5. Generated 35,000 new jobs.

### 6. Kerala State Information Technology Infrastructure Limited (KSITIL).

1. Inaugurated first phase of KFON.
2. Started Kerala Space Parks project.
3. Profitable PSU from 2018-19.
4. Government has appointed KSITIL as the nodal agency for executing IT Infrastructure work under the IT Department.
5. Appointed as the execution agency of Skill Delivery Platform Kerala (SDPK) for linking engineering colleges in the State with IT Parks through a tele-presence network.
6. Designated as special purpose vehicle (SPV) for executing two IT buildings – Technocity, Pallippuram and Technology Innovation Zone, Kalamassery.
7. Functioning as SPV under KIIFB-funded projects under Higher Education Department and Community Skill Parks for Additional Skill Acquisition Programme (ASAP).

### Critical gaps or issues

1. **Clean and sustainable world.** How IT solutions can create a sustainable future, reduce pollutions, improve energy usage and production and reach targets of zero emission.
2. **Digital health for better quality of life.** The acquisition, management, and use of information in health can greatly enhance the quality and efficiency of medical care and the response to widespread public health emergencies.
3. **Technologies for social good.** How societies can be made better with IT technology. New ways of social interaction and connecting the society at large.
4. **Improve IT reach and the influence of infrastructure.** Ways to help improve the quality of IT infrastructure and digital readiness across the State.
5. **Disaster management.** Kerala needs the ability to predict and manage natural disasters that have become frequent these years. Technology plays an important role in both the prediction and management of natural disasters. Building specialisation centres to promote skills and capacity on Data Analytics, IOT, GIS systems, Disaster Management supply chains and so on will be needed.
6. **Focus of the start-up ecosystem.** The start-up ecosystem provides only limited support outside of the IT product start-ups.
7. **Lack of high-value start-ups and unicorns.** Kerala as a State has been successful in evangelising the concept of entrepreneurship and start-ups among students and other stakeholders. This is reflected in the large number of start-ups currently registered from Kerala. However, success in the graduation rate of start-ups needs to improve. Kerala is home to roughly 6,000 start-ups, of which about 4,000 are registered with KSUM. However, the State is yet to create a unicorn or major success story from this cohort.
8. **Product maturity and quality of startup products.** Even though the bulk of Kerala's start-ups are in the IT product space, they lack product sophistication, and entrepreneurs often exhibit a herd mentality with the focus on limited-use cases. Their understanding of customer/market needs is limited. This is affecting the market readiness of many products.
9. **Issues regarding funding and investment.** Kerala has early funding avenues for start-ups. KSUM itself provides grants and loans up to Rs 30 lakh for start-ups. However, there is no mechanism to provide bridge funding to start-ups in the range of Rs 30 lakh to Rs 2 crore. Typically, angel investors fill this gap in a successful ecosystem. This is a weak area in the Kerala ecosystem. Funding delay is also an issue affecting survival start-ups.
10. **Support to start-ups other than IT product start-ups.** As such, start-up policies and schemes are only supporting IT product start-ups. KSUM provide little support to service companies and non-IT product companies. The other agencies which support such entities are oriented more towards asset-heavy businesses and not much formal support is available for the growth of such companies in Kerala.
11. **Capacity-building within the Government for the promotion of start-ups.** At present, the bandwidth and capability available in the Kerala Start-up Mission to give tailored support and guidance to individual start-ups is limited and need to be enhanced.
12. **Issues of inclusivity.** There are very few women-led start-ups. Despite having a large proportion of women in Science and Technology education, the number of women-led start-ups is low, at around 10-12 per cent. This is an important area that needs attention.
13. **Challenges for telecommunications.** Even though there is high tele-density in Kerala, it does not imply that the quality of connectivity is on a par with what is required for bringing in the next digital revolution. At present there are various pockets or colonies where a communication network has not been established for high data exchange. There are pockets and areas where wireless connectivity is not on a par with 4G or 3G speeds.
14. Pockets without telecom connectivity in terms of mobile coverage are still a major concern, along with pockets in urban areas where the quality of coverage has still not reached 4G standards.



15. **Legal issues.** The governmental regulatory function should be limited to giving permissions for the infrastructure of optical fibre communication (OFC) and telecom towers. It should not be a bureaucratic exercise to limit the infrastructure.
16. **Socio-cultural issues.** In terms of expansion of 4G to 5G, the telecom infrastructure would be expanded almost 100 times. This can only be done with the support of citizens and by creating demand for higher speeds of connectivity.
17. **Technical issues.** The expansion of telecom infrastructure would be based on the use of established new connectivity avenues. The use of 5G is still under testing and can open doors for development of new technologies and use change the lives of citizens.

#### 14th Five-Year Plan

##### Approach

The 14th Five-Year Plan recognises the employment potential as well as the cross-cutting impact of Information Technology. It supports the integration of IT applications in different sectors and departments of the Government.

The following are the focus areas of the sector in the 14th Plan.

1. **Human development and employment.** If the State is to attract and expand operations by national and international companies in IT, a prerequisite is adequate numbers of people skilled in computing and in advanced areas of digital technology. To facilitate this process, investments will be made in specialised universities such as the Kerala University of Digital Sciences, Innovation, and Technology, the APJ Abdul Kalam Technological University, and in other higher educational institutes. The 14th Plan will continue to support the creation of built-up space and basic infrastructure for strengthening the IT ecosystem, for employment creation on a large scale.
2. **Digital infrastructure.** Digital infrastructure in terms of broadband connectivity and other high-end common computing facilities is essential to create an enabling environment for this industry. The pandemic highlighted the importance of such infrastructure in facilitating flexible working arrangements. The Kerala Fibre Optic Network (KFON) project, which began during the 13th Plan, will be completed soon, and it will be a milestone in the development of the IT and ITeS sector in the State.
3. **World-class IT parks.** Kerala has developed successful public-private partnership (PPP) models to develop plug-and-play infrastructure facilities for the growth of the industry. These facilities are also helpful for small and medium-sized specialist firms with innovative service offerings. An incubation infrastructure to nurture start-up companies is also being developed. A large number of youth are currently choosing an entrepreneurial career path. The 14th Plan will support the efforts of the Start-up Mission and the Industries Department to encourage young entrepreneurs. The Plan will support the creation of a fund that focusses on the growth of viable businesses.
4. **Electronics component production.** The State will support the development of an electronics component ecosystem to assist manufacturing companies in the IT sector. This will require the creation of general facilities such as testing facilities for small manufacturing clusters, labs, and tool rooms. This is a technology-intensive sector, and joint ventures in the field can be encouraged. The 14th Plan will support additional investment in hardware production.
5. **Policy environment and regulations.** With increased digitisation and the expansion of Internet of Things (IoT) and Artificial Intelligence (AI) applications (in the domains of identity management, facial recognition, emotion detection and automated decision-making), issues of privacy and data protection become critical. When considering issues of privacy and security, solutions must be grounded in constitutional values. Governments must play an active role in safeguarding privacy and security. Asking for informed consent is one step in ensuring privacy and security; it cannot, nevertheless, be the only mechanism to ensure data protection. Instead, accountability-based

frameworks are required that make data-controllers liable for any data-related harm that results from negligence.

## Objectives

The overarching objective is to develop and consolidate Kerala's position as a leading IT destination, which will generate direct and indirect employment opportunities; and lead to creation and addition of value. Among others, this would require building necessary technological infrastructure for the creation of a favourable environment, and enhancing demand-oriented human capital required to both produce and use innovative technologies through education and skill-building.

To achieve the overall objective, the 14th Plan mainly focusses on:

1. Expanding the existing IT Parks and creating new IT infrastructure – increase the number of companies working (from 900 to 2,500), employment offered (1.5 lakh to 2.5 lakh) and built-up space (from 20 million sq ft to 35 million sq ft.)
2. Consolidating and expanding the start-up ecosystem. The Kerala Start-up Mission will target to increase the number of start-ups to 15,000, the number of incubators/accelerators from 45 to 145 and jobs from 35,000 to 2 lakh.
3. Building a thriving and equipped electronics hardware ecosystem.
4. Strengthening basic IT infrastructure facilities.
5. Steps to generate large-scale employment opportunities.
6. Support and encouragement to young entrepreneurs.
7. Digi Locker Linkage for all departments issuing documents.
8. Encouragement to joint ventures in IT industry.
9. Addressing issues of privacy and data protection.

## Key initiatives

### 1. Technopark.

1. Create an integrated township (residential/commercial/IT building) in Technocity
2. Generate more direct employment opportunities
3. Setting up a Work Near Home system to cater to a remote work force and for decentralised IT development

### 2. Infopark.

1. New IT building in 2.5 lakh sq ft in Infopark, Kochi Phase I.
2. New IT building in 2 lakh sq ft at Infopark, Koratty.
3. New fit-out works in the existing building at Infopark Phase II.
4. New fit-out works in existing building at Infopark, Koratty.
5. Refurbishing of old fit-out in Infopark Phase I.
6. Renovation of exteriors in Phase I.
7. Approach road to Infopark Phase II.
8. Work-near-home facilities.
9. Expansion plan on 100 acres.
10. 2 MW solar plant.

### 3. Cyberpark.

1. Acquisition of 10-15 acres of highway-facing land
2. 4 lakh sq ft 2nd IT non-SEZ building at Cyberpark
3. Pre-fabricated IT offices totally measuring 1 lakh sq ft.

### 4. IT Parks.

1. Establishment of a Critical Infrastructure Fund (CIF).
2. Scheme to develop Social Ecosystems in and around parks, IT parks to IT Zones.
3. Plan scheme to establish hi-tech clusters in emerging/high-growth technology areas.

4. Incentives and schemes for development of Parks in Tier-3 cities of Thrissur, Alappuzha, Kollam, Kozhikode.
5. Scheme for Human Capacity Development in IT with focus on hi-tech cluster areas.
5. **Kerala State Information Technology Infrastructure Limited (KSITIL).**
  1. Kerala Fibre Optic Network Limited (ongoing).
  2. Skill Delivery Platform-Kerala (SDPK) (ongoing).
  3. Kerala Space Parks.
  4. FOSTeRA – Fostering Technologies in Rural Areas.
  5. Predictive governance.
  6. Smart Kerala Mission.

#### **New initiatives in Plan 2022-23**

The Government-appointed KSITIL as the implementing agency for the technolodge scheme that is now renamed Fostering Technologies in Rural Area (FOSTeRA). The concept of FOSTeRA is to encourage ITeS and BPO companies to operate from low-cost rural centres and thereby to create employment in rural areas. FOSTeRAs can be set up through renovation and refurbishment (in PPP mode also) of unused Government buildings in small towns and Panchayats to bring in IT, ITeS and BPO companies.

## **4.2.2 E-GOVERNANCE**

### **Introduction and Overview**

The striking feature of Kerala's IT sector is the emphasis on e-governance and a large number of relevant initiatives involving all aspects of governance and all categories of stakeholders. This is in keeping with the people-centric thrust of development in the State that is periodically reinforced by the presence of democratic and progressive trends in the polity that are also able to be in direct charge of governance periodically. As a consequence, there is significant public sector effort in Kerala in e-governance and related initiatives to promote digital access to citizens. The State has taken the lead in declaring access to the Internet a basic human right, a move that has found strong support in legal decisions. The development of digital literacy and e-governance can be expected to have a multiplier effect on growth.

The State has established 2,000 public Wi-Fi hotspots for providing free Internet services to citizens. It has also implemented an e-office project as part of modernising Government offices with digital work flow systems. At present there are 40,259 active users of the e-office system. There are around 10,00,000 e-file movements a month.

E-Governance projects should be evaluated on positive governance outcomes using criteria such as citizen benefits, ease of doing business, accountability, equity and inclusion. It was also agreed that while new technologies such as AI can enhance the quality of decision-support systems.

Kerala has made significant progress in its transformational journey towards being an inclusive and efficient "Digital State". Kerala State Information Technology Mission (KSITM), International Centre for Free and Open Source Software (ICFOSS), Centre for Development of Imaging Technology (C-DIT) and Digital University, are the major agencies involved in e-governance-related activity in the State.

### **Agencies Involved in the IT e-governance Initiatives**

1. **Kerala State IT Mission (KSITM).** The Kerala State IT Mission is an autonomous nodal IT implementation agency of the Department of Information Technology, Government of Kerala, which provides managerial and technical support to various initiatives of the Department. KSITM

performs diverse roles including, enactment of ICT-related policies, development of guidelines and standards for e-governance, ICT facilitation for Government entities, providing end-to-end support and guidance to State departments in digitalisation efforts, act as a bridge between Government and industry, undertake capacity-building initiatives and bridge the digital divide, establish and sustain common IT infrastructure, and take up various e-governance initiatives. The main activity is delivering the best of digital services to citizens, keeping in mind the Citizen First approach. As a result of these proactive policies and projects, Kerala achieved major progress in the transformational journey towards a 'Digital State'.

2. **International Centre for Free and Open Source Software (ICFOSS).** ICFOSS is an international centre to promote development and application of free software and free knowledge in collaboration with the Free Software Organisation in India and abroad. It provides e-governance support to various departments/agencies and projects such as Kerala State Electricity Board Ltd, e-Health Project Management Unit, Kerala Legislative Assembly, CMDRF, State Electronics and Information Technology Department and Jalasamrudhy project under Haritha Kerala Mission.
3. **Centre for Development of Imaging Technology (C-DIT).** Centre for Development of Imaging Technology(C-DIT), a Government of Kerala organisation under the E&IT Department, is established for the advancement of research, development and training in imaging technology and is concerned with customising technology for the masses. C-DIT functions as a Total Solutions Provider to the departments and agencies under the Government of Kerala in the areas of ICT applications and in the supply of holography-based security products.
4. **Digital University (Formerly IIITM-K).** The Kerala University of Digital Sciences, Innovation and Technology (Digital University Kerala) is the first university of its kind in India, established with the motto "Curating a Responsible Digital World". This university has its geneses in the IIITMK (Indian Institute of Information Technology and Management-Kerala.), which was established by the Government of Kerala in 2000 with a vision to develop it as a leading educational and research institution in Information Technology and related areas. The Government of Kerala upgraded IIITMK into the Kerala University of Digital Sciences, Innovation and Technology through a State Act (Act 10 of 2021) with a broader scope for covering interdisciplinary academic areas in Science, Technology and Humanities relevant to the digital world. The university is envisaged to become a unique centre of excellence of global repute by conducting education, research and extension activities in areas of digital technologies, science and humanities.

#### **Other Agencies/Projects**

In addition to the major institutions, there are other agencies which contribute to e-governance applications and infrastructure in the State.

1. **Kerala unit of the National Informatics Centre (NIC).** National Informatics Centre (NIC) is a premier S&T institution of the Government of India, established for providing e-Government/e-governance solutions, adopting best practices, integrated services and global solutions in the Government sector. NIC Kerala State Centre, one of the total solution providers of Government of Kerala, is actively involved in most of the IT-enabled applications and has changed the mindset of the workforce in the Government to make use of state-of-the-art technology in day-to-day activities to provide better services to citizens.
2. **Information Kerala Mission (IKM).** IKM is a pioneering e-governance effort by the Government to implement computerisation of Local Self-Government Institutions of Kerala. All e-governance programmes related to developing software for efficient and responsive systems for smart governance and improving public service delivery with comprehensive citizen interface covering various activities of the Local Self-Governments are being carried out by IKM.
3. **E-Health Kerala Project.** The e-Health Kerala Project based on the concept of "one citizen one Electronic Health Record" is a unique, robust and sustainable Healthcare Information Technology solution supporting nearly 50,000 healthcare service personnel comprising doctors, paramedical and

other non-clinical staff at the primary, secondary and tertiary care centres maintained by the State Government. The project's vision is to build an Integrated Healthcare cloud system that will hold the complete healthcare data about all the citizens in the State. The e-Health project is designed, developed, implemented and supported by the e-Health Project Management Unit, the IT Division of the Department of Health and Family Welfare, Government of Kerala.

### 13th Five-Year Plan

#### Goals of e-governance in 13th Plan

##### 1. Kerala State IT Mission.

1. Enable a harmonised, interoperable, interconnected, and integrated Government.
2. World class infrastructure, integrated e-service architecture, digital citizenship.

##### 2. Digital University (formally IIITM-K).

1. To be an iconic knowledge institution focussing on emerging technologies.
2. To develop as a sustainable institution with national repute and global recognition.

##### 3. ICFOSS. Leverage FOSS for improving the quality of life of the people through development of inclusive and assistive technologies.

Table 4.10 Outlay and expenditure of various agencies in the IT e-governance sector in Annual Plan, in 13th Plan, in Kerala, in Rs crore.

Name of Department/Scheme	2017-18		2018-19		2019-20		2020-21		2021-22	
	Outlay	Expenditure	Outlay	Expenditure	Outlay	Expenditure	Outlay	Expenditure	Outlay	Expenditure
Kerala State IT Mission	147.48	43.33	147.48	105.86	144.14	65.85	124.14	87.43	125.13	91.17
Digital University	-	-	-	-	-	-	-	-	24	14
IIITMK	52	52	65.5	6.98	15.5	7.75	64.2	64.19	20	20
IIITK. Kottayam	22.5	22.5	24.5	6.25	-	-	-	-	-	-
C-Dit	10	5	6	6	7	0	6	6.44	6	4.6
ICFOSS	5	5	5	7.5	6	5	7.5	4.75	7.5	6
Total	236.98	127.83	248.48	132.59	172.64	78.6	201.84	162.81	182.63	135.77

Source: Department of Information Technology

#### Major achievements during 13th Five-Year Plan

##### 1. Kerala State Information Technology Mission (KSITM).

1. State Data Centre co-hosts about 515 applications and 1,500 Virtual Machines (VM)
2. KSWAN provides e services to 4000 Government offices, 14 districts and 152 Block.
3. Given last mile support to citizens through 2800 Akshaya centres.
4. Provides complete e-office services in the Secretariat, Collectorates, Revenue Divisional Offices, 101 Directorates, 15 Taluk Offices and 214 Village Offices.
5. Working as contact centres of the Government in 65 departments.
6. Declared as the first digital State in the country.
7. First Indian State with High-Speed Rural Broadband Network services.
8. First State to issue over 4 crore e-Certificates.
9. All Grama Panchayats connected through optical fibre network.

##### 2. International Centre for Free and Open Source Software (ICFOSS).

1. Initiated Open IoT hardware, Assistive technologies, Language Technology and Social Computing.
2. Started 25 products/solutions in open IoT/LoRaWAN Open Hardware
3. Started 8 Products/6 PoCs in language Computing.

4. Started 3 Devices/2 PoCs in Assistive Technology.
  5. Conducted 252 Capacity Building and Training Programmes and trained 8,123 persons.
  6. Started outreach programmes like FOSS Cells and Community in 100 colleges.
  7. Started consultancy and entrepreneurship in 5 projects, 10 start-ups.
- 3. Centre for Development of Imaging Technology (C-DIT).**
1. Construction of ICT building complex for CDIT.
  2. Live Stream Studio Items, Web Presenter.
  3. Media Asset Management.
  4. MacBook Pro, I Mac Pro.
  5. Apple Mac Mini NAS Storage.
  6. Adobe Software, Security Auditing Software, Software Testing Tools.
  7. API Gateway Data Bridge License.
  8. Cloud based Customer Engagement solution.
  9. Testing Equipment for Physical Network Assessment, Earth Resistance Kit.
  10. Training sessions for staff on technology advancement.
- 4. Digital University (formerly IIITM-K).**

Table 4.11 Major achievements of Digital University, in 13th Plan, in Kerala,

Assets	Employment	Investment	IP Created and Value generation	Awards and Recognitions
Built up space of 1,70,000 sq.ft	Direct: 695 start-ups: 700	External Research Rs 118 crore lakh	Own: 4 start-ups: 12	National Centres of Excellence
Manufacturing Infrastructure worth Rs 20 crore.	Students employed: 14,000	External Large Research Projects Rs 6,598 lakh	Total Value created by start-ups Rs 600 crore	Recognition for Faculty, Incubator and Start-ups

Source: Digital University

#### Issues and challenges

- 1. Impact evaluation and programme monitoring.** E-governance projects are often assessed in terms of how they are able to speed up Government procedures. This criterion is important but not adequate. E-governance projects must be evaluated in terms of a range of criteria. These include the contributions made by e-governance to the goals of citizen benefits, accountability, equity, social coverage and other governance indicators.
- 2. Standards, frameworks and coordination.** It has been observed that e-governance projects have been traditionally carried out by multiple departments and agencies to cater to their specific needs and requirements without adherence to common standards that can ensure integration whenever the need arise.
- 3. Data protection, handling and privacy.** Various efforts related to e-governance across departments of the Government of Kerala have led to the creation of large data sets involving important details related to citizens and organisations and their transactions with State agencies. Many a time, when digital data of citizens are captured, an appropriate consent for its use, including an explanation of the purpose for which it will be used, is not taken.
- 4. Cyber security.** With improved Internet connectivity and availability of online public services, the focus of e-governance is shifting towards issues of transparency and trust, and new possibilities for reconceptualising how technology is organised and deployed are opening up.

#### 14th Five-Year Plan

##### Approach

The Government of Kerala recognises the critical importance of ICT as an enabler of modern economic development of the State. Kerala's achievements in school and university education and the high levels of digital literacy enable it to extend and deepen e-governance on a scale unique in India. In the first place, e-governance means the on-line provision of all services of the Government to citizens. Secondly, it means the transition to electronic files and administration in the process of Government. Interoperable technical architectures are important to ensure efficiency in data handling across departments. Interoperability is

not only about software compatibility but also about people and organisations working in coordination. Disaster management offers a good example of a situation that hinges on interoperability of various kinds, requiring, as it does, institutional coordination among technical agencies and other stakeholders within and outside Government.

### **Objectives**

1. To enable citizens to avail all services of the Government in digital mode.
2. To promote grassroots-level innovation and Digital Transformation.
3. To identify the right set of e-governance standards and customise them to cater to the specificities of the State's context.
4. To ensure minimal impacts of failures in e-governance applications.

### **Key initiatives**

#### **1. Kerala State Information Technology Mission (KSITM).**

1. Enhance the e-Sevanam and m-Sevanam online service delivery systems.
2. Geospatial data-sharing at all levels of Government, the commercial sector, non-profit sector and academia.
3. State Data Centre for providing common, secure IT infrastructure to host State-level e-governance applications.
4. Aadhar services for authentication and e-KYC services offered by UIDAI.
5. Computer Emergency Response Team, Kerala (CERT-K) for building resilience in critical information infrastructure.
6. Innovation Promotion Scheme for promoting innovation in the field of e-governance.
7. Unified Registry and Analytics to identify beneficiaries receiving multiple benefits beyond Government norms.

#### **2. International Centre for Free and Open Source Software (ICFOSS).**

1. Centre for LoRa WAN Open Hardware and Drone.
2. Centre for Assistive Technology – Kerala (CAT-K).
3. Language Technology, Capacity Building, Training and Community Development.
4. Centre for Open Hardware Development
5. Centre for Open Mapping and GIS
6. Entrepreneurship
7. Centre for Open Source Cyber Security
8. Language Technology
9. Academic and Research Programs
10. e-governance
11. Assistive Technology
12. Gender and Technology
13. Centre for Open Source ERP Solutions
14. FOSS Cells
15. Capacity-building
16. Infrastructure
17. Outreach Programmes

#### **3. Centre for Development of Imaging Technology (C-DIT).**

1. Establishing a design habitat.
2. Augmentation of Document Design Security Forensics Lab.
3. Augmentation of Media Production and Content Delivery Facilities.
4. Augmentation of AR/VR/MR Lab as a production facility on campus.
5. Setting up Smart Classroom studios and lecture halls on campus.
6. Digital Archiving Centre – archival solution with storage infrastructure.

7. Adoption of new technologies for application development.
8. Intelligent Engine Development for Malayalam computing.
9. Setting up an intelligent surveillance solutions facilitation centre.
10. Setting up knowledge centre for green technology.

**4. Digital University (formerly IIITM-K).**

1. *Setting up of Centre of Excellence.* The Digital University is aiming to create capacity-building at the post-graduate and doctoral-level in the areas of Artificial Intelligence and Natural Language Processing, Internet of Things, Electronic Systems and Automation, Imaging Technologies, Data Analytics and Big Data, Cyber Security, Blockchain, Ecological Informatics, Geospatial Analytics, and so on. It focusses on development of high quality talent, research on issues of larger interest and on developing and implementing solutions to hasten the pace of digital transformation.
2. Establishing India Innovation Centre for Graphene (IICG).
3. Setting up of Women Incubation, Start-ups and Entrepreneurship Scheme (WISe).
4. Setting up of Centre for Electronics Design Innovation and Technology (Electronics Park).
5. Electronics Incubator Project [Maker Village-ESDM].
6. Construction of full-fledged campus at Technocity.

### **4.3 Tourism**

Tourism is a lifeline for many rural communities, especially in the developing world. Tourism enables balanced and sustained growth in any region by generating income and employment opportunities. A feature of the sector is its interconnection with other spheres of development. It promotes ecologically sustainable tourism. Kerala is an internationally recognised tourist destination and one of the most popular tourist destinations in India. In Kerala, the tourism industry is distinguished by its world renowned brand, consistent growth, diverse products and presence of local entrepreneurs. The State is actively promoting tourism in the domestic and international markets.

Tourism is a significant contributor to the economy of the State with a revenue of Rs 45,019 crore in 2019 and providing employment to 1.5 million people directly and indirectly. The State's tourism sector rebounded strongly in 2019 after the 2018 floods and recorded the highest growth rate in overall tourist arrivals in the last 24 years. Kerala received more than 1.19 million foreign tourists and 18.4 million domestic tourists in 2019 with an impressive annual growth of 8.52 per cent and 17.81 per cent respectively. But, with the COVID-19 pandemic, there was an estimated loss of Rs 20,000 crore to the State tourism industry in 2020-21.

Foreign Tourist arrivals in 2017 was 10,91,840, showing an increase of 5.15 per cent over 2016 (10,38,419). Domestic tourist arrivals to Kerala in 2017 was 1,46,73,520, showing an increase of 11.39 per cent over 2016 (1,31,72,535). Kerala's tourism sector rebounded strongly in 2019.

There was 8.5 per cent growth in foreign tourist arrivals and 17.8 per cent growth in domestic tourist arrivals in 2019 over 2018 in the State, and total arrivals grew by 17.2 per cent. The number of foreign tourists who visited Kerala in 2019 was 11,89,771 as against 10,96,407 in 2018, recording 8.52 per cent growth compared to 2018.

Foreign Tourist arrivals in 2021 is 60,487, a decrease of 82.25 per cent over the previous year's figure of 3,40,755. Domestic arrivals in 2021 is 75,37,617, an increase of 51.09 per cent over the previous year's figure of 49,88,972.



During the first year of the 13th Plan, foreign exchange earnings for 2017 was Rs 8,392.11 crore, showing an increase of 8.29 per cent over 2016 (Rs 7,749.51 crore). Total earnings (direct and indirect) from tourism in 2017 was Rs 33,383.68 crore, an increase of 12.56 per cent over 2016 (Rs 29,658.56 crore). Foreign exchange earnings from tourism in 2020 was Rs 2,799.85 crore and domestic tourist earnings was Rs 6,025.68 crore. In 2019, the foreign exchange earnings and domestic tourist earnings were Rs 10,271.06 crore and Rs 24,785.62 crore respectively. Total earnings in 2019 was Rs 45,010.69 crore, an increase of 24.13 per cent over 2018. But the total earnings in 2020 was only Rs 11,335.96 crore, registering a decline of -74.81 per cent over 2019.

As per latest data, foreign exchange earnings in 2021 are Rs 461.5 crore, showing a decrease of 83.52 per cent over 2020. Total earnings (including direct and indirect) from tourism in 2021 is Rs 12285.91 crore, showing an increase of 8.38 per cent over 2020.

#### **Departments/Institutions under Tourism Sector**

The Directorate of Tourism regulates and supervises tourism in Kerala. It is responsible for monitoring the implementation of projects. The Kerala Tourism Development Corporation (KTDC) oversees tourism activities. Kerala Tourism Infrastructure Ltd (KTIL) is the agency set up for promoting joint venture tourism projects and build essential infrastructure related to tourism activities as well as to serve as an investment facilitation agency of the Tourism Department. Bekal Resorts Development Corporation Ltd. (BRDC) is the agency which coordinates the development of tourism activities in Bekal and the northern districts. Directorate of Eco Tourism is concerned with planning and giving financial assistance for setting up educational programmes on ecotourism, developing infrastructure facilities in ecotourism spots, and developing eco-tourism products in potential eco-tourism sites. Responsible Tourism Mission is a unique initiative of the department, tasked with a 'triple-bottom-line' mission comprising economic, social and environmental responsibilities. Making tourism a tool for the development of village and local communities, eradicating poverty and giving emphasis to women empowerment are the main aims of the Responsible Tourism Mission.

The major arms for Human Resource (HR) development in tourism are Kerala Institute of Tourism and Travel Studies (KITTS), State Institute of Hospitality Management (SIHM), and Food Craft Institutes (FCIs). Kerala Institute of Travel and Tourism Studies (KITTS) impart quality education and training in the field of Travel and Tourism and cater to the human power requirements of the tourism industry. Food Craft Institute (FCI) imparts training to promising young men and women in various trades of Hotel and Tourism industry with the objective of building a strong skilled workforce in catering technology and tourism industry. The State Institute of Hospitality Management is engaged in providing training to acquire professional skills and knowledge as well as to improve the HR ethos in the fields of hospitality management and catering technology.

#### **13th Five-Year Plan**

The focus of the 13th Plan was to address the challenges in the tourism sector by exploring new directions, new products, new markets and new tourist groups and refreshing the brand by adopting new strategies and setting up new objectives.

#### **Approach**

1. Tourism cannot be successful without concurrent development in health, sanitation, urban and rural planning, transport, connectivity, Local Government and other spheres.
2. Tourism must cater to all sections of tourists, from luxury tourism through lower income family tourists to backpackers.
3. *New growth strategy for the sector.* Double the number of foreign tourists, increase the arrival of domestic tourists by 50 per cent, create 400,000 jobs.

4. Correcting the imbalance in Plan allocation between destination development and tourism promotion by raising the share of tourism promotion to at least a third of the total allocation.
5. Extending tourism year-round by exploring and utilising the full scope of tourism.
6. Resource allocation for developing unexplored tourist potential in northern Kerala.

### Vision and mission

The focus of the 13th Plan was to address challenges by adopting new strategies, setting up new objectives, getting a new sense of direction and so on. The main focus was on increasing employment opportunities and tourist arrivals through the introduction/strengthening of tourism products, human resource development, responsible tourism, and so on. More focus on Government support through the involvement of other departments in tourist activities. Special focus on HR development.

### Targets

1. Doubling the arrival of foreign tourists.
2. 50 per cent increase in domestic tourist arrivals by 2021.
3. Additional 4 lakh employment.

### Strategy

1. Adopt a new sense of direction by refreshing the brand and making it more appealing, exciting, and desirable to all traveller segments.
2. Focus on new products such as Kochi Muziris Biennale, Spice Route and Eco-adventure.
3. Utilising the potential of tourism development in Malabar.
4. Providing uncompromised quality infrastructure and facilities at destinations.
5. Strengthen existing markets along with exploration of new markets.
6. Attract new visitor segments including young travellers, adventure groups, honeymooners and families.
7. Community participation at destinations.
8. Human resource development.

Table 4.12 Outlay and expenditure in the tourism sector in Annual Plan, in 13th Plan, in Kerala, in Rs crore and per cent.

Year	Outlay	Expenditure	Expenditure as per cent of outlay
2017-18	342.73	310.56	90.6
2018-19	379	237.54	62.7
2019-20	372.37	182.2	48.9
2020-21	320.14	316.24	98.8
2021-22	320.14	244.54	76.4

Source: Planspace

Table 4.13 Outlay and expenditure in tourism sector, sub-sector-wise, in 13th Plan, in Rs crore

Dept/ Agency	2017-18		2018-19		2019-20		2020-21		2021-22	
	Outlay	Expenditure	Outlay	Expenditure	Outlay	Expenditure	Outlay	Expenditure	Outlay	Expenditure
KTDC	7.20	7.20	7.92	4.11	7.92	4.58	9.00	9.00	9.00	0.84
KTIL	1.67	1.25	1.83	1.50	1.83	0.50	1.53	1.38	1.53	1.20
BRDC	3.00	3.00	3.30	1.49	3.30	0.00	2.50	2.00	2.50	1.0
KITTS	4.00	3.00	4.40	1.76	4.40	1.84	3.00	3.00	3.00	1.5
SIHM	3.00	3.00	3.30	1.14	3.30	1.29	3.00	2.96	3.00	2.88
FCI	3.50	3.50	3.85	1.58	3.85	1.01	4.00	0.00	4.00	0.00
Ecotourism	3.85	3.22	4.24	4.15	3.84	0.95	3.40	2.29	2.40	2.23
Dept of Tourism	316.51	286.39	350.16	221.81	343.93	172.03	293.71	295.61	294.71	234.89
Total	342.73	310.56	379.00	237.54	372.37	182.20	320.14	316.24	320.14	244.54

Source: Accounts and Planspace Kerala

In the 13th Five-Year Plan, an amount of Rs 1,734.38 crore was earmarked for the Tourism sector for implementing various activities. The total expenditure reported was Rs 1,291.08 crore (74.4 per cent). The major chunk of Government spending has been on infrastructure development, marketing, human resource development, publicity and hospitality.

#### **Highlights of the major achievements of tourism sector during 13th Plan**

1. **Tourist arrivals.** After the 2018 floods, the tourism sector rebounded strongly in 2019 and witnessed the highest growth rate in domestic and foreign tourist arrivals in the last 24 years. There was 8.52 per cent growth in foreign tourist arrivals and 17.81 per cent growth in domestic tourist arrivals in the State in 2019 over 2018.
2. **New Tourism Policy 2017.** Ensuring tourist-friendly, secure and safe destinations, formation of Kerala Tourism Regulatory Authority (KTRA), developing tourism projects of international standards in select destinations through PPP mode, addressing key issues of the tourism industry such as waste management, initiating concerted efforts to tackle issues of connectivity to Kerala from major parts of the domestic and international markets, formulation of Kerala Tourism Entrepreneurship Fund (KTEF), preparing an action plan for sustainable tourism development.
3. **Champions Boat League.** As part of a novel venture to protect and promote the tradition of the land, Kerala Tourism has launched the Champions Boat League. The main objectives of the event are conservation and promotion of Kerala's traditional festivals, to create an annual event to be marketed as a tourism product and to showcase the backwaters of Kerala to the world. It has been conceived on the model of the Indian Premier League to transform the State's legendary and historically-significant *vallamkali* (snake boat race) into a world-class sporting event.
4. **Jatayu Earth Centre Project.** Jatayu Earth Centre, a unique combination of all aspects of tourism, is the first major BOT tourism project in the State which offers a complete Kerala, God's own country experience to tourists. The project is spread over 65 acres of multi-terrain landscape at Jadayupara (rock formation) near Chadayamangalam in Kollam District. The Jatayu Adventure Centre offers an adventure park in natural terrain. Paintball, valley crossing, bouldering, zip line, trekking, archery, rappelling, jumaring, and wall climbing are among the myriad activities available in the centre. It is a unique combination of artistry, mythology, technology, culture, adventure, leisure, and wellness.
5. **Responsible Tourism (RT) mission.** A unique initiative of the department that has caught the attention of the world. At present there are 17,008 individual/group units (of which 13,567 are women-owned/led units) registered with the RT Mission and 92,980 local community members are directly or indirectly linked with tourism and generating income. The registered units of RT Mission generated Rs 40.79 crore during the 13th Plan period. Some 850 families are linked to the Experiential Tour Packages of the RT Mission; 60 packages are operational. The RT Mission launched the Clean Kerala Initiative to keep prime tourism spots across the State plastic and garbage free. As part of the Kuttanad Package Phase 2, various tourism projects are getting expanded to the Kuttanad project area. Aymanam village, which comes under the Kuttanad project area, has been declared as the first Model RT Village. The Model RT Village project of the RT Mission aims to develop a village as a responsible tourism village practising responsible tourism with 100 per cent support of the Local Governments and the local community. Out of the 13 villages selected for the implementation of the Model RT Village project, Aymanam is the one which successfully implemented all the activities for a Model RT Village as a convergence project.
6. **Launched the first phase of the barrier-free tourism project.** for making 70 destinations across the State disabled and elder-friendly. Launched the first phase of the barrier-free tourism project for making 70 destinations across the State disabled and elder friendly
7. **IT initiatives.**
  1. Kerala Tourism's Facebook page (more than 37 lakh followers), Instagram account (more than 3 lakh followers), and Twitter account (19 lakh followers) is a topper.
  2. Prepared e-catalogue for Kerala tourism videos.

3. Kerala tourism resource-mapping for select destinations.
4. YouTube channel with more than three crore subscribers.
5. Geotagged mobile camera photographs for QR code.
6. Developed Kerala Tourism microsites based on particular themes vii) Post-flood campaigns attracted 4.4 million visits from more than 15,000 cities around the world.
7. 1,575 accommodation units were listed on the Kerala Tourism website with an independent page for each of the major properties and tour operators.
8. **New and innovative marketing campaigns.** In order to retain market supremacy, Kerala Tourism launched innovative marketing campaigns like digital and social media campaigns that resulted in attracting more visitors and succeeded in branding Kerala.
  1. *Human by Nature Campaign.* Internationally acclaimed campaign which showcased the culture and daily life of the people of Kerala and the strategy behind the campaign was the revival of the tourism sector that had suffered in the wake of 2018 flood and the outbreak of Nipah virus. About 3.10 crore people watched this campaign online.
  2. Advertisement campaign to promote tourism in the off-season, “Come Out and Play.”
  3. Biennale Promotion Campaign.
  4. Kerala Blog Express.
9. **Emphasis on developing infrastructure in the northern region.** Infrastructure projects for developing basic amenities, information centres, and infrastructure for land and water-based adventure tourism. Small and Medium Industries Leveraging Experiential Tourism (SMILE) project implemented by Bekal Resort Development Corporation (BRDC) aimed to promote and facilitate tourism-based small and medium entrepreneurial ventures, which have resulted in 93 new entrepreneurs, of which around 30 per cent are women entrepreneurs, and opening of 50 units with accommodation for 400 tourists.
10. **Farming on fallow land.** Kerala Tourism extended its support to the State Government’s *Subhiksha Keralam* project, an initiative to ensure food security in view of the COVID-19 pandemic, and converted one acre of unused plot at Akkulam in Thiruvananthapuram into a banana farm.
11. **Covid loss assistance scheme.** The Government has announced the Chief Minister’s Tourism Loan Assistance Scheme (CMTLAS) to support the stakeholders in the tourism industry for the revival of the tourism sector in the wake of COVID-19. While entrepreneurs/establishments in the travel and tourism sector can opt for the Tourism Working Capital Support Scheme (TWCSS) to stay afloat, employees engaged in the industry can avail of short-term personal loans under Tourism Employment Support Scheme (TESS). Houseboat owners can make use of Tourism Houseboats Support Scheme (THSS) to get financial assistance for executing urgent repairs and maintenance to the assets. Under the Tourism Guides Support Scheme (TGSS), eligible tourist guides will be given one-time financial assistance.
12. **Infrastructure development projects.**
  1. Inaugurated Miniature Railway at Veli, Kanakakkunnu Digital Museum showcasing the history of Travancore, light and sound show at Thenmala Ecotourism Centre, Renovation of Chalai market and Mittayitheruvu, Vagbhadananda Park, Vellar. A complete arts and crafts village in South Kerala has been completed and inaugurated, completed first phase of Panchalimedu tourism project at Idukki, second phase of Madavoorpada project, completed development works at Akkulam Children’s Park Phase 2, completed development works of Kollam Beach, inaugurated Veli Swimming Pool and Park Development, Lower Sanatorium Ponmudi, Sangumukham Beach Parking and Recreation hub, inaugurated Mayyanadu-Thanni Beach, Kallada-Kadapuzha, Ashraamam walkway beautification, Malamelpara, Pulamonthode in Kollam, completed and inaugurated Moolur Smarakom, Aranmula Tourism Project, Konni Elephant Museum, and Perunthenaruvi Tourism project in Pathanamthitta. Completed Jaladarshan and microsite, repair works of existing amenities, started the ring road work and

- toilet block work inside the beach park by BRDC, development of backwater Tourism Corridor at Kadinamkulam.
2. New buildings for the Food Craft Institute at Uduma and Kannur and completed construction of SIHM building at Kozhikode.
  3. *Heritage projects.* The notable projects that focus on developing destinations were Muziris, Thalassery, and Alappuzha heritage circuits. The second phase of the Muziris Project is in the final stage. The Thalassery Project covers three districts and is divided into four circuits. A total of 61 destinations are included under the project. Alappuzha Project involves the construction of Living Coir Museum, Coir Factory Museum, Coir History Museum, and the Yarn Museum is nearing completion.
  4. *Centrally Sponsored Schemes.* Completed Pathanamthitta-Gavi-Wagamon-Thekkady project under Swadesh Darshan Scheme, Sree Padmanabha Swami-Aranmula-Sabarimala project under Spiritual Tourism Project and Development of Guruvayur Temple under Pilgrimage Rejuvenation and Spiritual Augmentation Drive (PRASAD) scheme.
- 13. Human resources development.**
1. Initiated diploma courses in adventure tourism.
  2. *Development of web portals.* Careers in tourism and hospitality.
  3. 114 Regional and State-level tourism guides underwent training programmes conducted by Kerala Institute for Tourism and Travel Studies (KITTS).
  4. More than 80 per cent students from KITTS, State Institute of Hospitality Management (SIHM), and FCI got placement.
- 14. Eco-tourism development.**
1. Expansion of eco-tourism activities at Silesnt Valley and Meesapulimala.
  2. Improvement of facilities for visitors at Thekkady, Upgradation of Deer Rehabilitation Centre at Thenmala, Modernisation of tourism facilities at Eravikulam National Park, Modernisation of amphitheatre at Thenmala.
- 15. Initiatives by Kerala Tourism Infrastructure Ltd.**
1. As part of converting Veli into as tourism hub, the construction of the Tourist Facility Centre and Convention Centre and conceptualisation of Urban Wetland Nature Park has been initiated.
  2. Completed Tourist Facilitation Centres in Guruvayoor under Centrally sponsored PRASAD scheme
  3. Preparation of a Tourism Infrastructure Investment Plan for North Malabar for planning systematic development of tourism infrastructure and investments for the next 30 years in the region.
  4. The first phase of project development of Madavoorpara Tourism Zone coordinated by KTIL has been completed. KTIL has been instrumental in planning further eco-friendly and conservational tourism initiatives at Ponmudi for which initial discussion has been held in cooperation with the Forest Department.
- 16. Awards won by Kerala Tourism during 2017-22.**
1. National Tourism Awards during 2016-17 in nine categories, scoring Best State/UT (2nd Position), Best Film, Hall of Fame Section.
  2. Best Destination for Romance, Our Munnar by Lonely Planet, India Travel Award 2017.
  3. Golden City Gate Award 2018 – for Biennale Campaign – “Live Inspired” at ITB Berlin.
  4. Best Responsible Tourism Award at the World Travel Mart (WTM) London 2018.
  5. First International Travel and Tourism Award 2018 – Best in Responsible Tourism.
  6. National Tourism Award 2019 in two Categories – Best State/UT Comprehensive Development (third position) and Best Film.
  7. Emerging Global Destination – Accessible Destination Award 2019 from UNWTO.

8. Pacific Asia Travel Association Gold Awards 2019, three, for Ethnic food Restaurant by Women at Kumarakom, for advertisement campaign Come Out and Play, and for Tourism Website
9. PATA Grand award for Tourism Marketing – Human by Nature 2020.
10. Golden City Gate Award, Berlin – Best Print Campaign 2020 and Best Film 2020.
11. Travel + Leisure Global Vision Award 2022 – Responsible Tourism Mission, Kerala.
12. WTM Awards 2022 – to Aymanam Model RT Village Project.
13. WTM Highly Commented Award 2021 – Meaningful connections – work at home videos by RT Mission units during COVID-19 lockdown period.
14. PATA Gold Awards 2019 in the Women Empowerment in Tourism Sector category.
15. World Travel Mart Responsible Tourism Awards-2017.

#### **Critical gaps or issues to be addressed in the sector**

1. Separate fund is required for viability gap funding for major infrastructure projects.
2. Land availability for major tourism theme parks.
3. Single window clearances for entrepreneurs.
4. Subsidies for upcoming entrepreneurs.
5. Environmental issues in bringing up new tourism projects.
6. The tourism industry is facing unprecedented losses due to COVID-19 pandemic.
7. Competition from neighbouring States and countries like Sri Lanka and other Asian countries.
8. Lack of qualified personnel for delivering high-quality services.
9. Poor connectivity with destinations within the State, problems with respect to infrastructure facilities, waste management, safety measures.
10. Management of tourism destinations and circuits in sustainable mode, for example, the Muziris Heritage Project.
11. Lack of structured tourism products/experiences.
12. Restructuring of joint venture company, identification of new JV partners, and so on.
13. Delays related to CRZ approvals, restrictions based on Kerala Paddyland and Wetland Conservation Acts and so on.
14. Lack of land parcels owned by the Department to set up new projects.

#### **14th Five-Year Plan**

##### **Approach**

1. The travel and tourism sector plays a significant part in the economy of the State. It has great potential to contribute to economic growth owing to its capacity to create employment, promote local entrepreneurship, and stimulate other sectors. Tourism can play a vital role in income revival in the post-pandemic period. In the post-pandemic world, there will be a sharp increase in tourist movement, and Kerala should be equipped to capture the business opportunities this development will provide.
2. The sector has not been able to achieve the ambitious growth targets set during the 13th Five-Year Plan because it was beset by a series of setbacks, ranging from natural calamities to restrictions forced by the pandemic. Data from 2019 indicate that the 13th Five-Year Plan growth projections are indeed achievable, as the State registered a 17.8 per cent growth in domestic arrivals and 8.5 per cent growth in foreign arrivals over the previous year. A reasonable target for the 14th Five-Year Plan would be an annual growth rate of 15 per cent in domestic arrivals and 10 per cent in foreign arrivals. To achieve this, the State should develop separate strategies to cater to the differing needs of international, domestic (other States), and local (within Kerala) tourists. Tourism development has to be responsive to emerging trends in tourism, such as the increasing number of young travellers,

solo travellers, women travellers, and senior travellers. These policy responses will involve the development and promotion of different types of tourism products and packages.

3. *Destination development.* The Government of Kerala has been investing in projects to develop infrastructure in destinations across the State. During the 14th Five-Year Plan period, this approach will be refined and fine-tuned. The thrust of the approach will be to involve Local Governments in the identification, development, and management of destinations that cater mostly to local tourists. This will enable local ownership and participation, and reveal unexplored locations even in far-flung areas of the State. The State Government will partner with Local Governments and provide partial funding to projects that are needed in such destinations, besides using its networks to provide information about these destinations to travellers. The State has numerous traditional and established tourism destinations. The gains from such centres have to be consolidated by adding to existing infrastructure and facilities. Some of them, such as Kovalam, Kumarakom, Bekal, and Muziris, will be developed as hubs or main centres. The new destinations previously mentioned can function as satellite destinations and add to the experience of tourists. Given the diversity of Kerala's tourism assets, the State has the potential to develop local or district destinations with active participation from Local Governments.
4. *Skill development and employment.* Tourism offers vast opportunities to absorb skilled human resources, both from within the State and from outside. Kerala has the capacity to produce high quality human resources for the hospitality sector throughout the country. To achieve this objective, it is imperative that we upgrade our teaching institutions. There are 13 Food Craft Institutes (FCIs) and three Institutes of Hotel Management in the State. Efforts to improve the infrastructure and teaching facilities in the FCIs should be taken up immediately. Policies to up-skill and develop new skills based on the emerging requirements of the tourism sector have to be emphasised. Tourism training centres must combine new and dedicated content with world-class training as part of their academic programmes.
5. *Tourism products.* The Government of Kerala must act as a catalyst and facilitator of tourism products created by the public and private sectors. Established and popular products, such as the houseboat sector, have to undergo scrutiny in order to improve quality and service delivery. The Tourism Department should provide robust frameworks for new products offered in adventure tourism. New products that offer interesting experiences such as caravans, farm-stays, and nature tourism should be encouraged through appropriate incentivisation mechanisms. Tourism products with a mix of indoor and outdoor activities, independent and self-guided tours, and tours that involve wellness tourism, can also be developed. Water sports, food and shopping at night are avenues that can be explored. The essence of tourism products should be to provide a unique and enriching experience.
6. Tourism is highly sensitive to adverse conditions in the destinations. Floods in 2018 and 2019 and the COVID-19 pandemic that followed had a profound impact on the sector. Special emphasis needs to be placed on helping units restart operations and reach full capacity. This effort will go hand in hand with efforts to develop health protocols (hygiene and safety) and trust, so that people start travelling. Disaster resilience will have to be one of the guiding principles for tourism planning and implementation.
7. *Responsible tourism.* The State will focus on extending Responsible Tourism practices to all destinations in Kerala, and promote tourism that involves different forms of rural experience. This will help make tourism a participative process, create tourism-friendly environments, and generate employment for local communities. Home-stays provide unique experiences to tourists and involve local populations in tourism efforts.
8. *Tourism investment and funding.* Private enterprises will be encouraged to start new projects. Specific strategies will be developed to promote investments in tourism sectors such as accommodation, travel agents, tour operators, travel providers, and cruise operators. Public funding will continue for

tourism promotion, infrastructure, and destination development, with particular attention being paid to the role of the state in tourism promotion.

9. The tourism sector in Kerala needs better statistics, and an overhaul of the methods of data collection, management, and processing. The data system must provide timely and accurate information to different stakeholders in the tourism industry in order to ensure its smooth functioning and growth.

#### **Vision**

To position Kerala Tourism as a sustainable and responsible model by providing quality experience to tourists and enhanced economic benefits to the local communities with the intelligent engagement of all stakeholders.

#### **Objectives**

1. To upscale destinations for high quality visitor experience.
2. To create unique, innovative and diverse products.
3. To adopt sustainable practices in tourism development.
4. To position Kerala as a vibrant destination in domestic and international markets.
5. To create a conducive environment for investment in the tourism sector.
6. To create a regulatory framework for the tourism business.
7. To develop skilled resources for the tourism and hospitality sectors.
8. To develop innovative mechanisms for tourism data management.
9. To promote PPPs in destinations/products/business development and investment attraction.
10. To encourage repeat visitors by continually offering new and innovative tourism products.

#### **Targets**

1. Targeted a growth rate of 15 per cent in domestic tourist arrivals and 10 per cent in foreign tourist arrivals.
2. Development of 25 tourism hubs
3. Targeted to raise the total number of RT mission units to 50,000, total number of beneficiaries to 2.5 lakh, provide training for 50,000 people, and earn revenue of Rs 75 crore.

#### **Major initiatives/proposals/targets for the 14th Plan**

1. Focus on Tourism Hubs – Development of 25 Tourism Hubs across each district of Kerala in PPP mode.
2. Destination Challenge Scheme – To explore unexplored destinations at the grama Panchayat-level.
3. Biodiversity Circuit Project focus on connecting various destinations of Kollam.
4. Malabar Literary Circuit Project aims at connecting various literarily important destinations from Beypore to Palakkad through Malappuram.
5. Revolving Fund Scheme for COVID-19 financial Assistance.
6. Strategic Marketing Schemes such as participation in national and international trade fairs, B2B meets, advertising campaigns through major global airport terminals, television, FM radio channels, film, theatre; maintaining strong website support for Kerala Tourism, maintaining strong social media support and management for Kerala Tourism, and so on.
7. Promotional events and festivals for cultural preservation with yearly calendar events such as Nishagandhi Dance Festival, Monsoon Raaga Music Festival, Flower Show, Beypore Water Festival, Ulsavam, Onaghosham, Champions Boat League, as well as sponsorship of selected State-wide events including folk festivals, boat races, *ulsavams* and so on.
8. Clean and safe tourism destinations with basic amenities such as world-class toilet blocks, Clean Destination Campaigns, Tourism Guide deployment at water bodies, Tourism police, Wi-Fi and



CCTV installations at tourism destinations, green protocols at tourism destinations, special emphasis for houseboat waste disposal, and so on.

9. Bi-annual events such as Kochi Muziris Biennale 2022, 2024, 2026 with permanent venue; Alappuzha Biennale (*Lokame Tharavadu*) 2023, 2025; Kerala Travel Mart 2022, 2024 and 2026.
10. Completion of ongoing Muziris, Thalassery, and Travancore Heritage Projects. New Heritage projects such as Palakkad Heritage, Ponnani Heritage, Beypore Heritage and Kollam Heritage project.
11. Proper study and implementation of available Tourism Master plans.
12. Establishment of Tourism Employee Welfare Board.
13. Tourism HR Development activities with new courses in Ayurveda, Martial Arts, and wellness tourism.
14. Rail project at Munnar, botanical garden Phase III at Munnar.
15. Responsible Tourism activities will continue by extending world recognised 'Pepper and Street' Projects. Strong RT policy will be formulated.
16. Strengthening tourism offices and tourism information centres.
17. Ensuring round-the-clock service at Kerala Houses, Guest Houses, and Yathri Nivas facilities with responsible service protocols to VIPs and VVIPs, with timely upgradation and maintenance.
18. Developing new eco-tourism destinations, strengthening existing destinations and new eco-tourism products in forest and wildlife sanctuaries. Development of a model eco-tourism centre in each district.

#### **Initiatives already started in Annual Plan 2022-23**

1. Keravan Kerala is developed in PPP mode with private investors, tour operators and local communities as key stakeholders. The two major components of this activity are Tourism Caravans and Caravan Parks. Caravan Tourism will also promote Responsible Tourism activities for sustainable growth and for the benefit of local communities, promote eco-friendly practices and markets for local products. A major feature of Caravan Tourism is eco-friendliness. There is IT-enabled real-time monitoring of caravans ensuring complete security for guests. A caravan park will be a completely safe and secure zone offering a hassle-free and stress-free environment to tourists.
2. Two new tourism circuit projects, Biodiversity Circuit and Malabar Literary Circuit, which will strengthen cultural, heritage and environmental tourism in the State and enhance tourist footfalls. The Malabar Literary Circuit will link Thunchan Memorial at Tirur, Beypore, Thasrak, Ponnani, Trithala and the banks of the Bharathapuzha. The Biodiversity Circuit will connect the Ashtamudi Lake, Mundrothuruthu, Kottarakara, Meenpidipara, Muttara-Maruthimala, Jadayu Rock, Thenmala and Achankoil in Kollam District.
3. The One Panchayat, One destination" scheme, which aims at exploring at least 500 new destinations in the State and developing them on shared basis in the coming years.

#### **Conclusion**

Kerala, being a State with rich historical and cultural traditions, needs to focus on ensuring safe and eco-friendly tourism destinations that offer visitors world-class recreation facilities. Kerala is always marketed under a single brand. New brands and sub-brands need to be developed. New products and lesser-known tourist destinations have to be explored and, most importantly, the scope of tourism for encouraging the development of non-traditional tourist destinations and products have to be utilised fully. The State Government has to continue its various initiatives to make Kerala a global tourism hub, realising the industry's potential.

By adopting new strategies, setting new objectives, getting a new sense of direction, many of the challenges faced by the sector can be addressed. The introduction/strengthening of tourism products, human resource development and responsible tourism, can facilitate increasing employment opportunities

and tourist arrivals. The State should focus on producing skilled and quality human power in the tourism sector through academic activities as well as awareness and training programmes. Focus should be on Government support through the involvement of other departments in tourist activities.

A robust and integrated tourism planning, development and management mechanism involving the State, the Tourism Department, tourism agencies/organisations, industry stakeholders and others needs to be structured in order to fulfil the vision and objectives of the 14th Five-Year Plan.

## Chapter 5

### Water Resources

#### 5.1 IRRIGATION AND FLOOD CONTROL

##### Overview of the Sector

The water situation in Kerala presents a contrasting picture with plenty of rivers, lakes, ponds and water bodies on the one hand, and a water-stressed situation with poor per capita water availability on the other. The primary sector is the largest consumer, and water plays a major role in agriculture, animal husbandry and inland fisheries. The biodiversity of the State depends much on its water management practices.

The State has not been able to utilise its water resources in an effective manner. The vision for water management in Kerala is to achieve water security, long-term sustainability of water resources, and equitable distribution of water and a rights-based approach to water management. The consecutive floods of 2018 and 2019 emphasised the need for scientific management of water in the river basins. An integrated approach to water resources management and linking of water management to land use are of prime importance.

Groundwater is also a major source and there is increasing dependence on it. Indiscriminate use of groundwater without proper monitoring and management has resulted in declining groundwater tables. Groundwater extraction in Kerala is mainly for domestic use and irrigation purposes. The total annual groundwater recharge in the State is 5.65 BCM (billion cubic metres) and the annual groundwater extraction is estimated as 2.65 BCM. The estimation for domestic use is 1.47 BCM and for irrigation use it is 1.16 BCM. (*Dynamic Groundwater Resources of Kerala, March 2020*).

The investment in irrigation comprises of investment in Major and Medium Irrigation, Minor Irrigation, Command Area Development, Flood Control and Coastal Zone Management.

##### 13th Five-Year Plan

The activities undertaken in the sector during the 13th Five-Year Plan period focussed on expanding agricultural productivity by widening the irrigated area and increasing irrigation efficiency and potential, a shift in focus from large and medium projects to minor irrigation, canal modernisation activities and expansion of irrigation facilities to acute water-deficient areas, and the completion and commissioning of ongoing major and medium irrigation projects.

The efforts taken had resulted in increasing the share of minor irrigation in the sectoral outlay, however, major and medium projects continued to grab a large share of the outlay during the Plan period. The budgeted outlay during the 13th Plan was Rs 2,682.15 crore. Major and medium irrigation projects had the larger share (51.79 per cent), followed by minor irrigation (33 per cent), Flood Control (14.46 per cent) and Command Area Development (0.74 per cent).

Table 5.1 Outlay and expenditure during 13th Plan, in Rs crore

Sub-sectors	Budgeted Outlay	Expenditure
Major and Medium	1,389.01	721.48
Minor Irrigation	885.31	648.10
CADA	20.00	1.83
Flood and Coastal zone management	387.83	253.83
Total	2,682.15	1,625.24

Source: Annual Plan Document

In tune with the focus of the 13th Plan, the sector succeeded to have some notable achievements.

The total ayacut achieved through Minor Irrigation during the 13th Plan period was 23,600.81 ha. Over the period, the Gross Irrigated area expanded, from 5.15 lakh ha (2018-19) to 5.17 lakh ha (2019-20) and further to 5.21 lakh ha (2020-21). Gross irrigated area to gross cropped area had a nominal increase from 20 per cent (2018-19) to 20.30 per cent (2020-21). As per the data for 2020-21, paddy, coconut and banana were the major crops that benefited through irrigation, with 1.59 lakh ha, 1.58 lakh ha and 0.52 lakh ha respectively. (Economic Review 2021).

The Government decided to examine meticulously the four major and medium irrigation projects – which are Muvattupuzha, Idamalayar, Karapuzha and Banasurasagar. Their work was continuing for the past few decades. A Technical Committee was constituted by the Kerala State Planning Board in the first year of the 13th Plan. Subsequently, these projects continued to be funded and guided as per the committee's recommendations. The commissioning of the Muvattupuzha Valley Irrigation Project in July 2020 was a notable achievement during the period. With a cumulative expenditure of Rs 1,083.64 crore, as on the date of its commissioning, the project benefited an ayacut of 33,670 ha (gross) and 17,179 ha (net). Despite several stumbling blocks faced in the implementation of the Idamalayar Project, the Water Resources Department succeeded in clearing the hindrances at the M.C. Road crossing portion by adopting a push-through mechanism, the first of its kind in the Department. Tunnel construction to a length of 35 m and cut-and-cover canal construction of 66 m were done as part of this. Significant progress could not be achieved in the Karapuzha project, except for few seepage rectification works, thereby enabling water distribution up to Ch. 15300 in the Left Bank Main Canal (LBMC) in February 2017. Due to consistent efforts, by the end of the 13th Plan period, the entire LBMC was ready for water distribution.

Under the Haritha Keralam Mission, the mandate adopted by the Department was water conservation. The objective was to renovate and clean existing water resources, including linking of ponds to irrigation canals and prevention of seepage loss in irrigation canals. Renovation of 326 ponds could be completed over the period 2017-18 to 2021-22, apart from 92 schemes completed under Minor Irrigation Class I and II schemes. A Watershed Master Plan of 914 Grama Panchayats was prepared. With public participation, the first-phase renovation works of Varattayar, Kolarayar, Meenachilar, Kodurar, and Meenatharayar schemes were completed as part of Haritha Keralam.

Groundwater conservation and recharge for sustainable development of groundwater resources were implemented as a long-term measure to overcome the drought situation in the State. During the 13th Plan period, the Groundwater Department implemented rooftop rain water harvesting through recharge pits to enhance groundwater levels of dug wells.

The completion of the third stage of the Thanneermukkom Regulator-cum-Bridge (RCB), which was opened to the public on July 31, 2018, was a significant achievement. As a flood control measure, sand was removed from the leading channel and estuary of the Thottappally spillway. In order to widen the estuary, 2,42,831.25 cubic metres of sand and obstructions were removed in 2020. Reconstruction of the bund in Puthanarayiram padasekharam in D Block, construction of an earthen bund in Kanakassery padasekharam, various flood mitigation works done in Kuttanad taluk in the Onattukara region as well as through Government of India-approved KEL I to IV schemes also need special mention among the flood mitigation activities undertaken in the region.

#### **Critical gaps to be addressed**

1. Development of irrigation infrastructure, with special focus on modernisation of canals, to meet agriculture requirements.

2. Explore the potential of Minor Irrigation, particularly the expansion of Micro Irrigation techniques, for improved irrigation efficiency. As on March 31, 2021, the area covered under Micro Irrigation (Drip and Sprinkler) in Kerala is 33,264 ha. (*Ministry of Agriculture and Farmers Welfare*).
3. Depletion of groundwater resources and deterioration of groundwater quality
4. Action plan for the implementation of “Room for River” project in the Kuttanad region.
5. Interventions for coastal protection using appropriate technology, suited to the regions based on site-specific studies.

#### **14th Five-Year Plan**

The general approach of the 14th Five-Year Plan for the sector would be (1) to continue the support for the commissioning of the Idamalayar, Karapuzha and Banasurasagar projects, (2) to focus on the repair and renovation of canals, especially the tail-end canals of irrigation projects, (3) to continue efforts to encourage Minor Irrigation, (4) ways to implement the “Room for River” concept in Kuttanad, (5) to continue assistance for dredging and cleaning of waterbodies and to strengthen and protect embankments and bunds around cultivated lands, (6) to explore ways to store water in reservoirs to benefit agriculture and allied activities and meet drinking water requirements.

#### **Objectives during 14th Five-Year Plan period**

In tune with the general approach of the 14th Plan period, the activities in the sector would be broadly based on the following areas.

1. Focus on improving irrigation infrastructure will continue during the Plan period for the completion and commissioning of three major and medium projects, namely, Idamalayar, Karapuzha and Banasurasagar. An action plan will be framed for the completion and commissioning of Idamalayar (by December 2025), Karapuzha (December 2025), Banasurasagar (December 2024), Pattissery (March 2023) during the 14th Five-Year Plan period, as targeted. Measures to re-commission the Pazhassi project in December 2025 will be given importance.
2. **Canal modernisation.** The efforts to renovate and reconstruct the canals of completed irrigation projects, using Plan assistance, initiated in the 13th Plan, to address issues of seepage loss, will be continued in the 14th Plan period. For effective and timely water distribution, these works will be designed with clearly defined targets and timeframes.
3. **Measures to utilise water awarded to Kerala by Cauvery Tribunal.** An integrated plan needs to be developed, with multiple stakeholders including Agriculture, LSGs, and MNREGS to make use of the available 30 tmc ft water by constructing a series of check dams and Lift Irrigation schemes for enhancing agriculture, community micro irrigation and so on.
4. **Development of minor irrigation.** This Plan period will focus on encouraging Minor Irrigation projects, where the thrust will be on renovation/restoration of ponds and tanks, salt water extrusion and drainage works, protection works in streams and channels serving irrigation, lift irrigation schemes and so on. Priority would be given for the rain shadow regions in Idukki, Wayanad and Palakkad Districts. The activities would also be integrated with that of Nava Keralam Mission. A major problem with minor irrigation has been the significant number of non-functioning schemes due to various reasons like physical damage, changes in agricultural methods in the locality, scarcity of water and so on. It is necessary to develop a database on such defunct schemes and also to have a geo-spatial mapping of completed check dams and lift irrigation schemes.
5. **Popularisation of precision farming/micro irrigation techniques.** Improved water use efficiency for maximising water productivity require the adoption of advanced micro irrigation and water-saving technologies. A framework is required to develop community-based micro irrigation clusters across the State, in convergence with the Department of Agriculture, Local Governments and the Nava Keralam Mission. For effective implementation, measures have been initiated to draft a Micro Irrigation Policy for the State in association with stakeholders under the guidance of the Kerala State Planning Board.

6. **Groundwater resources.** Conservation, recharge and optimal utilisation of groundwater resources, rain water harvesting measures for direct use and data collection on groundwater structures will be prioritised to address the challenges of groundwater depletion.
7. Coastal zone management measures would be continued through construction of sea walls, adoption of hard (tetrapod)/soft solutions (mangroves, bamboo) for coastal protection in the unprotected stretches and by initiating studies on coastal protection measures. Sustainable coastal protection project would be implemented through interdisciplinary measures for the hotspot regions.
8. **Flood control measures across the State, with particular focus on the Kuttanad region.** In accordance with the Second Kuttanad Package announced on September 17, 2020, flood mitigation activities in the region would include modernisation of the Thottappally spillway shutters, deepening and side protection works of the leading channel and effective spillway management, cleaning of drainage channels, bund protection works and the implementation of the Room for River project. Geospatial technologies will be an integral part of all flood protection works. The carrying capacity of rivers and streams will be enhanced through rejuvenation of rivers by way of desiltation.
9. **River Basin Authority.** The river basin is a logical unit for the integrated development of natural resources. It is necessary to adopt integrated river basin management to achieve sustainability. During the 14th Plan period, efforts will be made to constitute a River Basin Authority, which will be headed by persons with technical knowledge, and to frame a River Basin Plan, based on which irrigation projects ought to be designed.

## 5.2 DRINKING WATER AND SEWERAGE

### Overview

The provision of drinking water supply and waste water disposal services is critical for ensuring public health and the well-being of society. Both Central and State Governments have focussed on the management of water and waste water since Independence and have proposed various programmes. Nonetheless, the rural areas of the country still have only limited access to protected water supply and safe sanitation facilities. Kerala is placed in the lower quarter as compared to other States in terms of providing piped water supply and sewerage services, according to statistics published by NITI Aayog.

Supplying potable water to everyone is a challenge faced by countries across the world. Improved water supply and sanitation, and better management of water resources, can boost economic growth and contribute significantly to poverty reduction. Almost two-thirds of the diseases in India are caused by water contamination and one-third of all fatalities are attributable to water-borne diseases. Climate change, depleting groundwater-level, over-exploitation and poor water quality are major challenges.

The drinking water sector is given importance in Kerala as water remains pivotal for sustainable development and is linked to local and global changes. Kerala is perceived to have higher water demand than the national average due to established social norms and demand for better hygiene and sanitation. According to Census 2011, the majority of people (62 per cent) use wells as the main drinking water source, while 29 per cent of the population has access to piped water-supply. In terms of accessibility, 78 per cent households have a water source within the premises and 14 per cent households use nearby water sources.

The two main agencies involved in drinking water supply and sewerage in Kerala are the Kerala Water Authority (KWA) and Kerala Rural Water Supply and Sanitation Agency (KRWSA) or Jananidhi.

KWA was established on April 1, 1984 under the Kerala Water and Waste Water Ordinance, 1984 by converting the Public Health Engineering Department for the development and regulation of water supply and waste water collection and disposal and connected matters. The Kerala Water Supply and

Sewerage Act 1986 replaced the ordinance. The vision of the KWA is to provide quality water supply and waste water services in an environment-friendly and sustainable manner. KWA is the major service provider in both urban and rural areas.

In 1999, the Kerala Rural Water Supply and Sanitation Agency (KRWSA) was registered as a Society under the Travancore-Cochin Literary, Scientific and Charitable Society Registration Act, 1955. Its mandate is to manage the implementation of rural water supply and environmental sanitation projects including the World Bank-assisted project popularly known as Jalanidhi. Over the years, KRWSA has executed 5,883 schemes covering 4,46,244 households in 227 Grama Panchayats. The most significant achievement of the Jalanidhi Project was that it established the willingness to pay among rural poor. The Jal Jeevan Mission (JJM) project is modelled on Jalanidhi principles because of its nation-wide acceptance in rural water supply implementation and management. KRWSA has gained significant experience in working with communities, social mobilisation and capacity-building. With the support of NGOs, it has established an ecosystem of small/large and multi-GP beneficiary, community-run rural water supply models across the State. KRWSA wants to build on its strength and support the community in the sustainable management of rural water supply infrastructure.

KWA now supplies water to nearly 56 per cent of the State's population from the existing 928 schemes through 41 lakh connections and 2 lakh public taps. The achievements so far in the rural and urban water supply sectors are through water supply schemes implemented with the help of Central/State Governments and financial institutions. KWA is now distributing treated water to 884 out of 941 Panchayats, 77 out of 87 municipalities and six city corporations. KWA is supplying 3,159 million litres of treated water a day. KRWSA implemented Jalanidhi Phase I and II projects during the period 2000-2020. Unlike other projects, Jalanidhi follows a demand-driven, community-managed approach. About 3,710 water supply schemes covering 10.56 lakh people (1.91 lakh households) in 112 Grama Panchayats were commissioned in Jalanidhi Phase I, and about 2,173 schemes covering 11.45 lakh people (2.54 lakh households) in 115 Grama Panchayats have been commissioned in Jalanidhi Phase II. About 1,161 partially/fully defunct water supply schemes of Jalanidhi phase I and II and other rural mini water supply projects were taken up for restoration under sustainability support to community-managed water supply schemes sanctioned in the Annual Plan periods 2019-20, 2020-21 and 2021-22, and 696 schemes have been restored so far.

### 13th Five-Year Plan

The 13th Five-Year Plan proposed to ensure uninterrupted drinking water to the entire population of the State, protect water sources, especially wells, reduce distribution loss and address urban water needs in water-scarce areas.

The total outlay for the 13th Plan was Rs 4,405.68 crore, of which Rs 3,508.25 crore was the expenditure. Out of the total outlay, Rs 3,496.54 crore and Rs 9,09.14 crore were the outlay for the KWA and KRWSA respectively.

Table 5.2 Year-wise budgeted outlay and expenditure of drinking water and sewerage sector in the 13th Plan, in Rs crore

Agenc y	2017-18		2018-19		2019-20		2020-21		2021-22		13th Plan	
	BO	Exp.	BO	Exp.	BO	Exp.	BO	Exp.	BO	Exp.	Total BO	Total Exp.
KWA	678.55	454.6	776.43	326.70	700.51	173.73	625.25	745.43	715.80	1,405.37	3,496.54	3,105.83
												(88.83%)
KRWSA	379.69	105	246	137.72	192.20	95.35	50	32.35	41.25	32	909.14	402.42
												(44.26%)
Total	1,058.2	559.	1,022.4	464.4	892.7	269.0	675.2	777.7	757.0	1,437.3	4,405.6	3,508.2

4	6	3	2	1	8	5	8	5	7	8	5	(79.63%)
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Source: Planspace

### Significant achievements during the 13th Five-Year Plan period (2017-2022)

**Kerala Water Authority (KWA).** KWA has made good progress in the rural and urban water supply sectors, by commissioning various schemes, implemented with the help of Central/State Government-aided schemes (JJM, NABARD, State Plan, NRDWP, KIIFB, AMRUT, RKI and so on) and grants.

**Jal Jeevan Mission (JJM).** Under JJM, 4.04 lakh new Functional Household Tap Connections (FHTCs) have been provided to rural households in 2020-21, which is a remarkable achievement amidst the unprecedented crisis caused by COVID-19 pandemic. In 2021-22, additional 6.64 lakh FHTCs were given to rural households. As on March 31, 2022, a total of 28.18 lakh rural households of the State are provided with drinking water connections (39.87 per cent coverage). Apart from providing FHTCs, drinking water supply has also been ensured to all rural schools and anganwadis through JJM. Under JJM, priority is given to provide FHTCs in quality-affected habitations, Saansad Adarsh Gram Yojana (SAGY) villages, SC-ST dominated habitations and the Aspirational District of Wayanad.

In addition, 12 district-level Quality Control Laboratories of KWA and 32 sub-district-level Laboratories have achieved National Accreditation Board for Testing and Calibration Laboratories (NABL) accreditation. More than 5,000 Kudumbasree workers were trained for testing water quality using field test kits.

**KIIFB.** Under KIIFB, 14 water supply projects worth Rs 335.65 crore benefiting around 13.5 lakh people have been completed. KIIFB has accorded sanction for the Kuttanad Drinking Water Project Phase II for an amount of Rs 289.54 crore and land acquisition for various components of this project is under progress.

**AMRUT.** For nine AMRUT cities including six city corporations and the Alappuzha, Guruvayur and Palakkad municipalities, 173 works worth Rs 1,151.69 crore in the water supply sector and 116 works worth Rs 321.45 crore in the sewerage sector have been sanctioned under AMRUT-I. Of these, 231 works costing Rs 670.39 crore have been completed. Construction of a 75 MLD Water Treatment Plant (WTP) at Aruvikkara, 20 MLD WTP at Peechi, 5 MLD Septage Treatment Plant (STP) at the Medical College, Thiruvananthapuram were completed and commissioned.

**Sewerage.** In Kerala, the coverage of sewerage facilities is extremely low. It is only around 30 per cent in Thiruvananthapuram and 5 per cent in Kochi Corporation areas. This is probably one of the lowest rates in the country. A new scheme for Guruvayur Municipality with 3 MLD capacity that has been commissioned has a 7 km-long sewer network. Thiruvananthapuram city has about 602.5 km sewerage coverage; for Ernakulam it is 28 km. The sewage treatment plant at Muttathara, Thiruvananthapuram has the facility to treat both the septage and sewage. It has a capacity of 107 MLD.

The modernisation of the Aruvikkara pumping station was completed during the 13th Plan. It was initiated for ensuring additional treated water supply to Thiruvananthapuram city. The major modernisation works aim to replace old and damaged pumps, motors, civil, electrical and mechanical installations in the water treatment plants. Pump houses and substations at the 86 MLD facility at Chithirakkunnu, Aruvikkara have been completed.



Renovations of many of KWA's civil structures were carried out. Thirty-one works including maintenance of civil structures such as KWA office buildings, guest houses, tanks, staff quarters and pump houses were completed in 2020-21 and 14 works with a total project cost of Rs 125.22 lakh were completed in 2021-22.

Sewerage network coverage has been improved by laying new sewer lines, replacing old lines, making new manholes, and so on. Seven works with a total project cost of Rs 277.33 lakh have been completed. Robotic cleaning of manholes was adopted by KWA.

#### **Kerala Rural Water Supply and Sanitation Agency (KRWSA) or Jalanidhi Scheme.**

1. 811 water supply schemes have been commissioned under the Jalanidhi Phase-2 project. This has benefited 1.61 lakh households.
2. 146 KWA Grama Panchayat-based schemes have been rehabilitated and handed over to beneficiary groups for operation and maintenance under Jalanidhi Phase-2 project.
3. 483 Ground Water Recharge (GWR) structures for avoiding failure of source in respect of small groundwater based Rural Water Supply Services (RWSS) were constructed.
4. 2003 sanitation structures were constructed
5. 661 partially/fully defunct schemes were restored to functional status under sustainability support project. Restoration works are progressing in another 499 schemes.
6. KRWSA has been selected as one of the implementing agencies of the JJM programme by the Government of Kerala. 16,117 household-level functional tap connections have been provided by KRWSA under the JJM project during the period.
7. 5,044 Rain Water Harvesting structures of 10,000 litre capacity and 2,133 open well re-charge structures have been completed as part of Rain Centre activities.
8. KRWSA bagged the award for the best disbursement project in 2017-18 (in October and November 2017) among World Bank-assisted projects in India.
9. KRWSA's management information system (MIS) received the SKOCH Award for providing real-time monitoring and evaluation of projects. The system has helped in tracking delays and hurdles.

#### **Critical gaps to be addressed**

Major challenges faced by KWA are:

1. **Increasing demand and depleting sources.** Piped water supply to all at 100 lpcd (litres per capita per day) in rural areas and 150 lpcd in urban areas is the aim during this Plan period. Enhancing the processing capacity of Water Treatment Plants (WTPs) by using dual filter media, automation of pump houses and so on are proposed.
2. **Ageing assets, huge investment requirement.** There are 928 schemes in operation in KWA, which have civil structures such as intake, water tanks and pump houses that are ageing and require maintenance. These assets are to be maintained in a phased manner to protect them and improve the quality of service.
3. **High NRW (Non-Revenue Water).** Non-Revenue Water of KWA, that gets 'lost' in supply due to reasons such as pilferage and leakage, is estimated to be 50 per cent, which is huge loss considering national benchmarks. The reason is the age-old pipes and the improper connections. It is proposed to replace the remaining stretches of such pipes in the next Plan period.
4. **Neglected sanitation sector, huge investment requirement.** Emphasis will be given to providing appropriate sanitation systems in city corporation areas and other major cities. This will need huge investment.
5. **Shortage of staff and poor asset management.** After the implementation of JJM and AMRUT 2.0, production components/storage/transmission and distribution network will be increased manifold. But with limited human resources, it will be difficult to maintain all these water supply and sewerage systems. Development of human resources is indispensable.

6. **Shortage of funds.** The revenue funds at the disposal of KWA is inadequate to meet operation and maintenance expenditure including payment of monthly power charges, establishment expenditure, and servicing loans taken for the execution of drinking water projects.
7. **Widening gap between cost of production and revenue recovered.** As its liabilities mount with the expansion of services to meet the aspirations of the people and the Government, and cost recovery remains low, KWA is unable to maintain normal services, notwithstanding steps taken to improve efficiency

Major challenges faced by KRWSA are:

1. Partially/fully defunct community-managed drinking water supply schemes implemented in the rural water sector are to be made functional. A database of all community-managed water supply infrastructure is needed.
2. Need to support all community-managed water supply systems by providing technical assistance for the success of the model.
3. Rain Water Harvesting can be adopted as a proper water management practice and water conservation measure to solve the problem of drinking water scarcity in Kerala, especially in the summer months.
4. Ground Water Recharge and sanitisation of domestic wells are essential. If properly protected and recharged, wells can serve as a reliable source of drinking water.
5. Water Quality Monitoring and Surveillance (WQMS) for drinking sources/Community Managed Water Supply Schemes needs to be established involving various grassroots-level educational and technical institutions by utilising their existing resources and strengthening them by providing additional financial resources.
6. KRWSA aims to create an action plan and way forward for Grey Water Management/Treatment Systems
7. Creating awareness among Community/Stakeholders/Students in water conservation as well as water quality improvement programmes can change the beliefs and attitude of the general public.
8. Research and Development (R&D) in Rural Water Technologies is necessary to identify success and failure models both in technology and management for developing innovative ideas.
9. *Completion of Jananidhi Phase-2 (World Bank-aided project).* The only remaining scheme to be completed is the Large Water Supply Scheme to Munniyoor Grama Panchayat in Malappuram District, which will be commissioned in the current financial year.

## 14th Five-Year Plan

### Approach

1. Although Kerala is a water-abundant State, drinking water supply systems need to be extended to reach every home. To this end, the Government will focus on the restoration, protection and equitable distribution of water resources and the augmentation of usable water supplies.
2. The 14th Five-Year Plan will support a complete audit of the water supply system and of schemes in the sphere. It will support the proposal to inspect and certify domestic wells as sources of drinking water and to ensure rain water harvesting during monsoon. The Plan will support State contributions and efforts to implement the programme effectively to provide safe piped drinking water to rural populations through the Jal Jeevan Mission (JJM).
3. The 14th Five-Year Plan will support the phased introduction of sewerage schemes for all major cities of the State. It will also support the programme to introduce decentralised sewage treatment plants in a phased manner across the State.

### Objectives of the 14th Plan

The main objectives of the 14th Five-Year Plan is to achieve 100 per cent functional household water supply coverage and also the implementation of sewerage systems and septage management services. In order to achieve the target of 100 per cent coverage, the sector requires a multi-pronged approach including development of fresh sources, augmentation of existing sources, water treatment and network infrastructure, control of the quantum of NRW, demand management and revenue management along with capacity-building and training of personnel.

#### **Key initiatives/targets proposed in the 14th Five-Year Plan**

The following are the new drives/key initiatives proposed in the 14th Plan.

#### **Kerala Water Authority (KWA).**

1. KWA aims to provide treated water at the rate of 100 lpcd in rural areas and at 150 lpcd in urban areas under JJM and AMRUT 2.0. The gap between installed capacity and actual production will be reduced in order to reduce the gap between the installed capacity of treatment plants and actual production. For this, special emphasis will be given to:
  1. Renovation of WTPs
  2. Improving pumping systems
  3. Extending the distribution network
  4. 24x7 water supply in five city corporations and Palakkad, Guruvayur and Alappuzha municipalities
  5. Replacement of old and damaged AC/Premo/PVC/HDPE pipes
  6. Reduction of NRW to 20 per cent
  7. Timely preventive maintenance
  8. Quality assurance
  9. Bulk flow measurement
  10. Domestic meter replacement
  11. House service connection rehabilitation
  12. Leak detection equipment
2. *Improvement of Sewerage and sanitation systems.* The second-generation sanitation issues can be addressed only by providing suitable systems for collection of waste water, its treatment and safe disposal of the effluent. Kerala is far behind other States in the provision of organised sewerage. It is proposed to build appropriate sewerage systems in all towns with a population density of 1,500/sq km on priority.
3. Independent quality assurance will be introduced through new material testing labs, special water quality cells and so on.
4. A GIS-based database will be established through
  1. Asset mapping
  2. Consumer database overlays
  3. Digital elevation modelling
5. Implementation of Enterprise Resource Planning (ERP). A comprehensive database needs to be implemented in KWA to facilitate information-sharing, business planning, and decision-making on an enterprise-wide basis.
6. Demonstrate Pilot Desalination Technology for matching coastal area demand.
7. Automation of pump houses and the entire system.
8. Measures for NRW reduction from the estimated current rate of 40%.
9. As energy is a critical criterion for the operation of water treatment distribution systems and waste water collection and disposal systems, completing Energy Audit of all schemes and taking energy conservation measures needs focus.
10. Harnessing the potential of alternative energy sources needs attention.
11. For enabling informed decision-making, real-time data communication is crucial.

12. As the liabilities of KWA are mounting on a large scale with expansion of services, better revenue collection, 100 per cent reading/billing are needed.
13. To promote efficient water use and reduce NRW, it is essential to implement Pilot Pre-Paid water meters
14. Flow meters in all critical systems need to be installed.

**Kerala Rural Water Supply and Sanitation Agency (KRWSA).**

1. A database of all community/LSG-managed small water supply infrastructure in the State is to be created and its functionality assessment to ensure envisaged services.
2. Functionality along with sustainability of all partially/fully defunct Water Supply Schemes across the State needs to be ensured.
3. To ensure source sustainability, Rain Water Harvesting and Ground Water Recharge activities have to be scaled up.
4. It is proposed to convert domestic wells into protected and sustainable drinking water sources. It can serve as reliable sources of drinking water and at the same time replenish the dwindling groundwater table.
5. KRWSA will train its operators and beneficiaries in field testing and establish a network of Water Quality labs by tying up with educational institutions, to ensure community-level water quality monitoring, surveillance and Grey Water Management.
6. KRWSA needs to be reoriented as a backstopping institution that supports Local Governments in the operation and management of community-managed assets.
7. Capacity enhancement of all stake-holders using new technologies needs to be ensured.
8. It is proposed to institutionalise Jalasree Clubs in schools to inculcate the value of water among young people.
9. KRWSA proposes to provide implementation support to the Jal Jeevan Mission.

**Proposals for the 14th Five-Year Plan**

**Kerala Water Authority (KWA).** KWA is an autonomous body that has implemented various schemes over the years. For ensuring 100 per cent piped water supply in rural areas, rural water supply schemes have been implemented. Through the NABARD-assisted Rural Water Supply Schemes Rural Infrastructure Development Fund, more water supply and sewerage schemes will be provided in rural areas. More proposals will be taken up to meet National Green Tribunal (NGT) guidelines. Additional supply of water to Thiruvananthapuram city is being ensured through the modernisation of the Aruvikkara pumping station scheme. Through sewerage schemes, KWA intends to carry out urgent maintenance/repair work in existing lines, ensuring 100 per cent sewerage network for Kerala, expanding sewerage systems in Thiruvananthapuram and Kochi, establishing decentralised sewerage systems in other major cities and towns and robotic cleaning of sewer manholes.

**Jal Jeevan Mission (JJM).** It is a Centrally-sponsored programme in collaboration with NRDWP, envisioning providing supply of safe and adequate drinking water through individual household tap connections to all households in rural India by 2024. This is being implemented on 50:50 cost-sharing basis between the Centre and the State. Some 41.25 lakh connections are targeted by 2024.

*Energy efficiency improvement, optimisation of electromechanical items, safety audit and ensuring safety in operation of WTPs and pump houses.* As energy demands rise and the depletion of traditional energy sources accelerates, energy efficiency programmes become a necessity in KWA.

*Infrastructure development and surveillance activities under quality control wing of KWA.* Surveillance and monitoring of the quality of water supplied through water supply schemes is to be carried out by the Quality Control Wing of KWA by analysing water samples taken at stipulated frequency to give the public easy access to test results.

**Enterprise Resource Planning.** ERP is proposed to be implemented in KWA to facilitate information-sharing, business planning and decision-making on an enterprise-wide basis. ERP systems streamline and automate processes, creating a leaner, more accurate and efficient operation.

**Construction of new buildings for office space under OHSRs on KWA-owned land.** Many of the KWA offices are functioning in old buildings that are in dilapidated and in a dangerous state. New office space has to be arranged in vacant spaces below and around overhead reservoirs and on KWA-owned land.

**Kerala Rural Water Supply and Sanitation Agency (KRWSA).** Under the World Bank-aided Jalanidhi Phase-2 project, 2,173 water supply schemes out of a total 2,176 have been completed and commissioned. Implementation of two schemes in Paivalika Grama Panchayat of Kasaragod District that were delayed due to source failure have been dropped as this Grama Panchayat is covered under the JJM proposal of the KWA. The only scheme that remains to be completed is the Large Water Supply Scheme to Munniyoor Grama Panchayat in Malappuram District, which will be commissioned in the current financial year.

- 1. Sustainability support and backstopping support programme.** During the 14th Plan, KRWSA proposes to address issues related to all rural water supply schemes in a phased manner and ensure their functionality. Emphasis will be given to creating a database of all rural water supply programmes, which will be a reference guide for the State. The major activities proposed are, the creation of a database of all community/Local Government-managed small water supply infrastructure in the State, restoration of fully/partially defunct schemes in a phased manner, capacity-building and the formulation of an Information, Education and Communication (IEC) strategy to enable stakeholders in the effective and efficient management of the assets rehabilitated. KRWSA will act as a backstopping support agency for all community-managed water supply schemes.
- 2. Scaling up of rain water harvesting and groundwater recharge measures through KRWSA.** Rainwater harvesting is a technique or strategy for collecting rainwater and storing it in the right way for future use. The water can be collected from various surfaces and platforms and stored for later use. In most cases, the water is usually collected from rooftops and other hard surfaces. Rainwater harvesting is considered a very reliable way to conserve water. One of the simplest ways of storing water from the collection is in storage tanks.

The following activities are envisaged during the 14th Plan.

1. Construction of individual household-level RWH tanks of 10,000 litre capacity to the neediest beneficiaries.
2. Groundwater recharge for source sustainability of rural water supply schemes to avoid source failure in respect of small groundwater based RWSS.
3. Construction of community-managed RWH structures; common RWH tanks for providing drinking water to groups of families in SC/ST and other backward colonies.
4. Implementing RWH and GWR systems in Government institutions.
5. Construction of RWH tanks of appropriate capacity in educational institutions in the public, aided and private sectors including anganwadis. This will partially solve the issue of drinking water and help spread awareness among the student community on the concept of rainwater harvesting.

3. **Conversion of homestead wells into protected and sustainable drinking water sources.** KRWSA proposes to take up the conversion of homestead wells into protected and sustainable drinking water sources as one of its thrust areas. During the 14th Plan period, KRWSA will undertake the activity of conversion of homestead wells into protected and sustainable drinking water sources in a phased manner. Each phase will cover 10,000 wells, ensuring community participation.
4. **Water Quality Monitoring and Surveillance (WQMS) and grey water management.** One of the major issues facing community-managed small water supply schemes is the absence of a mechanism to regularly test and monitor water quality. Being a public water supply agency, though small in capacity, KRWSA needs regular monitoring and timely mitigation in case of Water Quality (WQ) issues. Absence of waste water collection, treatment and disposal is emerging as a major threat to public health in the State. KRWSA, with its experience in environmental management, proposes to take up grey water management in the rural sector, focussing initially on colonies of vulnerable groups.
5. **R&D in rural water technologies and management.** Though large-scale, organised water supply is the solution for the drinking water supply needs of society, there still will be habitations away from the reach of large supply schemes. It may be necessary to provide drinking water supply solutions using appropriate and innovative technologies and O&M (operations and maintenance) models. The areas identified for innovations are:
  1. Develop cost-effective, efficient water quality mitigation models in association with technical education and research institutions.
  2. **R&D and Piloting LORA.** LORA is a low-power, wide-area networking protocol designed to wirelessly connect battery-operated 'things' to the Internet. It can connect sensors, gateways, machines, devices and so on wirelessly to the cloud. It aids wireless water-level controller-cum-pump operation units.
  3. Remodelling existing pressure sand filter and iron removal plant and pilot in Small Water Supply Schemes (SWSS).
  4. Imparting technical knowledge to staff/exposure visits to learn best practices/successful models and documentation.
6. **IEC, capacity-building and training and jalashree clubs.** Information Education and Communication (IEC) activities in the water sector aim at building capacities of different stakeholders, especially local communities, responsible and responsive leadership to own, manage, operate and maintain in-village water supply systems. IEC strategies, their planning and effective implementation will be key to the success of community-based schemes in water supply. IEC activities include Participatory Rural Appraisal (PRA) activities, Interpersonal Communication (IPC), Behavioural Change Communication (BCC) and related communication activities. We need to change our habits and encourage judicious use of available water. Creating awareness among the population, especially the younger generation, is critical to achieve this goal, and so it is proposed to establish Jalashree clubs in schools to inculcate the value of water to the young. Students will be exposed to the concept of valuing water through awareness classes, water audits, water quality testing training, exhibitions, safe water practices and so on.

#### **New initiatives started in Annual Plan 2022-23**

Various new initiatives were already started by KWA and KRWSA in the Annual Plan 2022-23. Some of them are:

1. **Energy efficiency improvement, optimisation of electromechanical items, safety audit and ensuring safety in operation of WTPs and pump houses.** Energy is a critical criterion for the proper operation of both water treatment distribution systems and waste water collection and disposal systems. As energy demands rise and the depletion of traditional energy sources accelerates, energy efficiency programmes became a necessity at KWA. The objectives of the scheme are:

1. To improve energy efficiency, thereby lowering the cost of energy, which accounts for a significant portion of operating expenses.
  2. To reduce annual power charges and the power consumption of KWA.
  3. Energy conservation measures and rehabilitation of obsolete pumps and motors and other electrical installations.
  4. To avoid any untoward incidents arising from a dangerous working environment by ensuring safety protocol, placing safety gear and equipment in appropriate places.
- 2. Infrastructure development and surveillance activities under the quality control wing of KWA.** Surveillance and monitoring of the quality of water supplied through supply schemes is being carried out by the Quality Control Wing of KWA by analysing samples through an effective three-tier inspection system up to the level of Executive Engineers. The quality of water in river sources, wells, private samples and so on are tested in laboratories under the Quality Control Wing. In addition, quality certification of chemicals used in water treatment is done in the labs. The laboratory network under KWA will be elevated to international-level, conforming to ISO/IEC 17025:2017, by 2022 and maintained with scope upgradation. The State laboratory shall be upgraded gradually to obtain BIS certification for water quality testing.
- 3. Enterprise Resource Planning (ERP).** ERP refers to software that organisations use to manage day-to-day business activities such as accounting, procurement, project management, risk management and compliance, and supply chain operations. An ERP application makes use of a central database that receives information from various departments within an organisation. Implementation of ERP in KWA is to facilitate information-sharing, business planning, and decision-making on an enterprise-wide basis. ERP systems streamline and automate processes, creating a leaner, more accurate and efficient operation.

Activities initiated by KRWSA in the Annual Plan 2022-23 are:

- 1. Conversion of domestic wells into protected and sustainable drinking water sources.** As per Census 2011, 65 per cent of households depend on wells for drinking water. Even people connected with network water supply use well water for cooking and drinking because of taste preferences and traditional values. The dug wells are excellent means of groundwater recharge and if properly protected and recharged wells can serve as reliable sources of drinking water and at the same time replenish dwindling groundwater table.
- 2. Water Quality Monitoring and Surveillance and Grey Water Management.**
  - 1. Water Quality Monitoring and Surveillance of Community Managed Water Supply Schemes.** One of the major issues facing community-managed small water supply schemes is the absence of a mechanism to regularly test and monitor water quality. Being a public water supply, though small in capacity, it needs regular monitoring and timely mitigation in case of Water Quality issues. KRWSA wants to fill this gap and function as the Water Quality Monitoring and Surveillance (WQM&S) agency for all rural community-managed water supply schemes. KRWSA will train the operators and beneficiaries in field-testing and establish a network of water quality laboratories by tying up with educational institutions, and set up an IT-based monitoring system.
  - 2. Grey water management in colonies of vulnerable groups.** Absence of arrangements for waste water collection, treatment and disposal pose a major threat to public health. Polluted water sources and water vectors have been established as one of the reasons for morbidity and mortality in the State. KRWSA proposes to take up grey water management in colonies of vulnerable groups. The grey water collected from households can be treated and reused for gardening and other non-domestic purposes.
- 3. Research and development in rural water technologies.** KRWSA has tried and tested several technology options and management models in the Jalanidhi schemes. It is observed that one of the reasons for the failure of the schemes is the water quality issues developing in the schemes during

continued operations. Conventional solutions have not been successful in the longer term. It is necessary to identify successful and failure-prone models both in technology and management terms for developing innovative ideas in the sector.

4. **IEC, capacity building and training and jalasree clubs.** IEC activities in the water sector aim to build capacities of different stakeholders, especially local communities, as responsible and responsive leaderships to own, manage, operate and maintain in-village water supply systems. Capacity-building and training activities for the sustainability support programme is envisaged to rebuild/reorient/reenergise the existing institutional set-up to effectively and scientifically manage water supply schemes at the desired level of efficiency. The objective of the scheme is to sensitise people on the importance of water conservation and environment sanitation, water quality testing, safe drinking water and so on, and to promote water conservation and water quality improvement activities to control water-borne and communicable diseases.

Creating awareness, especially among the younger generation, is critical to achieve this goal. So it is proposed to establish Jalasree clubs in schools to inculcate the value of water. Students will be exposed to the concept of valuing water through awareness classes, water audits, water quality testing competitions, exhibitions, safe water practices and so on.

Kerala, though falling short on piped water supply coverage, is better placed with respect to access to water, thanks to the millions of traditional dug wells in the backyards. However, the quality of water, especially microbiological contamination of wells, is a concern warranting immediate attention. Proximity of poorly designed septic tanks/leech pits and absence of sustainable systems for collection, treatment and disposal of sewage/septage, have been identified as major reasons for water quality issues. Hence, the 14th Five-Year Plan aims at universal access to safe drinking water to all by expanding functional household water supply coverage and ensuring well water quality. Prioritised implementation of sewerage systems and septage management services are also envisaged.



## Chapter 6

### Energy

#### Overview of the Energy Sector

Kerala has fulfilled the objective of total electrification and the State's distribution grid is now capable of providing power on demand in any inhabited locality. A unique aspect of the power sector in the State is that it is fully embracing the technological advances that have taken place in the country in the past two decades, and that the State's strategy in the sector is taking advantage of these advances. It is also leveraging a number of innovative ideas and initiatives to maintain its growth in the new era of sustainability.

Having achieved universal electrification, the State is now concentrating on the modernisation of the grid to meet the ever-increasing customer aspirations with respect to reliability, to attain the lowest-level of system losses, to meet the requirements thrown up by decentralised renewable generation and to ensure safety of installations. The State has also embarked upon a mission to build a state-of-the-art transmission network by constructing new lines and substations and modernising, existing systems, to be ready to cope with the projected boom in e-mobility.

#### Department/Agencies under the Energy Sector

Power development activities in the State are carried out mainly through four agencies, namely, Kerala State Electricity Board Limited (KSEBL), Agency for Non-conventional Energy and Rural Technology (ANERT), Electrical Inspectorate, and Energy Management Centre (EMC).

KSEBL is responsible for the generation, transmission and distribution, with the specific mandate to provide electricity at affordable prices to domestic, agricultural and industrial consumers.

ANERT is responsible for renewable energy programmes in the State and is the nodal agency for the propagation and implementation of programmes/projects involving renewable and potentially renewable energy sources, rural technologies and promoting the idea of carbon-neutral governance for Government institutions with renewable energy and electric-mobility.

EMC is the nodal agency for promoting/implementing energy conservation activities in order to enhance efficient energy management in the State. Its mission is to enhance energy efficiency through energy conservation and management.

The Department of Electrical Inspectorate and Meter Testing and Standards Laboratory (MTSL) is functioning under the Department of Power. Safety inspections are carried out and sanction for energisation for all HT/EHT and other medium voltage installations are issued by the Inspectorate. MTSL's mandate is to provide testing and calibration of various types of electrical equipment.

#### 13th Five-Year Plan (2017-22)

The 13th Five-Year Plan focussed on the development of domestic capacity for power generation through hydel, solar and wind projects, strengthening of the transmission and distribution network, especially high-voltage transmission lines, provision of electricity to all households, substantial expansion of large-scale solar power generation, a paradigm shift from standalone to grid-connected systems regarding small-scale generating capacity and providing assistance to households that still depend on traditional cooking stoves and fuel with substantial emissions, to move to clean fuels.

The Missions of the 13th Five-Year Plan were capacity addition through renewable and non-renewable energy sources, building transmission and distribution systems for reliable power, enhancing customer

satisfaction through user-friendly systems, acquiring, developing and demonstrating suitable renewable energy technologies, enhancing energy efficiency by means of energy conservation and management efforts and minimising electrical accidents.

The strategies included generating clean energy to increase internal generation through small hydroelectric projects, and solar, wind and gas sources; procuring power from other States through tenders and by strengthening inter-State corridors; improving the quality of power by strengthening both transmission and distribution; managing demand through energy conservation activities and by means of efficient equipment, applying the Energy Conservation Building Code (ECBC), using light emitting diode (LED) lamps, and star rated products. Better customer satisfaction through user-friendly systems, by adopting Information Technology-oriented services, and improving safety by introducing Earth Leakage Circuit Breakers (ELCBs) and other safety equipment, were other strategies.

Thrust areas during the 13th Five-Year Plan period were i) Sustaining the total electrification drive, ii) Strengthening the transmission and distribution network, iii) Enhancing internal generation capacity, iv) Promoting renewable energy generation and energy conservation, v) Ensuring electrical safety and effective implementation of Quality Control Order, vi) and Further reducing aggregate technical and commercial (AT&C) losses, vii) Energy conservation activities.

#### Financial achievement during 13th Five-Year Plan

An amount of Rs 8,109.26 crore was provided as budgeted outlay for the four agencies in the energy sector to implement Plan schemes, and an expenditure of Rs 7,400.20 crore was incurred (91 per cent) during the 13th Five-Year Plan period.

Table 6.1 Financial achievement during 13th Five-Year Plan, in Rs crore

Agency	2017-18		2018-19		2019-20		2020-21		2021-22		2017-22	
	Outlay	Exp	Outlay	Exp	Outlay	Exp	Outlay	Exp	Outlay	Exp	Outlay	Exp
KSEBL	1,565.25	1,557.49	1,713.80	1,975.94	1,712.37	1,452.38	1,708.21	1,378.68	1,093.75	898.28	7793.38	7,262.77
ANERT	48.03	35.69	53.00	12.92	52.00	10.60	41.80	21.42	43.13	20.04	237.96	100.67
EMC	8.14	7.74	8.95	4.62	8.83	3.99	7.63	6.73	7.63	3.98	41.18	27.06
Electrical Inspectorate	7.60	4.36	8.36	1.34	8.25	0.84	6.93	1.20	5.60	1.96	36.74	9.7
Total	1,629.02	1,605.28	1,784.11	1,994.82	1,781.45	1,467.81	1,764.57	1,408.03	1,150.11	924.26	8,109.26	7,400.2

Source: Planspace, Kerala

#### Physical achievements during 13th Five-Year Plan period

During the 13th Plan period, the “Oorja Kerala Mission” was launched, focussing on the integrated development of the electricity sector. It aims to implement five important projects – Saura, Filament-free Kerala, Dyuthi 2021, Transgrid 2.0, and e-safe. A three-year programme for upgrading the distribution network and improving the quality and reliability of power supplied to consumers was initiated, Wiremen Institute and Skill Development Centre for Electricians was set up. ELCBs were introduced in homes. A Power Quality Study (T&D losses, effect of harmonics) involving different licensees was conducted and e-mobility initiatives were implemented.

#### Kerala State Electricity Board Limited (KSEBL).

1. Kerala was declared a fully electrified State on May 29, 2017 by providing connections to over 1.5 lakh applicants under the Total Electrification Scheme.
2. Commissioned Projects. HVDC Pugalur-Madakkathara Pole I and II and 400 kV Kozhikode-Madakkathara double circuits, Edamon-Kochi power highway, Kanchikode solar plant (1 MW) and solar projects of a total capacity of 5.90 MW, Vilangad Hydro Electric Project (7.5 MW), Barapole HEP (15 MW), and Adyanpara HEP (15 MW), Vellathooval SHEP (3.6 MW), Perumthenaruvi Project (6 MW, 25.77 MU), and Kakkayam Project (3 MW, 10.39 MU)
3. Six e-vehicle charging stations were set up.

4. Under the project 'Mission Reconnect 2018', launched by KSEBL during the floods of 2018, 16,158 distribution transformers were repaired, 1,735 distribution transformer stations were reconstructed, 25.60 lakh service connections were restored, 5,275.80 km of distribution lines including one lakh damaged poles were reconstructed, three lakh single-phase energy meters and 50,000 three-phase energy meters were replaced, and 720 single-point connections where existing installations were damaged in the floods were restored. This work was completed in 21 days.
5. Additions by KSEBL. Installed Capacity: 42.07 MW, Transmission Lines: 1,881 km, Sub-stations: 71, 11 kV lines: 10,034 km, LT lines: 19,845 km, Distribution Transformers: 11,513.

**Agency for Non-conventional Energy and Rural Technology (ANERT).**

1. Rolled out 140 Akshaya Urja Service centres across the State
2. Installed the first grid-connected solar photovoltaic (PV) plant in the State in Independent Power Producer (IPP) mode at Kuzhalmannam, Palakkad (2 MW)
3. Three grid-connected solar power plants with an aggregate capacity of 470 kW and five off-grid solar power plants with an aggregate capacity 35 kW were installed.
4. Handed over 171 e-cars to Government departments
5. Commissioned 10 EV charging stations and two solar-powered EV charging stations
6. Distributed 2,000 Soura Suvidha kits
7. An e-Market, [www.buymysun.com](http://www.buymysun.com), was launched
8. Skill upgradation training programme conducted for 3,200 electricians in solar energy
9. Installed Solar Wind Hybrid Systems at Vellapankandi, Meppadi Panchayat in Wayanad District and Thazhe Thudukki, Palakkad District, and a 1MW Solar Hybrid Park at Rammakkalmedu in Idukki District.

**Energy Management Centre (EMC).**

1. Inaugurated Pathamkayam SHP (8 MW), 4 kW Pico hydel project at the Echampetty tribal colony, installed 20 kW Vortex micro hydroelectric project at Kaduvetti bridge, and 2 kW project at Murikkassery police station.
2. Initiated model energy efficient Panchayat project.
3. Made Pelicode Panchayat in Kasaragod, the first incandescent lamp-free Panchayat in India Retrofitting of energy efficient equipment in 10 primary health centres (327 LED tubes, 145 ceiling fans, 240 LED bulbs).
4. EMC's Green Building, recognised by UNEP in its Global Status Report-2017 on zero emission, efficient, and resilient building, and received IGBC-Lead Gold Rating.
5. Energy Meter Calibration Laboratory of EMC has been granted NABL accreditation in accordance with IS/ISO/IEC 17025:2017 for the discipline of Electro-Technical Calibration.
6. Conducted energy audits in various parts of the State.

**Department of Electrical Inspectorate.**

1. Successfully launched online software "Suraksha"
2. Procured Power System Analysis Software ETAP and Compact LED testing equipment in MTSL.
3. Banned the use of substandard ELCB
4. Procured three fully automatic transformer test sets for conducting pre-commissioning tests as per Quality Control Order
5. Rewiring and Standardisation work in 600 houses in Agali, Puthur and Sholayur in Palakkad District completed
6. Established new regional testing laboratory at Alappuzha
7. The total revenue from the Department of Electrical Inspectorate during the 13th Plan period is about Rs 301.40 crore.
8. Purchased 2 lakh polycarbonate, tamper-proof energy meter seals for MTSL

9. Procured Compact LED testing equipment in MTSL

**Critical gaps/issues in the energy sector**

1. Resource constraints in promoting renewable energy projects.
2. Lack of transparent policy on power procurement from renewable energy sources.
3. Delay in commissioning of projects.
4. Desilting of dam reservoirs.
5. Financing models based on energy saving/productivity/benchmarks in priority areas.
6. Commercial sector activities not mandated to follow energy efficiency in design/construction stages.
7. Demand aggregation of existing inefficient appliances and their replacement.
8. High land costs and forest clearance issues in small hydro power projects.
9. Enhance internal generation capacity to meet anticipated energy requirement and peak demand in addition to exploring options to supplement power requirements through contracts with power generation companies outside the State
10. Investigating fire accidents, distinguishing primary short circuits from secondary short circuits is a challenge. There is no such testing laboratory in the State. A laboratory to test specimens collected from fire accident spots needs to be set up.

**14th Five-Year Plan (2022-27)**

Kerala requires more energy in the near future to meet the changing development scenario and bring in more industries. By 2025, 40 per cent of Kerala's electricity demand will have to be met from renewable energy sources including hydel, wind and solar. During the 14th Five-Year Plan (2022-2027), the State Government's top priority is to increase power generation to ensure availability of power to match the increasing demand. It is necessary to enhance internal generation capacity during the 14th Plan Period through hydel, solar, wind and other means. At the same time, the quality of power is also of equal importance. During the 14th Five-Year Plan period a major addition (3,000 MW) through renewable energy sources such as hydropower projects, solar energy and wind is proposed. Kerala needs to identify and harness whatever energy sources might be available in the State with innovative ideas, and build a resilient power system that is capable of facing challenges. There will be focus on the traditional route of energy generation. There is a need to look for a large number of small generating systems with the many possible resources available in the State. Hence, it needs to move on to an extensive research and development effort to identify and harness whatever energy sources are available in the State with innovative ideas.

**Approach to 14th Five-Year Plan**

**State electricity Plan.** The 14th Five-Year Plan will support the formulation of a long-term electricity plan that will specify requirements of future expansion of capacity in generation, transmission, and distribution. The plan should take into account the needs of different sectors, including industry, agriculture, and information technology services. The plan should also factor in the recent advancements in technology related to variable renewable energy that are changing the dynamics of the public utility grid system.

**Generation capacity.** Kerala needs to enhance its internal generation capacity. In 2020-21, Kerala procured 78 per cent of its requirement from other States (in certain months, the proportion was as high as 90 per cent). Dependence on short-term markets for power results in high procurement costs and involves avoidable uncertainty. The 14th Plan will support efforts to complete all projects that have received environmental clearance, to renovate and modernise existing plants, and to promote renewable energy projects. The Plan will support efforts to achieve the renewable energy targets set by the Government and to identify and study the challenges in this regard.

**Transmission.** Transgrid 2.0, a project conceived during the 13th Five-Year Plan period, is a transformational initiative to prepare the energy system in the State for future requirements. The 14th Plan will provide support to expedite the completion of the project.

**Distribution.** The 14th Plan will support efforts to strengthen the distribution network to meet the new demands on the distribution grid and on demand-supply despatch management resulting from the increasing share of renewable energy in the network. The Plan will support efforts to establish a smart grid system, encourage the use of advanced technology and communication systems for grid management, and modernise load despatch centres.

**Resilient power infrastructure.** The 14th Plan will encourage efforts to establish a resilient power infrastructure in the State. The Plan will support the programmes of the Kerala State Electricity Board, including the “Safe Kerala” disaster management programme, that address issues of preparedness, mitigation, and emergency response. The Plan will encourage efforts to incorporate new standards and processes related to systemic resilience in the proposed State electricity plan. Special attention will also be given to issues of cyber security.

**e-Mobility ecosystem.** The Government of Kerala has begun a focussed electric mobility programme in public, intermediate public, and private transport. The Plan will promote efforts to establish charging infrastructure in line with the distribution of demand.

**Capacity building and institutional development.** Although KSEBL is the lead utility in the State, there are multiple organisations currently responsible for energy-related activities. The Plan will encourage institutions in this sector to keep pace with technological changes, regulatory changes, and national-level developments and introduce modern management practices.

**Safety.** The 14th Five-Year Plan will support a range of measures aimed at ensuring safety and eliminating accidents.

#### **Objectives of the 14th Five-Year Plan**

1. To develop a strategy for the management of the energy sector in such a manner as to promote rapid economic growth and sustainable development of the State.
2. To add 3,000 MW from renewable energy sources such as hydropower projects, solar energy and wind
3. To install medium size (100MW to 300MW) grid storage-based solar floating power plants in dam reservoirs and lakes, totalling to a capacity of 500MW.
4. To promote Green Energy from biomass and waste
5. To promote an e-mobility ecosystem in the State
6. To strengthen the transmission and distribution network, especially high voltage transmission lines
7. To promote research activities involving improvement of efficiency and effectiveness of various techniques, procedures, processes in manufacturing electrical equipment, developing new technologies for various type of power generation.
8. To focus on a Disaster Resilient Approach and to explore innovative ideas/technologies addressing land constraints in Generation, Transmission and Distribution and waste disposal.
9. Project Management to strengthen the implementation of present and future projects in the sector and Human Resource development to adopt good operating practices so as to improve the efficiency of operation of power plants, transmission and distribution system, power procurement.
10. Access to power in remote and vulnerable areas and provision of free electricity to the underprivileged.

## **Key initiatives proposed for 14th Five-Year Plan**

### **Generation.**

1. *23 hydel projects.* Nine ongoing projects (176.5MW/631.71 MU), 13 new projects (120.5MW/303.75MU) and Idukki Golden Jubilee Extension schemes (800 MW/1301 MU)
2. *Addition of 316.4 MW in installed capacity and energy storage.* 297 MW from hydel projects, 15.4 MW from solar and 4 MW wind energy.

### **Transmission.**

1. Construction of 99 new substations and upgradation of 24 substations
2. Construction of transmission lines to a distance of 1,913 km

### **Distribution.**

1. Drawing 4,800 km 11 kV ABC and 10,500 km LT ABC
2. Installation of distribution transformers and prepaid smart meters
3. Distribution automation (SCADA) in select towns

### **Renewable energy programmes.**

1. Implementation of Grid Connected Rooftop Solar Programme Phase II (100MW)
2. Solar City (200MW) and RESCO Projects (100MW)
3. PM-KUSUM Scheme for Farmers (250MW)
4. Implementation of Solar Power Generation Systems for MSME (50MW)
5. Micro-Grids in Tribal Settlements (20MW)
6. Renewable energy technologies for fishing villages/coastal sector/inland navigation
7. Electric vehicle charging stations

### **Energy conservation and energy efficiency interventions.**

1. Urjayaan Programme to make all 140 Legislative Assembly Constituencies energy-efficient
2. Energy Efficient Building propagation considering the fact that almost two-thirds of energy usage in the State is attributed to buildings (both residential and commercial)
3. Energy efficiency in Small, Medium Enterprises and in the unorganised sector

### **Energy storage.**

1. Energy storage at source-level near power generation sites of Small Hydro Projects (SHPs) and through small-scale pumped/reserve storage options and/or electrochemical energy storage.
2. Energy Storage at the substation-level
3. Cleaner and firmer renewable energy generation through SHPs in the private sector, promotion of SHPs through Local Governments as Special Purpose Vehicles between multiple LSGs in collaboration with Energy Management Centres, and the promotion of new and innovative sources suitable for large-scale replication.

### **Electrical safety.**

1. Power quality study and scientific investigation of fire accidents as part of research and development in the energy sector.
2. Setting up of a testing laboratory for fire accident enquiries.
3. Providing ELCBs to domestic consumers in the BPL category.
4. Electrical Safety Awareness Programmes.

## **Initiatives in the first year of the 14th Plan (Annual Plan 2022-23)**

1. **PM-KUSUM programme.** Installing 6,000 solar pumps for farmers and 200 kW of solar pumping systems for farmer collectives.
2. **Solar push carts.** A pilot project for 100 street vendors
3. Renewable energy for fishing boats. Installation of micro-grids in remote tribal hamlets and solarising deep-sea fishing vessels
4. Implementation of 3 MW Hydro Kinetic Power Project, a joint initiative between KSEBL and EMC, for irrigation canals.
5. **Waste-to-energy programme.** To generate power from urban, industrial and agricultural waste/residues as well as Municipal Solid Waste.
6. **Clean Energy Technology Innovation Centre.** To promote start-ups and innovation in the power sector, create infrastructure needed to enhance the role of renewable energy and ensure energy efficiency across sectors.
7. **Renewable energy projects.** Micro and small hydro, wind and hybrid renewable energy projects





## Chapter 7

### Science and Technology, and Environment

#### 7.1 ECOLOGY AND ENVIRONMENT

##### Overview

Kerala is a distinctive biodiversity hotspot. It has all the three maximally productive and biodiversity-rich ecosystems in the world, namely tropical rainforests, freshwater and brackish water wetlands, and marine coral reefs. There has been progressively rising pressure on the environment and the natural resources over the years due to high density of population as well as the State's developmental needs.

Three agencies are involved in dealing with the ecology and the environment sub-sector.

1. Directorate of Environment and Climate Change (DoECC)
2. Kerala State Biodiversity Board (KSBB)
3. Kerala State Pollution Control Board (KSPCB)

The DoECC was established to coordinate environment-related programmes implemented by various departments, agencies, LSGs and so on. Climate change poses a serious threat to Kerala's environment and has become an agenda item for development planning in recent years. The DoECC is the nodal agency for coordination related to climate change. The Directorate has prepared the State Action Plan on Climate Change (SAPCC) with inputs from relevant departments, agencies and institutes with special focus on developing implementable action plans in the wake of the recent extreme climatic events. The main objective is to mainstream climate change strategies in the State-level planning and development process and to reduce climate change-associated risks in the State.

The Kerala State Biodiversity Board was constituted with the objective of sustainable management of natural resources and developing a roadmap for achieving national biodiversity targets and Sustainable Development Goals (SDGs) with the active participation of local people.

The Kerala State Pollution Control Board is the statutory authority for planning, supervising and implementing comprehensive programmes for the prevention and control of pollution in the State. The Board is the statutory authority to implement the Acts and Rules concerning water and air (Prevention and Control of Pollution), and Environment (Protection) Acts and related rules.

##### 13th Five-Year Plan

In the 13th Five-Year Plan, Rs 244.23 crore was budgeted for the sector, which was 106 per cent of the 12th Plan allocation. Total expenditure for the 13th Five-Year Plan period was Rs 77.63 crore.

Table 7.1 Ecology and environment, budgeted outlay and expenditure in the 13th Plan, in Rs crore

Department	Budgeted Outlay	Expenditure
Directorate of Environment and Climate Change	147.58	32.72
Kerala State Biodiversity Board	44.54	22.45
Kerala State Pollution Control Board	52.11	22.46
Total	244.23	77.63

Source: Plan space, kerala

Major achievements in this sector are within the realm of the broad approach to the 13th Plan. The DoECC as part of environmental awareness and education constituted 112 *Bhoo Mithra Sena* Clubs (BMCs), and under the *Paaristhithikam* Programme, financial assistance was given to 139 schools/colleges/NGOs. To promote environmental research and development, 10 *Paristhithiposhini* fellowships were awarded, and a student fellowship programme titled *Vidyaposhini* was initiated. The new

fellowship programme, the Ujjwal post-doctoral fellowship and the State Action Plan on Climate Change are notable. The Coastal Zone Management Plan (CZMP) was published as per the CRZ Notification of 2011.

The KSBB constituted Biodiversity Management Committees at all three-tier systems of local governance and completed Panchayat-level Biodiversity Registers (PBRs) in all LSGs. In association with the National Informatics Centre (NIC) it has developed a work flow-based system which enables LSGs to collect and disseminate biodiversity data and generate PBRs electronically. The Asramom mangrove area in Kollam was declared a Biodiversity Heritage Site and the Kerala Biodiversity Museum was set up at Vallakkadavu in Thiruvananthapuram. A State-level Steering Committee for Biodiversity was formed and a 'Red Data Book' on Kerala incorporating details of threatened species was prepared. The KSBB has awarded 16 doctoral and two post-doctoral fellowships during the period.

The Pollution Control Board operationalised Continuous Ambient Air Quality Monitoring Stations (CAAQMS) in Kozhikode, Ernakulam, Kollam, Kannur, and Thiruvananthapuram Districts. A Sanitation Survey of the Ashtamudi lake was conducted, and water quality surveillance of Sabarimala was done during pilgrimage seasons. Actions were taken to upgrade the laboratories attached to the Board's office to get NABL accreditation.

Major gaps identified in the sector during the 13th Five-Year Plan are associated with data insufficiency, lack of integration of environment plans with the line departments, and insufficiency in research and development initiatives. Informed decision-making in environmental governance in the State was largely limited due to data insufficiency, unreliability, redundancy, the obsolete nature of the data, and accessibility and usability issues.

#### **14th Five-Year Plan**

The approach and focus of the 14th Five-Year Plan with respect of biodiversity, climate change, and environment are the following.

1. Environmental regulation and governance for coastal zones, wetlands, and people living close to fragile ecosystems.
2. Coordinate different aspects of environmental management that are currently dispersed across different agencies. The role of the DoECC in formulating the State Action Plan on Climate Change is of particular importance in this regard.
3. Local initiatives for mitigating climate change and developing local climate resilience in different spheres, which include development of sustainable infrastructure, creating local early warning systems to deal with extreme climatic events and their impact (which include floods and landslips), regulating construction, and protecting key local ecosystem resources.
4. Biodiversity management deals not only with broad general awareness issues but also with practical and specific matters with a clear order of priorities, including sustained monitoring. Key pressure points like pollinator abundance and species' spatial movement must be monitored over the long term. There should be targeted action to restore mangroves along the coastline.

As part of the 14th Plan, the State Planning Board had constituted Working Group on Environment and Forestry; which in turn set up separate Expert Sub Groups (ESG) for Environment and Biodiversity. The important recommendations of the ESG relate to the strengthening of environment monitoring, decentralisation and synchronisation of the institutions created. Accordingly, the focus areas highlighted are the following.

1. Strengthening of environmental monitoring, improving the quality of water resources, air quality, noise monitoring network, and initiating measures for solid waste management, especially setting up

of more Common Bio-Medical Waste treatment facilities (CBMWTF) are the major focus areas recommend for the Pollution Control Board.

2. Decentralisation and skill development of BMCs, ecosystem conservation, rejuvenation and management, biodiversity and livelihood enhancement, strengthening the scientific base of biodiversity conservation, and ensuring access to and benefit-sharing (ABS) of bio-resources are recommended for Biodiversity Board.
3. Expansion of *Bhoo Mithra Sena* Clubs (BMCs), strengthening of the DoECC, revision and implementation of SAPCC, strengthening of the Institute for Climate Change Studies (ICCS), establishment of State-wide Data Base Management System (DBMS), updating of management action plans of all the Ramsar sites, and streamlining of Coastal Zone Management measures are recommended for the DoECC in the 14th Five-Year Plan.

Key initiatives proposed by the Directorate of Environment and Climate Change in 14th Plan include.

1. Expansion of *Bhoo Mithra Sena* Clubs (BMCs) and incentivisation of low-carbon initiatives and adaptation practices.
2. Empowering local bodies to address the environmental issues in their planning process.
3. Strengthening of the State Climate Change Cell and the Directorate of Environment and Climate Change.
4. Preparation and implementation of integrated management plans for major sites and declaration of more Ramsar wetlands of international importance.
5. A wetland-specific local/regional governance-cum-supervisory body and a project management unit (PMU) for the three Ramsar wetlands selected for implementing integrated management plans.
6. A joint assessment of the effectiveness of waste management activities in Panchayats adjoining wetlands to be undertaken with the LSG Department, the PCB and the Suchitwa mission.

The Biodiversity Board has mooted the following initiatives in the 14th Five-Year Plan.

1. Biodiversity conservation and restoration through Biodiversity Management Committees, including preparation and piloting of local biodiversity action plans, ecosystem conservation, rejuvenation and management.
2. Strengthening of biodiversity research and knowledge hubs, including biodiversity documentation/monitoring, and climate change adaptation and mitigation.
3. Sustainable use of bio-resources and livelihood improvement through access and benefit-sharing.
4. Strengthening of the Biodiversity Board and public awareness programmes.

The initiatives proposed for the PCB in the 14th Plan include the following.

1. Strengthening of environmental monitoring including of water resources, air quality and noise levels by upgrading laboratories and surveillance.

## **7.2 DISASTER MANAGEMENT**

### **Overview**

Kerala is prone to 17 Natural Hazards and 22 Anthropogenic Hazards that have disaster potential. Disaster management in Kerala has a long history. It was part of crisis management, a post-disaster activity. For that matter, the all India scenario was also similar. Only after the tsunami of 2004 did disaster management gain serious attention, and the Government of India started framing a policy for a more comprehensive and proactive approach. The Kerala State Disaster Management Authority (KSDMA), a statutory non-autonomous body under the chairmanship of the Chief Minister of Kerala, coordinates disaster management activities. KSDMA has the motto of 'Towards a Safer State'. Institutional mechanisms for disaster risk reduction have developed significantly during the 13th Plan period as compared to the 12th Plan. During the 13th Plan period KSDMA was involved in the

management of the Puttingal fire cracker accident, Cyclone Ockhi, Nipah epidemic control, the floods and landslips of 2018 and 2019, and then COVID-19.

There have been conceptual changes, and accordingly the approach to disaster management has changed. A stand-alone reactive measure to cope with emergencies and provide relief has now yielded place to a proactive, comprehensive approach to address all aspects of a disaster cycle. This covers strategic issues like preparedness, resilience, risk reduction, mitigation, reconstruction, and recovery reactive issues like response and relief. The thrust on disaster risk reduction (DRR) perhaps began with the UN initiatives in 1987 when the General Assembly earmarked the period of the 1990s as the International Decade for Natural Disaster Risk Reduction (IDNDR). Since then, there have been three World Conferences on disaster risk reduction, in 1994 (Yokohama), 2005 (Kobe), and 2015 (Sendai). The Paris Agreement sets out a global framework to avoid dangerous climate change by limiting global warming to well below 2°C and pursuing efforts to limit it to 1.5°C. Since 2015 the landmark UN agreements, the Sendai Framework, the Paris Agreement and the Sustainable Development Goals (SDG), have set the agenda for reducing risks associated with all hazards and unsafe conditions. The central core of these agreements is the idea of sustainable and equitable economic, social, and environmental development. Importantly, strong linkages across the agreements will help identify and reduce systemic risks, and promote sustainable development.

The 13th Plan period (2016-2021) will perhaps go down in history as the period when there was a disaster every year, and the State passed through a trying time. There were climatic and water-related hazards and also biological hazards. These included the drought (2016), Cyclone Ockhi (2017), Nipah virus (2017), flood (2018), post-flood draught (2019), flood (2019), COVID-19 (2020 and 2021) and Cyclone Tauktae (2021). Besides, there were landslips during every monsoon. Ockhi in 2017 was a very severe cyclonic storm with the highest wind speed hovering around 155 km an hour (3 minutes duration) and 185 km/h (1 minute duration). This storm originated from a low pressure area that formed over the southwest Bay of Bengal. It caused severe damage. The year 2017 also witnessed the Nipah virus outbreak, causing a serious health hazard. The flood in 2018, declared as a national calamity, was devastating, covering virtually the entire State and causing an estimated loss of Rs 31,000 crore, apart from the loss of human lives. It was one of the events that would recur once in 100 years. A similar flood had affected the State in 1924, which is now part of folklore. Kerala's performance in tackling the 2018 flood was exemplary and drew world attention. The Government machinery, NGOs, students and common people across the social groups worked in tandem like a well-oiled machine and delivered humanitarian service. It was unprecedented and set a new standard for other States to emulate.

### **13th Five-Year Plan**

#### **Thrust of 13th Five-Year Plan**

The thrust of the sector during the 13th Plan period was the development of a comprehensive and integrated approach to disaster management. The initiatives of Local Governments are essential for the promotion of a safety culture and regular safety audits. In the context of Kerala, community-based disaster risk reduction or community-based disaster management can be understood as LSG-based disaster risk reduction or LSG-based disaster management. This will provide a more accountable and institution-based blueprint for disaster management at all levels.

In the 13th Five-Year Plan, an amount of Rs 3,776.00 lakh was provided as Plan assistance and Rs 8,508.06 lakh was expended (including expenditure of multipurpose cyclone shelters in 2017-18 (year-wise outlay and expenditure shown in Table 7.2).

Table 7.2 Plan outlay and expenditure, 2017-18 to 2021-22, Rs in lakh

Year	Budgeted Outlay	Expenditure
2017-18	750.00	5,556.16
2018-19	750.00	424.99
2019-20	750.00	435.00
2020-21	750.00	1,273.35
2020-21	750.00	818.56
Total	3,776.00	8,508.06

Source: Planspace, Kerala

### Key achievements in the 13th Plan

During the period, when the State faced historic disasters like Drought 2016-17, Cyclone Ockhi 2017, Floods 2018 and 2019, COVID-19 and Cyclone Tauktae 2021, KSDMA had led the response, rehabilitation and mitigation actions which included

**Community based disaster risk reduction.** Disability Inclusive Disaster Risk Reduction training programmes were initiated. Training was given in disability friendly evacuation, alerts and warnings in sign language, audio warnings in DAISY format and IEC materials in Braille format.

**Training of volunteers.** Creation of Civil Defence teams in all the 14 districts, and support and training to volunteers. Creation of India's first Government-level Samoohika *Sannadha Sena* for voluntarism, providing training to volunteers, and Emergency Response Teams of Local Governments.

**Strengthening initiatives.** Strengthening the State Disaster Response Force, the Fire and Rescue Services, and the network of Emergency Operations Centres, besides-establishing District Emergency Operations Centres in all districts.

**Strengthening instrumented monitoring and science and technology for disaster risk reduction.** Landslip susceptibility assessment and preparedness strategies, work in Thiruvambadi Grama Panchayat in Kozhikode District, supply chain logistics in Kuttanad taluk in Alappuzha District, drought-risk reduction in Vadakarapathy Panchayat in Palakkad District, monitoring and forecasting weather, flood forecasting, development of an integrated *Surakshaayanam* Portal and App.

**Mainstreaming disaster risk reduction.** Local Self Government Disaster Management Plans, Departmental Disaster Management Plans, Crisis Management Plans, Hospital Safety Plans, School Safety Plans.

**Updating hazard, vulnerability and risk assessment and updating District and State disaster management Plans.** A database has been created for use in decision support systems, new risk maps have been prepared and are to be used to revise State and District Disaster Management Plans.

**Risk transfer mechanism committee.** The Government constituted a Risk Transfer Mechanism Committee and it proposes a framework to mitigate the problem of natural disasters and their impact on the economy.

**Policy interventions.** UNICEF funded programmes, SPHERE India-funded programmes, UNDP-funded programmes, capacity-building programmes.

**Local Government disaster management Plans.** Decentralisation of disaster risk reduction and resilience building concepts to Local Governments that have completed preparing disaster management plans.

#### **14th Five-Year Plan**

#### **Approach in the sector**

1. Kerala's record of social mobilisation for disaster relief and recovery is well-recognised. The efforts mounted by the Government and all sections of Kerala society, helped the State manage a series of back-to-back disasters that happened almost every year of the 13th Plan. This record and capacity are valuable for the future.
2. The State will pay greater attention to preventive action for disaster risk mitigation, especially to engineer solutions that integrate local environmental and ecosystem characteristics with the demands of social welfare.
3. Science and technology remain key to undertaking climate-resilient infrastructure development and management. The State has mapped disaster vulnerabilities caused by various hazards, through successive studies. These include a report (commissioned by the State Planning Board) on the causes of, and appropriate policy responses to, repeated extreme heavy rainfall events and subsequent floods and landslips.
4. The State Disaster Management Plan (SDMP) was formulated in 2016 in keeping with guidelines laid out by the National Disaster Management Authority (NDMA). NDMA revised and updated the National Disaster Management Plan in November 2019. The revised National Plan, and the Sendai Framework for Disaster Risk Reduction (2015-2030), seek to achieve coherence with other international agreements such as Sustainable Development Goals (SDGs) and the Paris Agreement on Climate Change (COP-21). The SDMA is currently in the process of updating the SDMP. Policy during the 14th Plan efforts will be guided by the updated SDMP. While preparing the SDMP, the following points need to be considered:
  1. **State Action Plan on Climate Change (SAPCC).** The Government of Kerala is currently preparing the State-Level Action Plan Report on Climate Change. SAPCC will help translate national strategy and policy into local actions, identify State-specific vulnerabilities and prepare an integrated plan for adaptive actions. SDMA needs to integrate its proposals with SAPCC while preparing the SDMP.
  2. **Lessons from cyclone Ockhi and the floods.** There are significant lessons from the management of natural disasters subsequent to the SDMP of 2016. The new SDMP should identify and incorporate lessons from the risk mitigation and reduction experience. Lessons learnt from post-disaster management and recovery should help strengthen disaster preparedness in Government departments and agencies.
  3. **Local Governments and disaster management.** Kerala's success in social mobilisation through Local Governments played an important role in responding to natural disasters in the recent past. Mainstreaming disaster risk management into Local Governments through specific Local Government disaster-management plans can help this process. The 14th Plan will support efforts to build local community capacity through training and by providing physical and communication infrastructure.
  4. **Resilient infrastructure.** Power, transport, and communication infrastructure play a critical role in undertaking disaster response. The 14th Plan will support efforts by SDMA to develop a comprehensive agency-level disaster management and recovery plan for electricity, transport, and communication.
  5. **Digital and spatial technology.** The Government of Kerala has invested in cutting-edge spatial technology, including Continuously Operating Reference Stations (CORS). Most developed countries use CORS for disaster management planning and response. A new SDMP should include methods to use these technologies to help our efforts to build a disaster-resilient and

responsive Kerala.

### **Objective**

The 14th Plan shall focus on achieving, by 2030, the following seven targets of the Sendai framework in light of the AR6 report of Intergovernmental Panel on Climate Change (IPCC).

1. Decreasing Disaster Mortality
2. Reducing the number of affected people
3. Cutting economic losses
4. Containing infrastructure damage 5) Stepping up national/local strategies for disaster risk reduction (DRR)
5. Increasing international cooperation
6. Filling up EWS and DR information

### **Key initiatives proposed in the 14th Plan**

**Understanding risk.** The main activities include those concerned with the Science and Technology Experimentation Fund and Innovation Fund, co-developing and customising the open source disaster risk reduction decision support software tool risk changes, developing a disaster damage and loss database, environmental monitoring in schools to promote DRR education, procuring coastal bathymetric data of Kerala, supporting the Geological Survey of India in developing a landslip early warning system, supporting the Water Resources Department in developing a flood early warning system, supporting research institutions in maintaining a seismic monitoring network, supporting the India Meteorological Department in maintaining an automated weather station network, developing spatial tools to calculate the disaster damage potential of houses, updating drought susceptibility and Major Accident Hazards (MAH) accident susceptibility maps.

**Strengthening disaster risk governance.** Mainstreaming disaster risk management in development planning, deployment of a special task force to assess resilience capacity improvement, create a Risk Mitigation Cell, strengthen Risk Lab, creation of flood management plans, update the State Disaster Management Policy, mainstreaming Local Self Government Disaster Management Planning, preparing Departmental Disaster Management Plans, inclusive Disaster Risk Reduction, comprehensive drought preparedness and mitigation plan.

**Investing in disaster risk reduction for resilience.** Construct and amend facilities in schools identified as multi-purpose emergency shelters and improve access to such shelters, create a disaster mitigation plan, promote Miyawaki forests for coastal protection and implement pilots, promote lightweight construction practices using eco-safe materials, promote safe construction practices in landslip and flood-prone areas, exploring risk transfer possibilities of Below Poverty Line families who have borrowed funds.

**Enhancing disaster preparedness for effective response.** Community-based disaster risk management, improving climate change assessments, early warning systems and emergency response systems, resilient homes and disaster literacy campaigns.

## **7.3 SCIENTIFIC SERVICES AND RESEARCH**

Science and Technology have created a phenomenal impact in shaping the lifestyle of mankind everywhere. The role of science and technology as an important element of national development is well-recognised. To derive maximum benefit from limited resources, Science and Technology must be brought into the mainstream of economic planning in agriculture, industry and service sectors. Science,

Technology and Innovation (STI) are key drivers of economic growth and human development. Innovations based on S&T help us achieve resource efficiency. It enables us to ensure that the benefits reach all sections of society.

One of the significant dimensions to the growth of science and technology is the development of a scientific temper among people. This promotes a rational and scientific thought process while overcoming superstitions and irrational practices. It helps in promoting tolerance to differing ideas, and fosters creativity and progress. This will deepen and invigorate people's participation and support for developmental initiatives of the Government.

The other relevant area in this respect is the linkage between technology and production. It requires active partnership between industry and academia, especially in scientific and technical education. Some effort has been made to link these with research and development to lower the gap between capacities in the technological higher education sector.

Inclusive development in the field of science and technology contributes to the growth process of a country. Innovation is a major driver of growth and it has the potential to remove inequalities in income and opportunities. The technological growth of a country significantly reduces unemployment and inequalities and improves income distribution.

The Department of Science and Technology, Government of Kerala plays the key role in the promotion of science and technology and provides research and development support to scientists of various institutions and disciplines.

It helps to identify and implement programmes to achieve excellence in Science and Technology and to provide service to society at large. Its mission includes capacity-building in academic and research institutions and research and development through R&D centres. It aims at identification and facilitation of projects and programmes in the biotechnology sector, conservation and sustainable use of biological resources, and augmentation of laboratory and scientific infrastructure in educational institutions and research centres. The nurturing of young talent and promoting them to take up projects, activities, research and development in the field of science and technology, promoting innovation at the grassroots-level and development of rural technology for the benefit of the masses, development of incubators for translational research, technology transfer and pilot-scale development of industrial applications, and high-priority areas of research are also part of the mission for the Department.

#### **Science and Technology Sector in the State**

The major institutions under the Plan in the Science and Technology sector are the Kerala State Council for Science, Technology and Environment (KSCSTE), Institute of Advanced Virology (IAV) and the Regional Cancer Centre (RCC), Thiruvananthapuram.

KSCSTE drives research and development efforts through various scientific programmes and R&D centres under it. Its main objective is to plan and formulate science, technology and innovation policy and connected initiatives and programmes pertaining to the development of the State. It promotes and activates programmes for increasing the stock of knowledge in science, and fine-tunes policies that are significant for the sustained development of humanity. The Council prepares the road map for the development of the Science and Technology sector through scientific research and innovation in technologies.



The R&D centres under KSCSTE are; Kerala Forest Research Institute (KFRI), National Transportation Planning and Research Centre (NATPAC), Centre for Water Resources Development and Management (CWRDM), Jawaharlal Nehru Tropical Botanic Garden and Research Institute (JNTBGRI), Kerala School of Mathematics (KSoM), Srinivasa Ramanujan Institute for Basic Sciences (SRIBS), Malabar Botanical Garden and Institute for Plant Sciences (MBGIPS) and Institute of Climate Change Studies (ICCS).

CWRDM caters to R&D requirements in the field of water management. KFRI is envisioned as a Centre of Excellence in Tropical Forestry. KSoM is an institution meant for advanced learning and research in Mathematics. NATPAC is a premier R&D institution that works on multi-modal systems of transportation covering road, rail, water, and air. JNTBGRI was established with the objective of establishing a conservatory botanic garden of tropical plant resources. It undertakes research programmes for the sustainable utilisation of resources. SRIBS act as a capacity-building organisation in academic and research areas of basic sciences. MBGIPS is dedicated to the conservation of and research in aquatic plant diversity, lower group plants, endangered plants of the erstwhile Malabar region, as well as disseminating knowledge on various facets of plant sciences. ICCS is envisioned for integrated research, technical support and capacity-building in all aspects of climate change issues.

Integrated Rural Technology Centre (IRTC), Sophisticated Testing and Instrumentation Centre (STIC) and M.S. Swaminathan Research Foundation (MSSRF) Regional Station, Wayanad are the grant-in-aid Institutions under KSCSTE.

Regional Cancer Centre (RCC) is an internationally recognised centre providing facilities for cancer diagnosis, treatment, palliative care and rehabilitation, and undertakes major research and development activities in cancer care. The vision of RCC is to emerge as a global leader in cancer control.

The Institute of Advanced Virology (IAV) is envisioned as an institute of global standards networking Global Virology Institutes with the most modern laboratories focusing on research, diagnosis and management of emerging and re-emerging infectious viral diseases. It will be a centre of excellence to work in collaboration with international institutions for training and education in the context of research covering basic science and translational research, providing scientific inputs to enable the prevention and control of viral infections.

In the long term, the vision for a science and technology sector in Kerala is to transform the institutions in the State into world-class scientific research institutions.

### **13th Five-Year Plan**

The projects under the 13th Plan were planned for the promotion, support and popularisation of a S&T approach and focused research programmes for the growth and development of Kerala. It proposed to encourage high-quality research to take the State to a higher-level in research. Introduction of schemes in nanotechnology and biotechnology to address issues such as pollution, waste management and better life care were also envisaged. State-level investment in science and technology in the 13th Plan aimed to improve the capacity of the State to attract investment, develop local resources, and facilitate innovation. The major focus was on scientific research carried out in research institutions, university centres, and college departments recognised as research centres. The State's efforts complimented Central support for science and technology.

### **Thrust areas**

1. Strengthening of an appropriate system of regular reviews and quality output in keeping with national and global best practices. Periodic review of existing projects and screening for continued funding.
2. An adequate system of peer review, project evaluation, and timely delivery must be ensured for research projects, research grants, and fellowships granted by the KCSSTE.
3. Enhance cooperation with Centrally-funded institutions in the State as they can augment the capacities of State-level S&T institutions, and development in general.
4. Improving industry-academia-Government links that drive the growth of S&T-based value-addition in the industrial sector and the close connections between research institutes and the university sector.
5. The Government to promote coordination and collaboration between research institutes and the higher education system.
6. A diverse and inclusive human resource base is of much value for S&T. The Government supports all efforts to improve women's participation and participation by persons from the Scheduled Castes and Tribes in the S&T sector.

### Outlay and expenditure

Table 7.3 Year-wise budgeted outlay and expenditure for the sector in the 13th Five-Year Plan, in Rs lakh

Agency	2017-18		2018-19		2019-20		2020-21		2021-22		13th Plan	
	Outlay	Exp	Outlay	Exp	Outlay	Exp	Outlay	Exp	Outlay	Exp	Outlay	Exp
KSCSTE	109.07	90.89	106.48	50.07	102.58	20.02	76.64	55.96	81.64	60.34	476.41	277.28
RCC	66	49.11	72.6	78.91	72.6	27.77	71	18.39	71	46.82	353.2	221
IAV	0	0	15	0.27	50	14.35	50	23.05	50	24	165	61.67
Total	175.07	140	194.08	129.25	225.18	62.14	197.64	97.4	202.64	131.16	994.61	559.95

Source: Planspace

In the 13th Plan, Rs 994.61 crore was earmarked to the Science and Technology sector in taking forward the vision of the State in science and technology development through various focused research, development and allied activities which are beneficial to society as a whole. The total expenditure reported was Rs 559.95 crore (56.29 per cent). Various schemes and programmes implemented in the sector help researchers in enhancing their capabilities to improve the quality of research output and motivating talented youth to higher academic spheres and research in science.

### Achievements during 13th Five-Year Plan

In the 13th Plan period, KSCSTE implemented various schemes for promoting human resource development, infrastructure strengthening, technology development and innovation, science popularisation, ecology and environment, biotechnology development. The major accomplishments of 12th and 13th Five-Year Plans of KSCSTE are given in Table 7.4.

Table 7.4 Comparison of achievements of KSCSTE during 12th and 13th Plans

Sl No.	Item	KSCSTE HQ		CWRDM		NATPAC		JNTBGRI		KFRI		MBGIPS		KSOM		SRIBS	
		12th FYP	13th FYP	12th FYP	13th FYP	12th FYP	13th FYP	12th FYP	13th FYP	12th FYP	13th FYP	12th FYP	13th FYP	12th FYP	13th FYP	12th FYP	13th FYP
1.	Patents filed	50*	67*	1	2	0	0	10	0	0	0	0	0	0	0	0	0
2.	Other IPs generated/Products/Methods	0	0	0	0	0	0	4	7	0	0	0	0	0	0	0	0
3.	Patents granted	2*	20*	0	0	0	0	0	1	0	0	0	0	0	0	0	0
4.	Papers in refereed journals	1002*	1694*	107	143	19	34	375	346	293	156	36	39	6	30	0	0
5.	Books/Chapters in Books published	27*	175*	56	66	0	1	77	101	24	83	13	3	0	0	0	0
6.	Papers in Conferences	947*	1343*	178	126	80	89	424	249	8	134	0	13	0	2	0	0
7.	Ph.D. awarded	82*	235*	8	14	0	0	43	61	20	18	0	7	0	2	0	0
8.	Training Programmes conducted	29	63	147	90	333	170	9	34	130	34	5	4	34	21	0	0
9.	Outreach programmes organised	742	528	88	56	10	11	34	19	51	7	4	1	30	39	35	22
10.	Technologies	8*	21*	2	5	0	0	0	3		13	0	0	0	0	0	0

	commercialised/transferred																
11.	GenBank Submissions/plant accession	27*	0	0	0	0	0	90	95	792	1000	14	565	0	0	0	0
12.	Awards/Honours	25*	39*	12	14	2	3	58	16	3	5	12	6	0	0	0	0

Note: \*Supported through the Schemes and Programmes of KSCSTE

Source: Kerala State Council for Science, Technology and Environment (KSCSTE)

## R&D institutes under KSCSTE

Major accomplishments of constituent institutes during the 13th Plan are as follows.

### 1. Kerala Forest Research Institute (KFRI).

1. Readmitted as a member of the Asia-Pacific Association of Forestry Research Institutions (APAFRI), with rights to vote in its General Assembly.
2. Established Regional-cum-Facilitation Centre – Southern Region (RCFC-SR) in 2018, a one-stop point for matters related to the medicinal plants sector in the southern region.
3. Established Field Research Station at Malakkappara in 2017.
4. Opened KFRI-Nodal Centre for Biological Invasions (KFRI-NCBI) in February 2018 with mandate to counter threats from io-invasive species in forested and non-forested landscapes.
5. Centre for Citizen Science and Biodiversity Informatics established.
6. Centre for Analytical Instrumentation-Kerala (CAI-K) established.
7. DNA bar coding of economically important bamboo spices standardised.

### 2. Centre for Water Resources Development and Management (CWRDM).

1. Developed regional flood frequency model for east-flowing rivers in Kerala.
2. Coordinated preparation of District Irrigation Plan for Palakkad and Idukki Districts under Pradhan
3. Mantri Krishi Sinchai Yojna (PMKSY).
4. Prepared Hydrological Information System for the river basins in Kerala.
5. Completed Water Security Plan for 13 Grama Panchayats for Jananidhi Project-Phase II in Malappuram, Kozhikode and Kasaragod Districts.
6. Developed irrigation schedule for coconut and pepper for different agro-ecological zones.
7. Conducted tracer study on origin of suspected contamination of well-water in Kannur.
8. Published 35 papers in referred journals, two books, 30 papers in conference, produced five Ph.Ds.

### 3. Jawaharlal Nehru Tropical Botanic Garden and Research Institute (JNTBGRI).

1. Development and maintenance of a major conservatory botanic garden.
2. Publication of a status report on the endemics of the Western Ghats.
3. Authentic information on the economically important plant resources of the Western Ghats.
4. Phytochemical/drug prospecting and gene prospecting leading to identification of useful plant molecules, genes and drug precursors.
5. Identification/formulation of plant based and microbial value-added products for sustainable utilisation.
6. Organisation of regular multidisciplinary training programmes on bioresource conservation and utilisation benefiting the scientific and local communities.
7. Conducted ethno botanical survey in the coastal areas of select Panchayats in Thrissur.
8. Published 10 journal papers, awarded seven Ph.Ds., and undertook a number of externally funded projects

### 4. National Transportation Planning and Research Centre (NATPAC).

1. Air Pollution Index of the State developed.
2. Developed traffic growth rate model for national highways in the State.
3. Devised a system for emergency vehicle priority for the operation of ambulances.
4. Prepared GIS-based information system for waterways in Kerala.
5. Conducted a study on the impact of duration of flooding on different layers of flexible pavements of flood-prone roads in Kerala.

6. Carried out 31 research/19 consultancy projects and five need-based/innovative studies.
7. Published 22 journal and 16 seminar papers.
- 5. Malabar Botanic Garden and Institute for Plant Sciences (MBGIPS).**
  1. The United Nations University-Institute for Advanced Studies (UNU-IAS), the academic and research arm of the UN, recognised MBGIPS as the Regional Centre of Experts (RCE) in sustainable education.
  2. As part of the *Haritha Keralam* Programme, MBGIPS and Kozhikode Block Panchayat in association with Forest Department raised 50,000 seedlings of forest trees and fruit crops in 33 beds, which were distributed to the public.
  3. Introduced 487 plants to the garden flora.
  4. Established the micro-propagation and reintroduction of five RET plants and 24 gene-bank submissions of oil-degrading bacteria and algae.
  5. New research facilities and new conservatories, and upgradation of existing conservatories
  6. Bio-fortification Garden developed, demonstrating vitamin sources in plants.
  7. Established a conservatory exclusively for carnivorous and aromatic plants.
  8. Established a pond for the germ plasma collection of *Nymphaea* and initiated beautification works by planting different varieties of *Heliconia* in this section.
  9. Established a germplasm collection of *Musaceae* and *Zingiberaceae* and a conservatory for ginger varieties.
  10. Established central nursery and Butterfly Park.
- 6. Srinivasa Ramanujan Institute of Basic Sciences (SRIBS).**
  1. Academic activities such as workshops, colloquia, seminars.
  2. Conducted colloquium on spectroscopy and workshop on Photonics
  3. Conducted eight webinars with the participation of eminent scientists from various institutions.
  4. Organised 27 programmes with the participation of eminent scientists from various institutions. Altogether 1,620 students, researchers and teachers in basic sciences benefitted.
- 7. Institute for Climate Change Studies (ICCS).**
  1. Executed Memorandum of Understanding (MoU) with Indian Institute of Technology Madras (IITM) for academic and research collaboration in areas of mutual interest.
  2. Installed full-fledged automatic weather system (AWS) observatory with the help of IMD.
  3. Established WRF-based rainfall forecast over Kerala at special resolution of 9 km.
  4. Developed cloud-micro physics based experimental nowcasting techniques regarding extreme rainfall events over Kerala.
  5. Climate Change Knowledge Cell established at ICCS with the support of National Mission on Climate Change.
  6. Prepared and issued climate statement of Kerala for 2021.
- 8. Kerala School of Mathematics (KSoM).**
  1. Started integrated MSc-PhD programmes (3) in 2020, an advanced training programme leading to doctoral studies.
  2. Conducted 11 research workshops, four international conference and training programmes for teachers (27)
  3. Published 17 articles in international journals and 5 pre-prints.
  4. Organised Advanced Instructional Schools (AIS) on advanced research topics targeting research scholars, and three Advanced Foundational Schools (AFS) targeting fresh research scholars in Mathematics.
- 9. Regional Cancer Centre (RCC).**
  1. Construction of 14-storey building
  2. Commissioned True Beam Linear Accelerator at a cost of Rs 20 crore and Vital Beam Linear Accelerator at a cost of Rs 14.64 crore.
  3. 23 ongoing research programmes and 30 ongoing doctoral research programmes

4. The total number of registered cases during the period 2015-16 to 2020-21 is 91,032. In 2020-21, a total number of 11,191 new cases were registered which was 27.7 per cent lower than previous year. This may be attributed to the COVID-19 pandemic. In 2019-20, the new cases registered were 15,474.
5. Key contributions in social and community engagement:
  1. During Covid period, decentralised cancer care to all districts through district and Taluk Hospitals), and supplied drugs to patients' doorsteps through the Fire Force
  2. Established cancer treatment in Kanyakumari Government Medical College for RCC patients
  3. Spearheaded cancer control activities of the State
  4. Developed innovative low-cost screening strategies suitable for low and middle-income countries in common cancers such as oral, breast and cervical cancers
  5. State-of-the-art treatment with multi-disciplinary collaboration.
  6. Community-based outreach programmes
  7. Pioneer in telemedicine for cancer control and part of e-sanjivini programme
6. Diagnostic and treatment facilities added during the 13th Plan period were three anaesthesia workstations and four ICU ventilators, Integrated Bipolar and Ultrasonic Cutting and Coagulation Units, Digital Radiography and Fluoroscopy system, Supersonic USG machine with Elastography, Fourier-Transform Infrared Spectrometer, Equinox Telecobalt machine, Dexa Scanner, Plasma Steriliser, Electrical Drill Unit, and Video Endoscopy System
7. 549 articles (470 in indexed, peer-reviewed journals) 46 chapters in books and 15 PhDs.
- 10. Institute of Advanced Virology (IAV).**
  1. The Institute, virtually inaugurated in October 2020, is affiliated to the Global Virus Network, which has 45 centres of excellence in over 29 countries.
  2. Completed Phase 1A building in 28,000 sq ft with physical infrastructure.
  3. Established six fully equipped BSL-II clinical laboratories.
  4. Established Common Instrumentation Facility with high-end equipment.
  5. Established Advanced Molecular Diagnostic Facility (with capacity to detect 60+ viral infections).
  6. Completed construction of Phase IB building.
  7. Clinical virology and viral diagnostics divisions became operational.
  8. Initiated steps to establish diagnostic facility for airborne pathogens.
  9. Started diagnostic services by giving directions to five medical centres for providing samples to IAV for diagnosis of dengue, chikungunya and Zika.
- 11. Women empowerment in science and technology.**
  1. 3,107 registrations (as on March, 2021) completed in the online directory to create a database of 'Women in Science in Kerala' with base-line data on the status of women in various sectors of science.
  2. 10 Back-to-Lab projects were sanctioned as part of Programmes for Women in Science in 2020-21.
- 12. Human resource development in S&T.**
  1. *Emeritus Scientist Scheme.* Grants to 12 Emeritus Scientists, published 17 papers in referred journals, produced 11 Ph.Ds, 28 new technology/findings.
  2. *Prathibha Scholarship Programme.* 48 new scholarships, 191 scholarships to in UG and PG streams, granted.

#### **Critical gaps**

The Kerala Development Report, 2021 identified the following areas of improvement for Science and Technology sector.

1. Indian science and technology increasingly present the picture of an inverted pyramid, a substantially advanced infrastructure that rests on a fairly weak base.
2. The weak link between technology research and its relation to actual production
3. The concern on quality across various levels of education, research and application of knowledge and technology
4. Inadequate linkages and arrangements of collaboration between Kerala-based institutions and those in the rest of the country and the world. Also, weak collaboration with industry and private sector investments in advanced studies and applied research.

Critical gaps identified in the S&T sector during 13th Plan include the following.

1. Availability of data is critical in conducting research and analysis. However, most of the time sufficient data is not available as there is no concrete data-sharing policy in the State S&T sector.
2. Various departments engaged in the implementation of schemes/projects require inputs from research activities/analysis on specific projects/issues. The R&D centres in the State seem to be not the first choice for these Departments and they get it executed through external agencies even outside the State.
3. Inter-departmental coordination needs to be increased to avoid overlapping or duplication of activities. Specifically, there are lots of redundancies between the programmes of the S&T Department and the Higher Education Department.
4. Non-functional institutions need to be weeded out.
5. The Central instrumentation facilities set up in various institutions/universities are not open to researchers or academia from other institutions. Though huge investment is involved with the support of various national funding agencies, the facilities are often underutilised.
6. There is no database on the human resources and PhDs produced in S&T from various universities/Central institutions in Kerala. Hence, an information portal similar to Vidwan, the portal launched by CSIR, needs to be established.
7. There is a need to provide greater autonomy to R&D institutions and simultaneously improve their governance through independent research committees and peer review mechanisms.

#### **Some of the major challenges faced by the S&T sector**

1. *Inadequate numbers of institutes of repute to attract talent.* Retention and attraction of talent is essential to improve the quality of the R&D activities in the State.
2. Science research institutions need to attract senior research leadership to build institutions of repute.
3. Big-budget research and development projects need to be pursued with limited resources. Without strengthening infrastructure facilities, it is difficult to attract scientists, doing world-class research.
4. *Interface between industry, R&D institutions and academia missing.* A proper platform to enhance industry-academia collaboration is lacking. Industry interface in the process of research area selection is absent. A road map for creating a forum to look at industry tie-ups with research institutions is needed.
5. *Financial support inadequate for the S&T sector.* India's Gross Domestic Expenditure on R&D (GERD) is low in comparison to the developed nations and even other similarly placed countries.

#### **14th Five-Year Plan**

##### **Approach in the sector**

1. Science and technology are central to Kerala's future growth. The 14th Five-Year Plan will encourage programmes of research and innovation that are fine-tuned to the needs and potential of the State.
2. Focus on building a robust science, technology, and innovation ecosystem in the State. The Government will encourage greater collaboration among academic and research institutions, Government, and industry.

3. Stronger links between Central and State research institutions in Kerala, and between institutions in the State and elsewhere in India and the world need to be encouraged.
4. Efforts needed to strengthen scientific and technological innovations, and provide attractive research opportunities to students who want to pursue a research career in science in the State.
5. Investment needed in research infrastructure in research and educational institutions in the State.
6. Research institutions funded directly by the Government of Kerala through KSCSTE need to be strengthened
7. Need to develop scientific temper among youth and students through well-designed programmes, campaigns, meetings, and conferences.

The 14th Plan can focus on science popularisation and promotion, human resources development and upscaling Industry-R&D and Academia interface, international scientific collaborations and funding opportunities, innovation and entrepreneurship, science and technology education, technology development and indigenisation, building robust science and technology infrastructure – all with a monitoring, evaluation and feedback framework.

#### **Objectives of the 14th Plan**

The following objectives are drawn up for the 14th Plan period:

1. Academic, research, industry and Central and State Government collaboration to be enhanced. The linkages and collaboration between Central research institutions in Kerala and elsewhere in the country to be strengthened.
2. Attractive funding/incentives for Science and Technology start-ups
3. Strengthen scientific and technological innovations and provide attractive research opportunities to pursue careers in science.
4. Invest on world-class R&D infrastructure and facilitate accessibility of infrastructure among research and educational institutions
5. Strengthen directly funded research institutions under the Kerala Government by adopting best practices such as peer reviews to evaluate the impact, and fine-tune their mandate and focus.
6. Promote scientific temper among youth and students by engaging in Kerala-specific public concerns through informed programmes and conferences.

#### **Key initiatives proposed in the 14th Plan**

##### **KSCSTE.**

1. *Academia-Industry Meet (AIM)*. To conduct an Industry-Academia Conclave to bring together industries and academia/research centres on the same platform
2. *Action for Science to Society through Education and Training (ASSET)*. To design a scheme which takes science to society and envisages bridging the gap through education and training
3. *Engineering Support and Coordinated Research for especially talented children (ESCORT)*. To provide technical and financial support to carry out research in technological aspects in disability studies and provide engineering-oriented technical interventions to develop implements to aid and assist physically or mentally challenged children
4. *Projects for Research Oriented Solutions for Problems on Environmental and Regional Issues (PROSPER)*. To deliver science-led solutions, development and deployment of location-specific appropriate technologies for solving local problems and also for the creation and improvement of sustainable livelihoods, primarily for disadvantaged sections of the society
5. *Research Centre for STEM Higher Education Kerala (RCSHEK)*. Aims to upgrade the quality of science education, to adapt to rapid changes in science and engineering practices, such as machine learning in science, AI and robotics, and systems biology.

6. *Visiting Scientist Programme*. Envisaged to encourage reputed scientists/academicians working at national/international S&T institutions to visit and work in an S&T institution
7. *Climate Resilient and Ecologically Adapted Model Villages (CREAM Villages)*. To mitigate the vulnerabilities and consequences of climate changes as also associated/triggered disasters.
8. Programmes to enhance research on appropriate action for climate change management and adaptation strategy, tropical forestry and its societal importance, better solutions for water and environmental management and indigenous knowledge;
9. Bio-prospecting (phytochemical and drug prospecting) for medicinal and aromatic plants with the objective of bringing out phytochemical, biochemical and drug precursors of economic value.
10. Establishment of *ex situ* conservatories and Garden Development, Integrated Taxonomy and Conservation Biology, Sustainable Utilisation, Biotechnology and Bioinformatics, Capacity Building and Training, each with prioritised and multidisciplinary components of research.
11. Framework for effectively bridging the invention-innovation gap and ensuring sustainable development.
12. Integration of advanced technologies such as Artificial Intelligence and Machine Learning along with cloud infrastructure to suit the research environment of the State.

#### **RCC.**

1. Expansion of physical infrastructure
2. Augmentation facilities for early detection and treatment of general forms of cancer
3. Augmentation facilities for early detection and treatment of women-oriented cancer forms
4. Upgradation of training and research facilities
5. Upgradation of RCC as 'State Cancer Institute'

#### **IAV.**

1. Implementation of Flagship Programmes
2. Commencement of Academic Programmes
3. Establishment of A BSI-III Facility
4. Establishment of Experimental and Transgenic Animal Facility
5. Functionalisation of Phase IB Building
6. Establishment of Vector Research and Arthropod Biology Facility
7. Establishment of Tumour Virus Diagnostics Facility

#### **New initiatives already started during Annual Plan 2022-23**

1. *Digital Research and Information Platform for Science (DRIPS)*. Development of a digital platform for R&D management, which is a web-based interactive platform linking researchers, scientific infrastructure, human resources, databases, scientific programmes/schemes and institutions and research problems.
2. *Science and Technology Intervention, Incubation and Research for Raising Start-Ups in Kerala (STIRRUP-Kerala)*. An incubation-cum-innovation programme under KSCSTE which fosters innovation, research and entrepreneurial support activities. The programme focusses on facilitating a robust R&D ecosystem utilising the expertise of identified R&D institutes within and outside the country which can bridge the R&D gaps in the present start-ups ecosystem and enhance the success rate of start-ups.



## Chapter 8

### Transport

#### 8.1. ROADS, BRIDGES, AND ROAD TRANSPORT

##### Overview

Transportation is a critical aspect of economic infrastructure, and one that enhances the impact of the resources deployed in the productive sectors of the economy – Industry, Agriculture and Services. Well-developed and connected transport and logistics infrastructure drives economic development. Transportation systems should be responsive to people's needs and convenience and to cost considerations, and facilitate the movement of goods and people. They open up remote regions and enhance industrial, agricultural and other economic activities. Speed of mobility is a foundational feature of the modern industrial civilisation. It facilitates everyday commuting to work, global supply chains (thus leveraging competitive advantages and job-creation), tourism, and the economic rebalancing of uneven regional growth.

Kerala's transport infrastructure comprises 2.38 lakh km of road, 1,588 km of railways, 1,687 km of inland waterways and 17 non-major intermediate ports and one major (Cochin) port. There is a 585-km long coastal shipping route and four airports. There are water bodies like rivers, lakes, estuaries and backwaters providing adequate scope for the Inland Water Transport (IWT) system with a route length of 1,895 km to connect rivers to each other. Transportation by IWT is considered economical and environment-friendly. Coastal shipping is the mode suitable for most bulk commodities and long-haul traffic.

The percentage share of the transport sector to the State's GSDP in 2017-18 was 5.79 per cent, and it declined to 5.31 per cent in 2020-21. The overall trend pertaining to the transport sector during the period 2017-2021 reveals that economic activity in the sector was affected badly by the COVID-19 pandemic and the consequent nationwide lockdowns. The fluctuation and dip in the share in 2020-21 is primarily attributed to dented economic activity owing to the spread of COVID-19.

##### Road Transport Infrastructure in the State

##### Roads

The total road length in Kerala is 2.38 lakh km. This includes classified and non-classified roads as stipulated by the Indian Road Congress. Road density in Kerala is 548 km per 100 sq km in 2021, which is roughly three times the national average of 189 km per 100 sq km. The length of roads per lakh of population is 993.54 km, and almost 90 per cent of the road network is single-lane. The National Highways (1,781.5 km), considered the primary network, carried 40 per cent of the total traffic, and the State Highways (4,127.83 km) and Major District Roads (25,394.32 km), comprising the secondary road network, carried another 40 per cent of the traffic in 2021. Thus around 12 per cent of the network, handles almost 80 per cent of the traffic in the State.

The road network in the State is owned and maintained by different departments and agencies, including the National Highways Authority of India (NHAI), Public Works Department (PWD), Local Self Government Department (LSGD), Harbour Engineering Department (HED), Irrigation Department, Forest Department, and Indian Railways. Other agencies in the road sector are Roads and Bridges Development Corporation of Kerala (RBDCK), Kerala State Transport Project (KSTP), Kerala Road Fund Board (KRFB) and Road Infrastructure Company Kerala (RICK) Ltd.

Design, Research, Investigations and Quality Control Board (DRIQ Board), Kerala Highway Research Institute (KHRI) and National Transportation Planning and Research Centre (NATPAC) are the research organisations currently engaged in research and development in the sector.

According to the State Crime Records Bureau, 2,979 deaths and 30,510 injuries were reported in Kerala in 2020, from 27,877 road accidents. Up to August 2021, 20,818 accident cases were reported. Road traffic accidents are attributed mainly to driving, road condition, vehicle condition and environment. Road safety being a complex issue, it requires consistent, extended and concerted efforts from stakeholders to achieve the goals.

The number of electric vehicles registered in the State up to September 2021 is 4,742, which includes transport and non-transport vehicles.

### **Road transport**

Public transport activities are carried out by the Kerala State Road Transport Corporation (KSRTC) and the Motor Vehicles Department (MVD). KSRTC is rendering essential and economical transport services to the public. It aims to enhance its services and minimise environmental impact through digital governance steps and scientific fleet management. MVD envisions road safety and transparency, and seeks to enforce the Motor Vehicles Act effectively and to enhance tax revenue collection. Priority is given to road safety measures and to the control of automobile pollution. MVD is one of the significant revenue-earning departments of the Government.

### **13th Five-Year Plan**

The 13th Five-Year Plan focussed on the development of an extensive network of multimodal transport that is reliable, of good quality, affordable and appropriate to Kerala's unique geographical needs. The Plan was committed to strengthening a network of roads, railways, air and sea transport, and inland waterways in Kerala.

### **Thrust areas**

Providing a safe, economical, efficient, comfortable, clean, well-integrated, environment-friendly and sustainable transportation system for the current situation and for the future, was the approach during the 13th Five-Year Plan period.

1. Plan, develop and regulate transport and related infrastructure
2. Augmentation of transport networks and mobility systems
3. Improvement of rural transport and providing accessibility
4. Providing high-quality and reliable public transport services
5. Reduction in accidents and improved road safety
6. Promotion of non-motorised transport systems
7. Establishing an effective and efficient transport sector that results in economic growth
8. Mitigation of environmental pollution by promoting green transport options
9. Appropriate institutional mechanisms and capacity building.
10. Development of national highways, coastal and hill highways
11. Development of the core road network linking north-south corridors and State Highways
12. Quality control and training
13. Innovative technologies

### **Outlay and expenditure**

An amount of Rs 6,75,655.00 lakh was allocated for the Roads, Bridges and Road Transport sector (excluding other transport services) during the 13th Five-Year Plan, and the expenditure for the period stood at Rs 16,67,111.72 lakh, which is 2.46-fold in excess of the budgeted outlay. Roads and Bridges received a greater share from the total budgeted allocation for the transport sector.

Table 8.1 shows the budgeted allocation for various sub-sectors under the transport sector during the 13th Five-Year Plan Period and expenditure incurred by each sub-sector during the period.

Table 8.1 Budgeted outlay and expenditure of roads, bridges and road transport sector in the 13th Five-Year Plan, Rs in thousand lakh.

Sub-Sector	Budget Outlay					Total	Expenditure					Total
	2017-18	2018-19	2019-20	2020-21	2021-22		2017-18	2018-19	2019-20	2020-21	2021-22	
Roads and Bridges	135.1	145.4	136.7	110.2	91.0	618.5	239.3	240.2	248.5	343.8	158.9	1,230.6
Road Transport	8.3	9.1	10.2	14.8	14.8	57.2	87.1	71.7	99.4	176.2	2.2	436.6
<b>Total</b>	<b>143.4</b>	<b>154.5</b>	<b>147.0</b>	<b>125.0</b>	<b>105.8</b>	<b>675.7</b>	<b>326.4</b>	<b>311.8</b>	<b>347.9</b>	<b>520.0</b>	<b>161.0</b>	<b>1,667.1</b>

Source: Annual Plan 2022-23 Volume I (Accounts) and Planspace

### Achievements during 13th Five-Year Plan

#### Roads and bridges.

1. NATPAC had identified a list of 374 priority black spots all over Kerala. Out of 21 black spots for which administrative sanction has been issued from Plan funds 2018-19, 11 have been rectified and the rectification work of others are in progress.
2. 6,080 km of roads were upgraded with Bituminous Macadam and Bituminous Concrete (BM&BC), and 6,035 km roads were resurfaced with chipping carpet over the last five years.
3. The construction of 1,251.04 km of hill highways, providing access along the hilly areas from Kasaragod to Parassala, is progressing. Of the 25 reaches, KIIFB has accorded financial sanction for 18 for a total amount of Rs 1,506.24 crore. Work has started in seven reaches.
4. Construction on a 15-km coastal highway from Padinjarekkara to Unniyal in Malappuram District is in progress, and 52 per cent of the work has been completed.
5. During the last five years, road work on 512 km was done using plastic waste, and on 2,672 km using Natural Rubber Modified Bitumen (NRMB). Geotextiles were used along 50.4 km of roads for soil stabilisation.
6. Road construction by means of Full Depth Reclamation using cement and chemical stabiliser soil was done as a pilot project along the Anayadi-Pazhakulam-Koodal Road in Pathanamthitta District to a length of 5.9 km.
7. White-topping of road is being implemented under the City Road Improvement Project in Alappuzha District.
8. A Project Management Unit under the Kerala Road Fund Board (KRFB) has been established as a Special Purpose Vehicle for KIIFB-funded projects.
9. The Kerala Highway Research Institute (KHRI) was upgraded in June 2020 as a Centre of Excellence, with thematic areas such as Innovation in design/construction practices, road asset management, road safety management, quality assurance and contract management, and promoting indigenous research and development identified.
10. Administrative sanction was issued to implement road reconstruction works for Rs 3,346.09 crore under the Rebuild Kerala Initiative (RKI), utilising World Bank assistance of Rs 1,200 crore and KfW loan (German bank assistance) of Rs 1,800.00 crore.

11. PWD (Bridges Wing) maintains 2,716 bridges. At present there are 312 bridges where construction work is ongoing, 139 works under Budget allocations, 127 KIIFB projects, 15 NABARD projects, eight projects under the Kasaragod Development Package and 19 reconstruction works are under way.
12. The 13-km Kollam bypass work was completed in 2019 and the 6.80-km Alappuzha bypass work was completed in 2021.
13. Phase-I reach of the 1.5-km stretch of the Karamana to Pravachambalam road completed.
14. Under the Central Road Fund, 413.80 km of road work has been completed.
15. Under CRF, work on two bridges was undertaken, and 2.5-km-long approach road was built.
16. Construction of bylanes in Malappuram has been completed to a length of 660 metres.

#### **Road transport.**

1. Traffic crashes involving two wheelers dropped from 34,473 (94 a day) in 2018 to 16,970 (46 a day) in 2019.
2. Motor Vehicles Department introduced the Vahan and Sarathy online portals for vehicle registration and driver licence-related processes.
3. Commissioned a computerised Heavy Vehicle Testing Station in Kozhikode, computerised Driver Testing Tracks at Uzhavur and Muvattupuzha, and an automated Enforcement Control Room at Kozhikode.
4. Opened 13 Sub-Regional Transport offices.
5. KSRTC started 'Relay' point-to-point services on June 26, 2020 to facilitate long distance travel during the COVID-19 phase and Bus-on-Demand (BonD) service on July 2, 2020, and launched the mobile ticket booking app Ente KSRTC.
6. In 2020-21, 600 e-vehicles registered under transport and non-transport categories.
7. As part of enforcing motor vehicle rules and to ensure road discipline, MVD has dry-leased 65 energy-efficient e-vehicles from Energy Efficiency Services Ltd (EESL), through ANERT under the Safe Kerala project.

#### **Critical gaps**

##### **Roads and bridges.**

1. A new Transport Policy needs to be finalised.
2. Travel time and the number of traffic accidents have increased.
3. Land acquisition constraints for the development and widening of roads
4. Structural inadequacy of the roads to cope with recurring damages due to lengthy monsoon and heavy seasonal rainfall.
5. Inadequate scientific infrastructure for testing the quality of roads
6. Frequent road-cutting by various agencies
7. Encroachment of berms and shoulders of roads.
8. Poor pavement conditions/structural deficiencies of roads.
9. Bottlenecks in the completion of Hill and Coastal Highway projects.

##### **Road transport.**

1. Surge in fuel prices and fare hikes damaging the public transport industry
2. Traffic congestion
3. Lack of facilities for non-motorised transport
4. High numbers of private vehicles
5. Parking constraints
6. Road space encroachments
7. Lack of adequate first/last mile connectivity
8. Solutions for transport waste management aligned with vehicle scrapping policy.

9. Financial position of KSRTC has further deteriorated due to the COVID-19 pandemic.
10. Lack of modern checkposts
11. Overloading of freight vehicles

#### **14th Five-Year Plan**

##### **Approach in the sector**

Transportation is a critical aspect of economic infrastructure, and one that enhances the impact of resources deployed in productive sectors of the economy such as industry, agriculture, and services. At the State-level, Governments must take a long-term view of transportation planning, particularly in the context of adaptation to climate change and preparation for a “net-zero” emissions world.

The 14th Five-Year Plan will support the development of a multimodal transportation system with the core objective of enhancing the share of public transportation for passengers and freight movement. To facilitate this process, greater emphasis on more energy-efficient railways (urban and long-distance) and inland waterways is critical.

The State transportation policy will provide a road map for the development of an efficient, cost-effective, multi-mode, and equitable system for people’s mobility and the development of logistics systems to sustain trade and industries. The policy will help prioritise capital investment by balancing immediate concerns with long-term requirements.

The State Climate Change Plan will provide a road map for climate mitigation and adaptation. Support will be given for schemes in line with this plan to modernise the fleet with LNG/CNG and electric buses, and to improve the efficiency of the operations of KSRTC. Better passenger services support will be provided for using digital technologies.

##### **Objectives of the 14th Five-Year Plan**

Providing a safe, economic, green, well-integrated, efficient and sustainable transport system needs to be the main objective. To achieve this, we need to focus on areas such as:

1. An integrated transport and related infrastructure development and management.
2. Augmentation of transport networks and mobility.
3. High-quality and reliable public transport with enhanced rural connectivity.
4. Transport logistics and allied activities
5. Reduction in travel time and number of accidents, and improved road safety
6. Green mobility initiatives
7. Upscaling institutions and capacity-building.
8. An integrated Transport Policy to bring together all elements of the transport system across modes, sectors, operators, institutions.

##### **Key initiatives proposed in the 14th Five-Year Plan**

##### **Public Works Department (Roads and bridges).**

1. All State highways to be improved to four-lane standards in five phases of 700 km each.
2. All Major District Roads (MDRs) to be improved to two-lane standards in a phased manner
3. Junction improvements works
4. Rectification of NATPAC-identified black spots

5. Upgradation of Other District Roads (ODRs) to MDRs upon finalising the policy guidelines for takeover of roads by PWD
6. Improvement of rural roads under the NABARD scheme. Around 60 roads in the next five years.
7. Comprehensive project to provide an overview of the State's tourism potential
8. Road safety appurtenances including crash barriers, delineators, warning signs
9. Provide adequate facilities with connectivity to bus/metro terminals and tourist places
10. Disabled-friendly-tactile patches in cycle tracks and footpaths
11. Adoption of new construction technologies supporting the technical innovations and advancements (extradosed bridges, bowstring bridges, steel bridges.)
12. New proposals are to be approved by the Ministry of Road Transport and Highways (MoRTH) under the Central Road Infrastructure Fund (CRIF) schemes.
13. Carry out investigation and planning work for newly constructed bypasses, flyovers, bridges.

**Road transport.** The creation of a people-oriented public transportation facility with enhanced and efficient mobility and safety is the key goal in the road transport sector. The development of the road transportation industry should be guided by long-term objectives of enhanced share of public transportation, improved quality of service and reduction of fossil fuel dependence in line with India's commitment under Paris Agreement on climate change.

KSRTC, being the single largest public sector undertaking carrying out passenger transport operations by road in the State, is committed to providing people-friendly public transport focussing on affordability, reliability and efficiency. KSRTC is exploring possibilities to tide over the financial crisis it faces and the State will support these efforts of the corporation to revamp the public transport system in the State.

1. Development of infrastructure facilities in workshops by carrying out civil and related works, and modernisation of workshops by purchasing garage equipment. Depots and Passenger Terminals will be modernised in a phased manner.
2. Total Computerisation and e-Governance in KSRTC is proposed as a measure towards digitalisation of all transport services.
3. Improving staff productivity through training and capacity building programmes.
4. Replacing super-class buses over the next five years by purchasing BS-VI, Automatic Transmission, fully built diesel engine buses with better fuel efficiency and less pollution levels.
5. Viability Gap Funding for commercial development of KSRTC assets.

The Motor Vehicles Department aims at reducing road accidents, related injuries and fatalities by improving the road-user culture and broadening enforcement through innovative technologies, and envisions 'Accident Zero' roads by 2025. The MVD proposes to develop a seamless and integrated mobility matrix with a goal to improve the existing transportation system. It envisions encouraging sustainable and green mobility such as piloting a hydrogen ecosystem and promoting electric mobility in Kerala.

1. Road Transport Safety Measures include advanced technology solutions for smooth and hassle-free traffic through improved enforcement activities. The smart enforcement activities include digital enforcement, dash board cameras on MVD, KSRTC vehicles, GPS tracking devices and panic buttons in passenger transport vehicles.
2. E-governance schemes focus on the use of Information and Communication Technology (ICT) by MVD to provide and facilitates service and integration of various services/systems including –
3. Establishment of vehicle-cum-driver testing stations and computerised driver testing tracks to ensure transparency in driver testing through the innovative use of technology.

4. Modernisation of vehicle check posts, in contactless mode by using Automatic Number Plate Recognition (ANPR) cameras, FasTag, Radio Frequency Identification (RFID) and installation of weigh-in-motion bridges at GST checkpoints to monitor overloading of vehicles.
5. Setting up of Model Inspection and Certification Centres as per the guidelines of MoRTH.
6. Establishment of new Sub-Regional Transport Offices.
7. E Mobility Promotion Fund.
8. Development of an Intelligent Integrated Public Transport System (IIPTS) to provide stage carrier-related information to the public through LED display boards, and Transport Vehicle Tracking App for passengers' convenience.

#### **New initiatives**

1. MVD has sought to implement the 'Development, Customisation, and Management, State-wise Vehicle Tracking Platform for safety and enforcement as per AIS 140 specifications' of the Government of India to enhance the safety of women and girl children by equipping all public transport vehicles with Vehicle Location Tracking (VLT) devices and emergency buttons for real-time monitoring and tracking of vehicles in case of emergency.

## **8.2 INLAND WATER TRANSPORT**

### **Introduction**

Inland Water Transport (IWT) is a viable alternative mode of transportation. India has an extensive network of waterways in the form of rivers, canals, backwaters and creeks. The option of freight transportation by waterways is highly underutilised in the country as compared to some developed countries. India's hinterland connectivity is mainly based on road and rail to waterways. IWT in India has the potential to supplement the over-burdened railways and congested roadways. Shifting a part of freight load from roads/railways to waterways is crucial for the effective implementation of transportation policies. In addition to cargo movement, the IWT sector provides a convenient function in activities such as carriage of vehicles (on Roll-on-Roll-off, or Ro-Ro, mode of cross ferry), and tourism.

The National Waterways Act, 2016 has declared 111 inland waterways in the country as National Waterways to promote shipping and navigation. The Inland Waterways Authority of India (IWAI), an autonomous organisation under the Ministry of Shipping Ports and Waterways, is primarily responsible for the development, maintenance and regulation of stretches that have been declared as national waterways under the Act.

Waterways in the State include the arterial West Coast Canal (WCC) and feeder canals. The total potential length of the inland waterways system is 1,700 km. The length of the WCC is 616 km. There are 1,100 km of feeder/link canals connecting the WCC and important destinations such as commercial centres, ports and tourism spots. WCC has five sections: 1) Kovalam-Kollam (74.18 km), 2) Kollam-Kottappuram (Kodungallur) (168 km), 3) Kottappuram-Kozhikode (160 km), 4) Kozhikode-Neeleswaram (187.82 km), and 5) Neeleswaram-Kasaragod (41 km). The entire navigation canal system in Kerala can ensure sufficient water throughout the year and can be developed as Smart Waterways. Out of the total length of 616 km, three sections between Mahe and Valapattanam to a length of 26 km are uncut portions. Further extension for 41 km from Neeleswaram to Bakel is under consideration.

### **National waterways in Kerala**

As part of a Central Government scheme to develop waterways, the section of the West Coast Canal from Kollam to Kottappuram, and the Udyogamandal and Champakara canals were declared in 1993 as constituting National Waterway 3. NW-3 is now extended up to Kozhikode under the National Waterway Act, 2016.

After the National Waterways Act, 2016, three canals were declared National Waterways under Class 3 specifications, of 2.20 metres draught, 6 m vertical clearance and 32-40 m width. The National Waterways in Kerala are listed in Table 8.2.

Table 8.2 *National waterways in Kerala*

No	Route	Length (in km)	NW No.
1	Kollam-Kottapuram portion of WCC	168	
	Udyogamandal canal	23	
	Champakara canal	14	NW-3
	Kottappuram-Kozhikode portion of WCC	160	
2	Alappuzha-Changanassery	28	NW-8
3	Alappuzha-Kottayam-Athirampuzha	38	NW-9
4	Kottayam-Vaikom	28	NW-59
5	Poovar-Erayumanthurai AVM canal (major portion is in Tamil Nadu)		NW-13
	Total Length (excluding AVM canal)	459	

Source: Inland Waterways Authority, Kochi

## Departments/Agencies under the Sector

### State Water Transport Department

The State Water Transport Department is an essential service and caters to the traffic needs of the inhabitants of the areas in the Districts of Alappuzha, Kottayam, Kollam, Ernakulam, Kannur and Kasaragod facing water bodies. The Department handles about 160 lakh passengers per annum using wooden/steel/solar-based fibre glass passenger boats.

The Department is set to introduce the first fully solar powered station office at Vaikom. It is planning to purchase solar boats to replace old wooden boats in this region, to minimise operating costs and pollution. To transport dangerous and hazardous products, mainly chemicals and petroleum products, the Department has initiated a project to use the potential of National Waterways. It plans to procure five air-filled dinghy boats. Construction of double-deck passenger-cum-tourist vessels, designed for both commuters and tourists in Ashtamudi lake in Kollam District, is in the finishing stage. for ferry service commuters living in water-surrounded areas, the Department has decided to build four solar electric vessels with a capacity of 30 passengers.

### Coastal Shipping and Inland Navigation Department (CSIND)

The Coastal Shipping and Inland Navigation Department is involved in the infrastructure development of waterways and promotion of inland navigation in Kerala. It undertook work along the State waterways to make them navigable. A special boat is operated in the Parvathy Puthanar stretch from Kovalam to Akkulam canal and from Akkulam lake to Vettoor. It renovated/completed work on five stretches in Kollam canal (except the third reach) in the Eravipuram-Ashtamudi lake. The Varkala lake to Eravipuram Canal was made navigable. In the Vadakara-Mahe canal, a 10 km stretch was made navigable. It built three out of six foot bridges needed, and completed the construction of two road bridges (Parambil, Kallayi) and opened them to traffic. The stretch from Valappattanam to Neeleswaram also made navigable. Coastal Shipping and Inland Navigation Department constructed Champakkulam Jhankar boat jetty in



Alappuzha and a boat jetty near KMML, Chavara for handling hazardous materials like sulphuric acid and furnace oil.

#### **Kerala Shipping and Inland Navigation Corporation Ltd. (KSINC)**

Kerala Shipping and Inland Navigation Corporation Ltd. (KSINC) is a pioneer in making inland navigation vessels and is a Government of Kerala undertaking. KSINC owns two yards for the construction and maintenance of small vessels. It maintains high standards in building, maintaining and operating vessels catering to a range of customer requirements. KSINC's own cruise vessels, the premier Sagararani 1 and 2, and the exclusive luxury cruise Nefertiti, are its prestige possessions.

KSINC started tourism operations in 2005, taking tourists to the sea on the 'Sagararani' on a regular basis. Two vessels are in operation. It also pioneered mechanised cargo movement in Kerala and is still the largest player. KSINC now operates two cargo barges, four petroleum barges, one acid barge, and two jhankars.

A solar/electric powered vessel is planned to be introduced in Kozhikode on the lines of Sagararani. Nefertiti, a new sea-going day cruise vessel that can take 200 people, is already launched. This will be a luxury vessel suitable for activities like meetings and parties besides regular excursions. Amenities on board include a restaurant (for 60), auditorium (200 people), TV room (for 20), mini-conference room (for 10), games room (TV with Play Station gaming consoles), souvenir shop, bar counter, play area for children, fishing rods and deck for sea viewing.

#### **Kerala Waterways and Infrastructures Ltd (KWIL)**

To develop the waterways, the State in 2017 formed a Special Purpose Vehicle named Kerala Waterways and Infrastructures Ltd (KWIL) with the State Government and Cochin International Airport Ltd (CIAL) holding equal stake. The main source of funds is the Kerala Infrastructure Investment Fund Board (KIIFB). During 2017-2021, KWIL undertook preliminary works for land acquisition and canal cleaning in various stretches of WCC as directed by the Government from time to time.

#### **13th Five-Year Plan (2022-27)**

State Water Transport Department (SWTD), Coastal Shipping and Inland Navigation Department (CSIND) and Kerala Shipping and Inland Navigation Corporation (KSINC) are the major agencies under IWT. The development of waterways is done jointly by CSIND and Kerala Waterways and Infrastructure Ltd (KWIL), while the development of the Akkulam-Kollam, Kozhikode-Mahe and Valappattanam-Neeleswaram stretches are taken up by CSIND.

#### **Thrust of the sector**

1. The use of inland waterways for passenger and cargo traffic in Kerala for environmental benefits, reducing pressure on the road and rail transport system and enhancing tourism.
2. Making the National Waterway-3 functional by attracting more cargo and passenger traffic through it.

**Table 8.3 13th Five-Year Plan outlay and expenditure, Department-wise, Rs in lakh**

Dept.	2017-18		2018-19		2019-20		2020-21		2021-22*		13th Five-Year Plan	
	Outlay	Exp.	Outlay	Exp.	Outlay	Exp.	Outlay	Exp.	Outlay	Exp.	Outlay	Exp.
SWTD	2,200	1,540	2,420	1,203.5	2,811	637.9	2,610	1,384.7	2,761	1,265.3	12,802	6,031.4
CSIND	12,785	1,558.1	8,918	1,929.3	8,762	1754	7,482	4,341.6	10,982	6,394.3	48,929	15,977.4
KSINC	1,322	165.6	1,600	1,168.9	1,572	689	1,018	1,059	867	68	6,379	3,150.5
<b>Total</b>	<b>16,307</b>	<b>3,263.7</b>	<b>12,938</b>	<b>4,301.7</b>	<b>13,145</b>	<b>3,081</b>	<b>11,110</b>	<b>6,785.3</b>	<b>14,610</b>	<b>7,727.6</b>	<b>68,110</b>	<b>25,159.3</b>

Source: Budget (Accounts) and \*Planspace

During the 13th Five-Year Plan period, the overall outlay for the Inland Water Transport sector was Rs 681.10 crore and the expenditure was Rs 251.59 crore (37 per cent).

#### **Physical achievements – Department-wise**

##### **State Water Transport Department (SWTD).**

1. Inaugurated high-speed air-conditioned speed boat Vega 120 between Vaikom and Ernakulam in November 2018, and Vega 2 high-speed air-conditioned boat that can accommodate 120 passengers in March 2020 in the Alappuzha-Kumarakom-Kottayam route.
2. India's first water taxi, Nirava, was inaugurated in October 2020. India's first solar cruise boat inaugurated in December 2020
3. India's first solar-powered boat, Aditya, with a passenger capacity of 75, inaugurated in January 2017. In 2020, Aditya won the Gustave Award for the best ferry in the world.
4. Introduced five IRS (Indian Register of Shipping)-class mono-hull steel boats with safety features for Kainakari circular service.
5. Inaugurated the double-deck passenger-cum-tourist vessel 'See Ashtamudi', designed for commuters and for tourists to enjoy the beauty of Ashtmudi lake in Kollam District.
6. Procured five advanced rescue vessels for five major stations to evacuate people trapped in flood-affected areas to shelters during heavy floods.

##### **Coastal Shipping and Inland Navigation Department (CSIND).**

Development of different reaches of WCC.

1. Kovalam-Kollam Reach (0-74.18 km)
  1. Parvathy Puthanar Stretch (16 km) from Kovalam to Akkulam has been cleaned and special boat operations carried out in the canal
  2. Akkulam lake-Vettoor Canal (a length of 29.91 km of canal has been renovated and made navigable
  3. Vadakara Lake to Eravipuram Canal (10.98 km) made navigable
  4. Completed five stretches of the Eravipuram to Ashtmudi Lake reach in Kollam District (except the third reach)
2. Vadakara-Mahe reach (450.08-467.69 km)
  1. In the Vadakkara-Mahe canal, a 10-km portion has been made navigable
  2. Completed the construction of two road bridges (Parambil, Kallayi) and opened them to traffic.
  3. Completed Vadakara-Mahe Canal 3
3. Valappattanam to Neeleswaram Reach (526.20-590.53 km)
  1. Valappattanam to Neeleswaram reach made navigable
4. Completed the construction of boat jetty for uploading and delivery of oil and acid to KMML
5. Renovation of seven boat jetties in Alappuzha
6. Construction of Chempakkulam Jhankar boat jetty

##### **Kerala Waterways and Infrastructures Ltd (KWIL).**

1. Development activities in Parvathi Puthanar (Kovalam-Akkulam stretch) nearing completion with assistance of KIIFB
2. Project document for the renovation of Parvathy Puthanar prepared and submitted for KIIFB assistance
3. Canoli canal in Kozhikode city has been cleaned to a length of 11 km.
4. Kallayi river has been deepened (6 km north) and made navigable.

##### **Kerala Shipping and Navigation Corporation Ltd. (KSINC).**

1. Nefertiti, the luxury cruise vessel, started operations in 2019
2. Nefertiti is a Class VI passenger vessel with a capacity of 200 passengers, registered under the Merchant Shipping Act
3. KSINC started operating double-ended Ro-Ro vessels in Kochi for the Cochin Corporation. These are two of the most advanced vessels of their kind in India
4. 500 MT bulk cargo barge Orion launched in July 2018. Built at KSINC's slipway, it is the largest vessel KSINC has built.
5. KSINC is operating bulk cargo barges to FACT Ltd.
6. Fibre Reinforced Plastic (FRP) tourist boat for 42 persons handed over to the Department of Tourism (Muziris Heritage Centre), Government of Kerala

#### **Critical gaps to be addressed/constraints**

1. **Land Acquisition.** Finding land for the construction of cargo terminals at prime locations pose a major constraint in utilising the potential of waterways for cargo movement.
2. **Lack of draught.** Depth sufficient to ensure navigability for the bigger vessels is a major requisite for the smooth movement of passenger and cargo vessels. Lack of adequate depth along inland waterway routes remains a major obstacle.
3. Lack of draught caused by sediment deposit
4. Lack of canal width to meet modern navigation requirements
5. Growth of water hyacinth and other weeds due lack of maintenance
6. Urban waste water disposal in canals
7. Absence of navigation aids
8. Lack of modern inland vessels
9. Small-size navigation locks without modern lock gate/operation system
10. Lack of terminals and cargo handling systems
11. Encroachments along canal banks

#### **14th Five-Year Plan (2022-27)**

Sustainable development of the IWT sub-sector in line with Integrated Multimodal Transport Policy. Modal options for the development of the transport sector should be based on social and environmental advantages.

#### **Approach**

The bulk of freight in Kerala is transported by road. Kerala's long coastline and inland waterways provide an opportunity to develop an environment-friendly and fuel-efficient cargo transportation system. The 14th Five-Year Plan will support efforts to address users' concerns about end-to-end costs and the efficiency of transfers between modes of transport and to develop new designs for multimodal transport in the State.

#### **Objectives**

Transport infrastructure development in an economical and socially and environmentally sustainable manner to catalyse investment, entrepreneurship, employment thereby enhancing the quality of life.

1. Development of waterways as an alternative mode of passenger transport to decongest roads and create adequate capacity for growth.
2. To develop an Integrated Water Metro System

3. To promote transportation of cargo through Inland Waterways as an eco-friendly and cost-efficient alternative.
4. Promotion of Water Metro Project with passenger vessels with comparatively higher speed and with modern safety measures.
5. Classification of existing waterways and development of proper standards for waterways including feeder canals.
6. Preparation of an integrated master plan for the development and utilisation of the Inland Navigation System
7. Promotion of inland waterways-based tourism

#### **Key initiatives proposed in the 14th Plan**

##### **State Water Transport Department (SWTD).**

1. Conversion of existing vessels into solar vessels that accommodate 75 persons each
2. Purchase tourist-cum-passenger vessels, solar electric boat and solar electric Ro-Ro vessels
3. Construction of workshop building and terminal at Kollam

##### **Coastal Shipping Inland Navigation Department (CSIND).**

1. Construction of 12 boat jetties along the banks of the Vadakara-Mahe canal in Kozhikode District.
2. Construction of new canal from Kooliyankadu to Madiyan and a cross-structure between Neeleshwaram and Arayi in Kasaragod District.
3. *Development of waterways and canals.* Improvements to the inland water transport route from Korappuzha to Alappuzha from 418.32 km to 443.22 km in the chainage.
4. Construction of boat jetties at various locations in Kozhikode District.
5. Construction of bridges across the Vadakara-Mahe canal at Thayyilpalam, Kottappally and Kaliyamvally in Kozhikode District.
6. Construction of bridge and renovation of VCB across the meandering part of the river at Karingalimukku in Kozhikode District.
7. Development of feeder canals in Alappuzha District.
8. Development of feeder canals from Thalayolaparambu, Kuruppanthara and Appanchira to Kottayam Medical College and Mannanam church in Kottayam District (including PWD and Irrigation Department components)
9. Reconstruction of Madhurampally bridge in Thrissur District
10. Rejuvenation AVM (Anantha Victoria Marthandam) canal in Thiruvananthapuram District.
11. Construction of bridges across TS canal at Vadakke Arayathuruth, Thekke Arayathuruth, Kadakam in Thiruvananthapuram District.
12. Construction and maintenance of various boat jetties at Alappuzha
13. Development of feeder canals connecting West Coast Canal with other commercial and tourism destinations, namely;
  1. Akkulam lake to Anjuthengu Fort in Thiruvananthapuram District
  2. Nadayara lake (Karunilakkode) to Ashtamudi lake in Kollam District
  3. Kottapuram-Thriprayar-Chettuva-Chavakkad in Thrissur District
  4. Kadalundi bird sanctuary-Beyppore-Kalipoika in Kozhikode District
  5. Eranhikkal-Moozhikkal Lock (Vadakara-Mahe canal) in Kozhikode District
  6. Valappattanam-Neeleswaram in Kasaragod District

##### **Works entrusted to KWIL (funded by KIIFB).**

1. Rejuvenation of Parvathy Puthanar in Thiruvananthapuram District
2. Land acquisition to widen Parvathy Puthanar and avoid encroachments, in Thiruvananthapuram District
3. Canal city project in Kozhikode District

4. Land acquisition for Mahe-Valapattanam Canal in Kozhikode District
5. Land acquisition for Neeleswaram-Bakel Canal in Kasaragod District

#### **Kerala Shipping and Inland Navigation Corporation Ltd (KSINC).**

1. Construction of terminal for the vessel Nefertiti
2. Construction of tourist boats in Sagararani model
3. LNG-powered jhunkar barge
4. Waterfront CNG filling stations in association with IWAI and the Fisheries Department

#### **New initiatives started in Annual Plan 2022-23**

1. An amount of Rs 24.00 crore is provided in Budget 2022-23 to the State Water Transport Department for the procurement of passenger-cum-tourist vessels, electric Ro-Ro and solar vessels with modern safety standards.
2. For KSINC to convert internal combustion engine vessels into CNG/LNG mode in a phased manner in a climate-friendly initiative, Rs 2.71 crore is provided in Budget 2022-23.
3. Under the Inland Canal Scheme with NABARD assistance, Rs 76.55 crore provided for constructing cross-structures, modern jetties and terminals.

### **8.3 PORTS, LIGHT HOUSES, AND SHIPPING**

#### **Introduction**

The port sector plays a crucial role in industrial and commercial logistics. To promote industrial activity, the Government of Kerala has identified it as a thrust area and decided to encourage upgradation and setting up of new ports and related infrastructure facilities, coastal shipping and tourism initiatives, along with hinterland and coastal community development.

Kerala's 585-km-long coastline touching nine out of 14 districts is served by one major port at Kochi under the Central Government and 17 non-major ports under the State. There is also an upcoming deep water port, the Vizhinjam International Sea Port, under construction, and another deep-water port, Azhikkal near Kannur (285 km from Kochi and 135 km from Mangalore) on the cards. The latter, adjacent to the smaller existing riverine port at Azhikkal, is designed as an international-cum-coastal shipping seaport to serve the Malabar region logistically and economically. Vizhinjam is 217 km south and Azhikkal port is 285 km north of Cochin Port, appropriate distances for vessel calls with economies of scale and subject to cargo aggregation possibilities.

#### **Agencies in the Sector**

The agencies involved in port development activities in the State are Kerala Maritime Board, Harbour Engineering Department and Hydrographic Survey Wing.

#### **Kerala Maritime Board**

The Kerala Government adopted the Kerala Maritime Board Act 2017 in 2017 and established the Kerala Maritime Board by combining the Directorate of Ports, the Kerala State Maritime Development Corporation Limited, and the Kerala Maritime Society for the development of non-major ports to promote coastal shipping. Kerala Maritime Board functions to enhance activities related to maritime trade in ports by arranging adequate facilities to make port operations efficient. The capital and maintenance dredging needed to maintain the required depth at the non-major ports is the major responsibility of KMB. The maritime board is also responsible for search-and-rescue operations along the Kerala coast in times of distress.

#### **Hydrographic Survey Wing**

The Hydrographic Survey Wing established in 1968 under Kerala's Port Department meets the needs of hydrographic investigations for the development of non-major ports. The Chief Hydrographer in charge of this Wing of the department is responsible for conducting hydrographic surveys, and research and production of hydrographic survey charts for non-major port approaches and basins. These charts are used by vessels that make non-major port calls and for the plans of the Harbour Engineering Department. They also carry out surveys for other Government agencies like Irrigation, Inland Navigation, Fisheries, Tourism, and the Public Works Department and research institutions like Kerala Engineering Research Institute. They provide hydrographic data to the National Hydrographic Office in Dehradun.

### Harbour Engineering Department

This department was created in 1982 as a service department for Fisheries and Ports with specialised knowledge and expertise in Coastal Engineering, Harbour Engineering and Estuarine Hydro Dynamics, construction of coastal civil engineering structures and their maintenance. It is the only such State Department in India. the Government of India made it a consultant in the coastal engineering field. It has expertise in novel dredging techniques in estuaries and basins and can conduct basic geo-technical and hydraulic investigations to develop optimum site-specific layouts and master plans for non-major ports.

### Present Trend in Kerala Ports

Currently, freight activities are mainly limited to Azhikkal, Beypore and Kollam. The Vizhinjam International Seaport under construction is in PPP mode. A third deep-water international port, Malabar International Port and SEZ Ltd (MIPSL) at Azhikkal near Kannur, has been designed, and a DPR is under preparation. Logistic parks are planned in Kochi, Malabar and Thiruvananthapuram regions to serve the needs of the three ports. At the major market sites the interchange facilities for transferring of freight materials are done in a time-bound manner. Details of cargo handled by the major and non-major ports in Kerala are in Table 8.4.

Table 8.4 Cargo-handling details of major and non-major ports in Kerala, in million tonnes

Major/minor Ports	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21 (P)
Major port (Cochin)	22.10	25.01	29.4	32.02	34.04	31.50
Non-major ports	0.14	0.14	0.14	0.22	0.16	0.11
Total	22.24	25.15	29.28	32.24	34.19	31.62

Source: Economic Review, Kerala State Planning Board

The total cargo traffic handled by the ports in Kerala in 2019-2020 was 34.19 million Tonnes as against 32.24 million Tonnes in 2018-2019. This shows a growth of 6 per cent over the previous year. The major commodities of import are crude oil, LNG, fertilizers and raw materials, foodgrains, iron and steel and machinery. Tea, cashew kernels, seafood, coir products, spices, coffee and miscellaneous items are the major export commodities. The deep-water port under construction at Vizhinjam that is meant to be an international container transshipment terminal, will be able to cater to container vessels up to 18,000 TEUs. The non-major ports in Kerala now have a total capacity of 0.55 million tonnes, and 37.10 per cent of its capacity was utilised in 2018-2019.

### 13th Five-Year Plan

The 13th Plan envisaged a multi-pronged strategy for the development of the sector to increase passenger and cargo traffic and promote tourism by developing ports, coastal shipping, hinterland, and coastal communities. Besides, the Plan proposed steps to increase employment and enhance the competitiveness of ports in the State nationally and globally, to create integrated logistic parks and goods terminals in major cities/towns and non-major ports, to improve last mile connectivity and to create industrial hubs with seamless movement of goods.

### Overall thrust

The thrust areas in the 13th Plan were:

1. Completion of the Vizhinjam project

2. Develop a select number of small and intermediate ports across the State.
3. Develop coastal shipping in the State keeping in mind an integrate Transport Policy framework through better coordination among different modes of transportation.
4. Tourism-related activities through the development of ports
5. Initiate a coastal transportation hub-based regional development plan
6. Develop coastal shipping as a sustainable green and viable transport alternative considering the requirements and potential of inland transport

#### Sector-wise outlay and expenditure of 13th Plan

During the 13th Five-Year Plan period, the overall outlay for the Port sector was Rs 534.85 crore and the expenditure was Rs 608.89 crore (113.8 per cent). The Budget allocation to Vizhijnam International Seaport Ltd. (VISL) is brought under Major Infrastructure Development Programme with a token outlay of Rs 1 lakh in the port sector, which is the reason for a sharp decline in outlay.

Table 8.5 13th Five-Year Plan outlay and expenditure, Department-wise, in Rs lakh

Depts	2017-18		2018-19		2019-20		2020-21		2021-22		13th Five-Year Plan	
	Outlay	Exp	Outlay	Exp	Outlay	Exp	Outlay	Exp	Outlay	Exp*	Outlay	Exp
KMB	11,785	3,123.71	9,248.5	3,844.14	9,394	1,764.76	6,412	2,273	6,412	2,015.8	4,325.15	1,302.41
HED	1,465	609.4	1,437.5	555.68	956	1,331.9	755	596.95	755	574.65	5,368.5	3,668.58
HSW	560	111	255	190.32	255	77.73	345	199.24	345	268.35	1,760	846.64
VISL	1**	17,500	1	10,069.1	1	2,300	1	6,896.9	1	1,105.81	5	37,871.81
MIPS	0***	0.89	1,700	1,757.76	400	672.61	500	2,822.81	500	226.38	3,100	5,480.45
Total	13,811	21,345	12,642	16,417	11,006	6,147	8,013	12,788.9	8,013	4,190.99	53,485	60,888.9

Note: \*\* Token provision (MIDP Scheme)

\*\*\* No Budget allocation in 2017-18

Source: Budget (Accounts) and \*Planspace

#### Physical achievements in 13th Five-Year Plan

The following were the physical achievements of the 13th Plan:

Completed Tasks:

1. Automated cargo handling gear installed at Kollam, Beypore and Azhikkal ports.
2. Commissioned container handling crane at Azhikkal and Beypore ports and a 750-horse power tug at Azhikkal port.
3. Commissioned multipurpose passenger-cum-cargo wharf at Kollam port.
4. Started crew-changing facilities at Vizhinjam and Beypore Ports.
5. Transit shed, electronic data interchange facility and electronic weigh bridge completed in Beypore port.
6. Sand purification units made operational at Ponnani

#### Port operational statistics

The Government of Kerala has decided to prioritise the development of Beypore, Ponnani, Alappuzha, Kollam ports and major projects of Azhikkal and Vizhinjam International Seaport. Cargo operations take place only in three ports now, Vizhinjam, Beypore and Azhikkal. Kollam port with adequate infrastructure needs to attract more business.

The total cargo handled in 2020-21 in the State was 31.62 million tonnes as compared to 34.19 million tonnes in 2019-20, reflecting a decline by 7.5 per cent. However, this cannot be considered as a general

trend as it was due to the prevailing COVID-19 restrictions.

#### **Key initiatives**

1. Multipurpose passenger-cum-cargo wharf at Kollam Port costing Rs 20 crore (under the Sagarmala scheme) completed with Rs 7.23 crore as Government of India share
2. A milestone in the recent history of Kerala's port sector is the establishment of crew-changing facility at Beypore port. The first crew-changing process happened on July 15, 2020 in favour of the cargo vessel mv Everglobe. So far this was made available to 682 crew of 39 vessels and an amount of Rs 33.98 lakh was earned as revenue.

#### **Critical gaps or issues**

1. Inadequate draught and cargo handling equipment.
2. Insufficient berthing facility (in terms of draught of berths, length for proper berthing of vessels).
3. Difficulty in land acquisition for infrastructure development due to public opposition and process delays.
4. Inadequacy of boat/vessel repair units and parking space for vessels.
5. Inadequate hinterland connectivity through rail, road, highways, coastal shipping and inland waterways
6. Warehouses/logistic and allied infrastructure for attracting more business
7. Inadequate private and public funding for infrastructure development and purchase of vessels.
8. Low labour and equipment productivity levels due to outdated equipment, poor training, low equipment-handling levels by labour, uneconomical labour practices, idle time at berth.
9. Labour issues and lack of skilled human resource to meet the requirement of the shipping sector.
10. High competition from road/rail transportation
11. Non-availability/limited return cargo.
12. Lack of end-to-end transportation services/last mile connectivity.
13. Procedural delay in implementation of projects.
14. Lack of coordination from different departments in implementing the scheme

#### **14th Five-Year Plan**

Appropriate Government interventions and policy initiatives for resolving the issues faced by the sector in the 14th Five-Year Plan remains critical for the realisation of the full potential of the sector.

#### **Approach**

**Ports, logistics, and hinterland development.** The State is strategically located with respect to international and national shipping routes. The integration of port development with other sectors of economic growth has to play an important role in future economic development. Of the 17 non-major ports in Kerala, four are considered intermediate ports based on the berthing, cargo handling, and storage facilities available. They are Vizhinjam, Beypore-Kozhikode, Azhikkal, and Kollam. Ports are being developed on a priority basis for coastal shipping operations. The Malabar International Port and SEZ Ltd. is expected to play a critical role in hinterland development. The Plan will support development of intermediate ports in the State and encourage port-led industrialisation to enhance the viability of ports.

#### **Objectives**

1. Upgradation of infrastructure facilities at ports and putting in place modern equipment and operational facilities for ease of doing business as a move towards modernisation of ports.
2. More emphasis on the development of coastal shipping in ports that are currently operational for attracting business to promote coastal shipping.



3. To support the development of intermediate ports in the State and promote port-led industrialisation to enhance the efficiency of ports.
4. Improved connectivity between deep sea shipping and the hinterland by means of an optimal multimodal network through optimisation of the State's transport system, efficient co-modality and sustainable utilisation of resources through advanced logistics solutions with accelerated development of coastal shipping/inland waterways.

#### **Key initiatives in the 14th Five-Year Plan**

1. Completion of the Vizhinjam International Deep Water Multipurpose Seaport
2. Capital dredging is proposed to increase the draught to 12 meters to attract bigger vessels.
3. Floating dry docks at appropriate locations for use in the Kollam port region near the seaward breakwater can be explored. The construction of the 187-m-long cargo berth and the 101-m-long passenger berth in the Kollam Port is necessary to improve the usage of the port's available capacity.
4. To build a wharf in front of the current freight wharf. It is possible to set up a fish processing facility in the neighbourhood of Kollam Port if the fish is imported via the port. The establishment of a private container freight station in the immediate neighbourhood of the port also needs encouragement.
5. The development of a floating jetty, marina and passenger terminals linking major on-going breakwater heritage and other tourism projects at Alappuzha Port.
6. To rehabilitate the existing warehouses, make use of the signal station, and leverage the sea bridge for tourist purposes.
7. Construction of a new godown, dangerous cargo (including petroleum products) terminal and port complex are necessary infrastructure requirements for the port's development. In order to provide smooth passage of ships to the port, the depth of the Beypore port needs to be increased to 8 m and the length of the new wharf by 150 m towards west, (an extension towards SILK compound section).
8. In the case of cargo and passenger traffic bound for Lakshadweep, at Beypore port it is now like a captive business/cargo, since the Government of India provides concessions for cargo movement and passenger traffic between the mainland and the islands.
9. The connectivity to Beypore port can be increased by improving the road and rail connections. Road connectivity can be provided by constructing a four-lane road connecting Beypore port and the National Highway. Construction of railway from Beypore port to Farooq/Kozhikkode will improve connectivity.
10. *Cruise services from Kovalam to Kanyakumari.* The creation of sustainable port infrastructure and tourism facilities for a sea cruise project, have been conceived in order to exploit the untapped potential of the world-renowned tourist attractions of Kovalam and Kanyakumari. This needs to be operationalised during 14th Five-Year Plan.
11. *Cargo movement between Kerala and other States.* It is proposed to examine the possibility of cargo movement by coastal shipping mode between ports in Kerala and sources in Maharashtra and Gujarat depending on cargo availability. It is mainly aimed to transport commodities such as tiles, sanitary items, steel, cement, steel wires, wheat, and textiles from the States of Gujarat, and Maharashtra to Kerala. The identified onward commodities are cashew, rare earth materials, clay products, rubber and rubber products, and coir products from Kerala to ports on the western and eastern coasts.
12. The existing institutional infrastructure is to be developed as a centre of excellence of global standards to meet the research and consulting needs of industry. The campuses in Neendakara and Kodungallur may be developed with appropriate facilities. At Munambam harbour a building/repair/recycling cluster for river-sea/inland/fishing vessels using the available land/water frontage integrating with the training institute for courses related to it is proposed.

13. Establishing a vessel building/repair/re-cycling cluster for river-sea/inland/fishing vessels at Munambam harbour for effective utilisation of the available land and water frontage.
14. Multi-logistics park at Beypore port
15. Mini cruise terminal at Ponnani

#### **New initiatives started in Annual Plan 2022-23**

1. Major infrastructure development is planned at the Beypore port, including the construction of berths, dredging of channel basins, road and rail connectivity. An amount of Rs 15 crore is earmarked for the development of Beypore and Kozhikode ports.
2. For the upgradation and development of various maritime and terrestrial infrastructure and allied operational facilities at the Vizhinjam cargo harbour, an amount of Rs 10 crore is provided in Budget 2022-23.
3. An amount of Rs 10 crore allocated for capital dredging, implementation of ISPS code, establishment of navigational aids and development of allied infrastructure at Thankassery port. (Kollam)
4. To make the Kerala Maritime Board a centre of excellence, an amount of Rs 5 crore is provided in the budget. Of this, infrastructure development gets the major share of Rs 4 crore.
5. In Budget 2022-23, an amount of Rs 7.55 crore is proposed for the modernisation and strengthening of the Harbour Engineering Department and to promote its R&D activities. Of this, Rs 4.3 crore is allocated for establishing Automated Quality Control Testing units.

## **8.4 OTHER TRANSPORT**

### **Overview of the Sector**

Transport is a crucial driver of social and economic development and investments in this sector are important, as they ensure mobility and trade. The other transport sector that includes Railways, Metros and aviation plays a significant role in mass transport. Due to the rapid growth of urbanisation, the issue of transportation in our cities is becoming prominent. Massive traffic congestion delays mobility and these delays may have substantial impact on the economy and quality of life. Management and development of a sound mass transport infrastructure will have bearing on the growth of the economy. In the absence of a well-developed mass transportation system, the public will become more reliant on private transportation, which will result in severe congestion and traffic jams as well as environmental degradation due to excessive emission and noise from traffic.

This is a sector that has seen new Government-led initiatives making it vibrant. The rail-based activities include the operations of Indian Railways and the rail-based projects conceived by the State Government (Thiruvananthapuram-Kasaragod Semi High-Speed Rail, Thalassery-Mysore Rail Project, Nilambur-Nanjangud Rail Project, Angamaly-Sabari Rail Project.). Metros include the activities of Kochi Metro and the projects proposed in Thiruvananthapuram and Kozhikode. Aviation includes the activities of the four international airports at Thiruvananthapuram, Cochin, Kozhikode and Kannur along with projects conceived by the State Government (such as the Sabarimala airport, airstrips and helipads at tourist destinations).

### **Other Transport Infrastructure in the State**

#### **Rail network**

The State has a rail network of 1,257-km route length with a track length of 1,588 km operating through the Palakkad and Thiruvananthapuram Railway Divisions. These divisions are two of the six administrative divisions of the Southern Railway Zone of the Indian Railways. There are 200 railway stations in the State (95 under Palakkad Division and 105 under Thiruvananthapuram Division). Doubling and electrification works are in progress in various parts of the State. Feasibility studies for new lines such as Mysore Rail Project, Nilambur-Nanjangud Rail Project, Angamaly-Sabari Rail Project are under way.

#### **Semi high-speed rail project (Thiruvananthapuram-Kasaragod semi high-speed rail corridor)**

The Kerala Rail Development Corporation Ltd (KRDCL) is a joint venture company established by the Government of Kerala and the Ministry of Railways, Government of India, for improving the railway infrastructure in the State. KRDCL is tasked with the implementation of the Thiruvananthapuram-Kasaragod Semi High-Speed Rail Corridor project. The 529.45 km Semi High-Speed rail corridor connecting Kasaragod and Thiruvananthapuram, with an operating speed of 200 kmph, will ease transport links between the northern and southern ends of the State and is expected reduces the total travel time to less than four hours, compared with the present 10 to 12 hours.

#### **Mass rapid transit systems/Metros**

**Kochi metro rail project.** Development of Metros in the State is spearheaded by the Kochi Metro Rail Ltd. (KMRL), a Special Purpose vehicle (SPV) established for implementing Kochi Metrorail and Water metro projects. The SPV is jointly owned by the Government of Kerala and the Government of India through equity participation (15.24 % each) Phase I of the Kochi Metro Project from Aluva to Petta along a stretch of 25.2 km including 22 stations has been completed. The execution of Phase IA from Petta to S.N. Junction is in progress and the stretch is expected to be commissioned in 2022. Phase IB from S.N. Junction to Thripunithura stretch is in progress and is expected to be commissioned in September 2023. Ridership of Kochi Metro Rail Limited from Aluva to Petta is improving after the COVID-19 pandemic. The average daily ridership in the financial year 2021-2022 is 31,229 and average daily ridership of 2022-23 up to August 31, 2022 is 58,315.

**Water metro.** The project in Kochi envisages 16 routes connecting 38 jetties across 10 islands with a length of 76 km. This Integrated Water Transport Project for Kochi was expected to start operations by August 2022 with five boats. The project is expected to be completed by March 2024 subject to approval for additional funding from KfW Germany. Commercial operations of Water Metro will be started once the project is completed.

**Light metro rail project.** Kerala Rapid Transit Corporation Limited (KRTL) was the SPV set up for the implementation, operation and maintenance of the Metro rail systems in the cities of Thiruvananthapuram and Kozhikode. However, based on the directions of the Government of India (to have one agency per State for metro projects), the State Government has decided to have Kochi Metro Rail Ltd (KMRL) as the agency for Metro rail systems in the cities of Thiruvananthapuram and Kozhikode. The Detailed Project Reports for Thiruvananthapuram and Kozhikode Light Metro Rail Projects, which were revised in December 2020, to comply with the new metro policy of Government of India were reviewed by a committee headed by the Principal Secretary, Finance, Government of Kerala.

#### **Aviation sector**

Having the most number of airports in a State in the country, Kerala has been successfully catering to the air travel needs of the people so far. Kerala has four international airports at Thiruvananthapuram, Kochi, Kozhikode and Kannur. The Cochin airport is a greenfield airport developed in PPP mode. Phase I of the Kannur International Airport (the latest among the four airports) was inaugurated in December 2018. It is also a greenfield airport developed in PPP mode.

### **13th Five-Year Plan**

The 13th Five-Year Plan committed to strengthen a network of railways, air and inland waterways in Kerala to contribute to greater geographical integration, regional balance and overall development of the State.

#### **Thrust areas**

1. **MRTS.** Development of a faster, safer, affordable and sustainable Mass Rapid Transit System in the State.
2. **Airports.** Expansion and upgradation of facilities at airports to meet demand from passengers and the industrial sector.
3. **Railways.** Doubling and electrification works, upgradation of railway systems (including those for traffic and safety), construction of road overbridges (ROBs) and road underbridges (RUBs) wherever needed and elimination of level-crossings. Development of new rail-based mass transport projects.
4. Developing participative and cooperative models for sharing funds to develop projects.
5. Development of multi-modal transport systems and improving end-to-end and inter-modal connectivity.

#### **Outlay and expenditure**

The Table 8.6 shows the budgeted allocation for other transport sector during the 13th Plan period and expenditure incurred by each sub-sector during the period.

Table 8.6 Year-wise budgeted outlay and expenditure for the other transport sector in the 13th Five-Year Plan, in Rs lakh

Department/Agency	Annual Plan 2017-18		Annual Plan 2018-19		Annual Plan 2019-20		Annual Plan 2020-21		Annual Plan 2021-22		13th Plan Total	
	Outlay	Exp.	Outlay	Exp.	Outlay	Exp.	Outlay	Exp.	Outlay	Exp.	Outlay	Exp.
Land acquisition for Thiruvananthapuram International Airport	1	0	1	0	1	0	1	0	1	0	5	0
Development of Infrastructure facilities for Kannur Airport (MIDP)	1	55,224	1	0	1	23,817	1	12,608	1	1,099	5	92,747
Metro Rail System in Kochi City (MIDP)	1	33,293	1	33,270	1	42,440	10,001	61,020	1	23,617	10,005	1,93,640
Light Metro Systems at Thiruvananthapuram and Kozhikode-Kerala Rapid Transit Corporation Ltd (MIDP)	1	0	1	133	1	0	1	0	50	50	54	183
Land acquisition for Kozhikode Airport	1	0	1	0	1	0	1	0	1	0	5	0
Establishment of Heliports	1	0	1	0	1	0	50	0	50	0	103	0
Integrated Water Transport System for Kochi (MIDP)	1	0	1	1,000	1	424	10,001	9,007	10,001	7,230	20,005	17,661
Kerala Metropolitan Transport Authority (KMTA)	0	0	0	0	0	0	250	45	250	0	500	45
Airstrip at Bekal	1	0	1	0	1	0	0	0	0	0	3	0
Airstrip at Wayanad, Idukki, Kasargod	0	0	0	0	0	0	500	0	451	0	951	0
Green field Airport Sabarimala	0	0	0	0	0	0	200	0	200	455	400	455
Non-Motorised Transport (NMT)	0	0	0	0	0	0	5,255	4,047	5,001	2,045	10,256	6,092
Mobility hubs	1	0	1	0	0	0	0	0	0	0	2	0
Kerala Rail Development Corporation Ltd. (MIDP)	1	0	1	0	1	0	1	0	1	0	5	0
<b>Total</b>	<b>10</b>	<b>88,517</b>	<b>10</b>	<b>34,403</b>	<b>9</b>	<b>66,680</b>	<b>26,262</b>	<b>86,726</b>	<b>16,008</b>	<b>34,496</b>	<b>42,299</b>	<b>3,10,822</b>

Note: \*Budgeted outlay during 2017-18 to 2019-20 accounts schemes having token provision including MIDP

Source: Annual Plan 2022-23 Vol.I (Accounts) and Planspace

### Achievements during 13th Five-Year Plan

#### Metro.

1. Phase I of Kochi Metro Rail project with a route length of 25.2 km from Aluva to Petta with 22 stations was commissioned in 2020.
2. Phase IA of Kochi Metro Project (Petta to S.N. Junction across 1.80 km and two stations) work is progressing and it is expected to be commissioned in 2022.
3. Phase IB of Kochi Metro Project (S.N. Junction to Thripunithura (across 1.2 km and one station) work is progressing and is expected to be commissioned by June, 2023.
4. Phase IA from Petta to S.N. Junction (2 km) is expected to be commissioned in 2022

**Railways.** Kerala Rail Development Corporation Limited (KRDCL) has envisioned a Semi HSR Corridor from Thiruvananthapuram to Kasaragod, which has been included as a modification recommended to Highly Utilised Network (HUN)-11 of Indian Railways (Source: *National Rail Plan – Draft Final Report, Vol. I, 2020*).

**Aviation.**The Kannur International Airport started operations in 2018 with an Integrated Passenger Terminal Building with nine Million Passengers Per Annum (MPPA) capacity, capable of modular expansion and a 3,050 m-long runway (07/25) compatible with Code E aircraft operations (critical aircraft B 777-300 ER), with provision to extend the runway up to 4,000 m

**Critical gaps**

**Aviation.**

1. Expansion of infrastructure and improving utilisation of existing airport infrastructure.
2. Improving connectivity to airports and exploring development of new opportunities in aviation like Maintenance, Repair and Overhaul (MRO), logistics.
3. *Kannur airport.* Road and related infrastructure development, improving the implementation of approved road projects and development plans of Mattannur town,

**Metro.**

1. Approval to be obtained from the Government of India and KfW for an additional loan of Euro 24.70 million for the Integrated Water Metro Project.
2. Improving the pace of implementing the light metro projects in Thiruvananthapuram and Kozhikode.

**14th Five-Year Plan**

**Approach in the sector**

Improving public transportation requires the development all modes of travel, including railways, air and inland water transport.

Most of the rail network in the State is maintained by Indian Railways, which is under the control of the Government of India. Kerala should seek to impress upon the Government of India to improve existing railway infrastructure in the State under Indian Railways. It includes improvement to tracks, doubling and electrification, upgradation of stations, improvement of signalling and safety systems and conversion of level crossings into ROBs. Kerala shall also work with the Government of India in taking forward its dream projects such as a second coaching terminal at Nemom, extension of the proposed Angamali-Eurumeli Sabari line to Punalur, construction of new railway lines in Thalassery and Mysore, and between Nilambur and Nanjangud.

A special focus on Mass Rapid Transit Systems (MRTS) is critical. The Plan will support Phase II and the Jawaharlal Nehru Stadium to Infopark projects of Kochi Metro as well as an Integrated Water Transportation System for Kochi. The Light Metro projects in Thiruvananthapuram and Kozhikode will be implemented, realigning them to suit the Government of India's new metro policy. The Silver Line Project will be taken forward based on the approval of the Government of India.

The State shall continue to support and build on its achievements in the aviation sector. Development of connectivity, ensuring capacity utilisation and exploring new opportunities shall be prioritised in the aviation sector. The Plan will also support efforts by the Kerala Metropolitan Transport Authority to develop integrated city transport plans coordinating various modes of transport ensuring end-to-end connectivity.

**Objectives of the 14th Five-Year Plan**

The core objective would be the development of Integrated Mass Transport Systems that are reliable, comfortable, safe, affordable, least obtrusive and sustainable. To achieve this, the focus would be on areas such as:

1. Mass rapid transit systems such as Silver line and Light Metro
2. Development of Integrated Water Transport System in Kochi first and subsequently to other areas in the State
3. Completion of Metro Rail Project and Water Metro in Kochi
4. Establishment of Helipads/Heliports/Airstrips for decentralised development of aviation, address emergencies and make gains in tourism/business
5. Development of a greenfield airport at Sabarimala
6. Improving the airport and associated infrastructure for Kannur International Airport

**Key initiatives proposed in the 14th Five-Year Plan**

1. The implementation of Semi High Speed Rail Project or Silver Line project connecting Kasaragod and Thiruvananthapuram.
2. Light Metro Systems in Thiruvananthapuram and Kozhikode are proposed to be implemented through Kochi Metro Rail Ltd (KMRL). For the Thiruvananthapuram project, the preparatory works including land acquisition for flyovers at Sreekaryam, Pattom and Ulloor, and feasibility study for the extension of the alignment to the Technopark area are ongoing.
3. Completion of Phase IA of Kochi Metro Rail Ltd. (from Petta to S.N. Junction across 2 km and two stations) in 2022 and that of Phase IB (S.N. Junction to Thripunithura across 1.2 km and one station) by June 2023.
4. Completion of Phase II of Kochi Metro Rail Project from JLN stadium to Infopark via Kakkanad based on Government of India approval.
5. Inauguration of Water Metro with five terminals and five boats with a capacity of 100 passenger each in 2022 and the completion of the total project by March 2024 subject to the approval for additional funding from KfW Germany.
6. Implementation and strengthening of the activities of Kerala Metropolitan Transport Authority (KMTA) such as creation and management of a Common Command and Control Centre for integration, coordination and management of urban transport.
7. Strengthening the infrastructure of Kannur airport and developing associated infrastructure.

## Chapter 9

### Housing

#### Overview

Housing is an important component of the 2030 Agenda for Sustainable Development and an essential driver for achieving several of the Sustainable Development Goals (SDGs). Adequate and affordable housing leads to benefits in health, education and economic opportunities. Kerala's high human development achievements and relatively better social and economic life of the people are well reflected in the housing conditions of the State. The process of housing improvement is often a ladder out of poverty for families. These changes benefit the larger community, reducing inequality and building resilience against economic and natural disasters.

Adequate housing is a basic need and is recognised as a human right. Kerala is ahead of other Indian States both in terms of reducing housing deprivation and providing better quality of housing. The Government of Kerala has gone further and initiated an innovative total housing project, LIFE (Livelihood Inclusion and Financial Empowerment), in 2016 as a sustainable model of habitat development. (For details see chapter on Local Governments.)

#### The Departments/Institutions Involved in the Housing sector are:

1. Kerala State Housing Board (KSHB)
2. Housing (Technical Cell) Department
3. Kerala State Nirmithi Kendra (KESNIK)
4. Public Works Department

#### Kerala State Housing Board (KSHB)

The Kerala State Housing Board was established in 1971 and is governed by the provisions of the Kerala State Housing Board Act, 1971. One of the major functions of the Board is to formulate and implement housing schemes to cater to the needs of different categories of people belonging to various income groups, such as Economically Weaker Section (EWS), Low Income Group (LIG), Middle Income Group (MIG) and Higher Income Group (HIG).

#### The major activities of the board since 1971 are:

1. Planning and execution of housing loan schemes for those who possess land.
2. Planning and execution of public housing schemes and plot development schemes on land procured through land acquisition procedures/negotiated purchases.
3. Implementation of housing schemes as directed by the Government. One example is the Aswas Rental Housing Scheme.
4. Construction of commercial/office complexes, working women's hostels with assistance from Central Government and revenue towers

#### Housing (Technical Cell) Department

The Housing (Technical Cell) Department acts as the State-level technical cell and nodal department coordinating and supporting housing activities. The Government of Kerala constituted the department in 1980 with the objective of achieving technical excellence in the planning and coordination of activities in the housing sector.

The main activities of the department are reviewing policies and programmes, providing technical guidance and data support for housing schemes and programmes, conducting housing surveys for



recommending housing standards, and providing assistance for emerging needs and technology requirements in the housing sector.

#### **Kerala State Nirmithi Kendra (KESNIK)**

KESNIK was set up in 1989 by the Housing Department, Government of Kerala, as a seminal agency to generate innovative ideas in the construction sector and propagate Cost Effective and Environment Friendly (CEEF) construction techniques in the State. KESNIK is engaged in the housing sector to provide assistance to the public and the Government on housing-related activities and matters concerned with housing schemes implemented for the Economically Weaker Section (EWS). It imparts training in construction technology and provides quality building materials to the public at reasonable rates. Nirmithi aims at creating better awareness on alternative construction technologies, propagating them among the public and disseminating the idea of sustainable and disaster-resistant construction techniques.

The main activities are construction/consultancy services, housing guidance, training, testing of construction materials, production of building materials and carpentry. It supplies building material at a fair price (from Kalavara). Nirmithi Kendra manages the Laurie Baker International School of Habitat Studies (LaBISHaS) and CAT-LaBISHaS Design Lab (CLDL).

#### **Public Works Department (buildings and local works)**

The Public Works Department is entrusted with the construction and maintenance of Government buildings, which include quarters for Government servants, hostels for working men and women. The vision of this wing is to work with the community and other Government departments to create and maintain environment-friendly, sustainable, energy-efficient and aesthetic buildings to improve people's quality of life. It aims to design, construct and maintain public buildings in an efficient manner and ensure timely delivery of services of the highest quality. Measures are being taken to implement the Government's green building policy in all PWD constructions.

#### **13th Five-Year Plan**

During the 13th Five-Year Plan period, the total outlay for the housing sector was Rs 348.48 crore, of which Rs 124.51 crore was spent. The major allocation was to the Housing Board (Rs 246.79 crore), followed by Nirmithi Kendra (Rs 41.45 crore). The expenditure incurred is low due to the COVID-19 pandemic and multiple lockdowns.

*Table 9.1 The outlay and expenditure for the sector for the 13th Plan, in Rs crore*

Year	Outlay	Expenditure	% of Expenditure
2017-18	70.92	51.02	71.94
2018-19	78.21	13.55	17.33
2019-20	73.25	11.71	15.99
2020-21	63.05	21.11	33.48
2021-22	63.05	27.12	43.01
<b>Total</b>	<b>348.48</b>	<b>124.51</b>	<b>35.73</b>

*Source: Annual Budget Documents and Planspace*

The department-wise and year-wise budgeted outlay and expenditure for housing sector in the 13th Five-Year Plan period are below.

Table 9.2 Department-wise and year-wise budgeted outlay and expenditure for the housing sector in the 13th Plan, in Rs crore

Department	2017-18		2018-19		2019-20		2020-21		2021-22		13th FYP	
	BO	Exp (Accounts)	BO	Exp (Accounts)	BO	Exp (Accounts)	BO	Exp (Accounts)	BO	Exp	Total Outlay	Total Expdr. and %
Kerala State Housing Board(KSHB)	48.26	20.13	54.10	1.84	55.28	8.09	45.65	4.55	43.50	10.54	246.79	45.15 (18.29%)
Housing (Technical Cell) Dept.	0.50		0.60	0.15	0.50	0.00	0.60	0.06	0.60	0.26	2.80	0.47 (16.79%)
Kerala Police Housing and Construction Corporation	0.01										0.01	0.00 (0%)
Kerala State Nirmithi Kendra	7.15	1.48	7.90	0.38	8.37	0.25	8.16	2.66	9.87	7.50	41.45	12.27 (29.60%)
Kerala State Cooperative Housing Federation	5.00	5.00	5.61								10.61	5.00 (47.13%)
PWD(Buildings and Local Works)											46.82	61.62 (131.61%)
	10.00	24.41	10.00	11.18	9.10	3.37	8.64	13.83	9.08	8.82		
<b>Total</b>	<b>70.92</b>	<b>51.02</b>	<b>78.21</b>	<b>13.55</b>	<b>73.25</b>	<b>11.71</b>	<b>63.05</b>	<b>21.1</b>	<b>63.05</b>	<b>27.12</b>	<b>348.48</b>	<b>124.51 (35.73%)</b>

Source: Annual Budget Documents and Planspace

## **Significant achievements of the departments during the 13th Five-Year Plan (2017-2022)**

### **Kerala State Housing Board (KSHB).**

1. Through Grihasree housing scheme, a total of 905 houses constructed from 2017-18 to 2021-22 (up to August 31, 2021).
2. The Board implemented a housing scheme for Government employees on Government land at Kanhangad (Kasaragod) and Vellarikund (Kasaragod).
3. Board has so far constructed 12 working women's hostels at Gandhinagar (Kottayam), Muttom (Thodupuzha), Kakkanad (Ernakulam), Pullazhy (Thrissur), Kizhakke Chalakudy (Thrissur), NCC Nagar (Thiruvananthapuram), Kozhikode (near Medical College), Kattappana (Idukki), Mulamkunnathukavu (Thrissur), Edappally (Ernakulam), additional block at Muttom WWH in Idukki District, Mananthavady (Wayanad).
4. 'Aswas' rental housing scheme was declared in the Governor's speech and Budget speech of 2017 for providing affordable rental accommodation near Medical Colleges to patients and their attendants. During the 13th Five-Year Plan period, Board implemented the scheme at Alappuzha Medical College, Thrissur Medical College and Kannur Medical College, and the construction is in progress.

### **Housing (technical cell) Department.**

*GIS-based housing status information system for Kerala.* In 2021-22, a web GIS platform was launched under this project, by means of which a pilot study of a local body (Poovar Grama Panchayat) in Thiruvananthapuram District was completed and recorded. GIS-based terrain suitability analysis for pilot study was done.

### **Kerala State Nirmithi Kendra (KESNIK).**

1. *Developing self-sustainable village.* KESNIK has completed 16 dwelling units for the homeless in Kattakkada Grama Panchayat.
2. *Finishing school for skill improvement.* Finishing School of three months duration was organised for 40 engineering graduates in Thiruvananthapuram and Ernakulam Districts. This course has seen acclaimed as an occupational refresher training programme for good construction practices.
3. *Building Material Fair Price Shop (Kalavara).* Sale of building materials for BPL/LIFE Mission beneficiaries at subsidised rates of 15 per cent for construction and repair of houses under Government schemes is successfully done through KESNIK Kalavaras. Building materials were also sold through Panchayat-level sales outlets.
4. *Pre-fab production unit.* Pre-fab Production Unit was set-up at Chathamangalam, Kozhikode District in PPP mode. A model of the pre-fabricated building was on display at the corporate office of KESNIK.
5. *Training and awareness programmes.* KESNIK has organised 88 training programmes benefiting 1,320 unemployed youth, a majority of them women. Training was imparted in pre-fab construction, painting, masonry, carpentry, electrical work, plumbing, Building Material Production (BMP), terracotta techniques, landscaping, Total Station, and AutoCAD. Awareness programmes for engineers as well as members of the public were organised.
6. *Office automation.* Implemented e-office system in KESNIK corporate office successfully. This is now being installed at the 14 regional centres of KESNIK.

**Public Works Department (buildings and local works).** PWD Buildings wing has completed works including hospital buildings, educational complexes, staff quarters, court complexes, school buildings, college buildings,

rest houses, civil stations, auditoriums, and playgrounds in all districts. In addition, many major projects are progressing.

#### **Critical gaps or issues to be addressed in the sector**

The housing sector faces many challenges. Several segments of society still face the issue of inadequate housing. In order to fill the gap, the Housing (Technical Cell) Department proposes to conduct qualitative and quantitative spatial housing surveys and prepare a module for housing schemes. This will help resolve many of the technical issues of customers. Kerala State Nirmithi Kendra (KESNIK) faces challenges such as shortage of skilled workforce, skilled engineers, low quality of building material, lack of adequate quality testing labs and lack of awareness on quality housing. Public Works Department (Buildings and Local Works) addresses issues such as delay in timely completion of projects, issues related to quality control and time delay in the issue of technical sanction.

#### **14th Five-Year Plan**

##### **Approach to housing**

The 14th Five-Year Plan will continue the implementation of the LIFE scheme, which was the flagship Plan programme of the Government during the 13th Plan. Under this scheme, quality housing units – independent homes and flats – have been handed over to 2,79,131 families as of February 2022. These families were, in terms of housing, among the poorest in Kerala. Almost all erstwhile housing schemes for the poor, implemented by many departments, were consolidated and merged with LIFE. Now, special focus will be given to the housing needs of people of the Scheduled Castes and Scheduled Tribes, fish workers, and plantation workers.

##### **Key initiatives proposed for 14th Five-Year Plan**

**Kerala State Housing Board (KSHB).** Apart from the existing Plan schemes, KSHB has proposed the following initiatives

1. *Housing scheme for the elderly.* It is proposed to implement a housing scheme for the elderly by constructing retirement homes on vacant lands in various districts based on demand assessment and market analysis. The project aims to provide age-friendly living environments for senior citizens: those capable of independent living, and those requiring minimal support and care and are willing to pay for accommodation, services and facilities.
2. *Housing scheme for the transgender community.* Realising the need to provide economical, secure and affordable houses to transgenders, KSHB proposes to introduce a housing scheme, thereby helping them to fight discrimination and overcome social exclusion. The housing complexes would be on vacant lands owned by KSHB where there is a considerable population of the transgender community. The scheme would also ensure a safe dwelling environment for the financially weak among transgenders.
3. *Construction of night shelter for women, 'Sthree Suraksha'.* During the 14th Five-Year Plan, KSHB proposes to provide short-term lodging facility for women in hostels to be constructed on vacant land owned by the Board at Thiruvananthapuram, Kochi, Thrissur, Kozhikode and Kannur. This facility will provide safe, secure and affordable staying facility to travelling women and also for boys below 12 years who accompany their mothers, at night.
4. *Kairali sree housing scheme.* This is to construct apartment complexes of 1BHK, 2 BHK, 3 BHK dwelling units based on demand assessment on land owned by KSHB or the Government. The aim is to provide dwelling units at Rs 2,000 a year to people in the income bracket of Rs 3 lakh to Rs 6 lakh a year and who are willing to pay 75% of their share of the project cost.

5. *Parasparyam scheme.* Construction of dwelling units based on demand assessment and market analysis on land owned by KSHB by collecting advance payments from prospective buyers.
6. *Micro homes for the metro work-force.* The concept of the scheme is construction of compact studio units based on demand assessment and market analysis on land owned by KSHB. The main aim is to provide dwelling units for the urban workforce.
7. *M.N. Laksham Veedu renovation project.* This project envisages demolition of dilapidated twin houses and reconstruction of two single houses on the site (1,000 units). The aim is to provide dwelling units at the rate of Rs 2,000 a year for people in the income bracket of Rs 3 lakh to Rs 6 lakh a year.

**Housing (technical cell) Department.** The Housing (Technical Cell) Department proposes to continue its ongoing projects like GIS-based Housing Status Information System for Kerala and formulation of cost-effective modules for providing members of the public consultancy services on different aspects of housing.

**Nirmithi Kendra.** Kerala State Nirmithi Kendra. During the 14th Five-Year Plan, KESNIK aims at providing “quality housing”, continuing its ongoing projects with budgetary support. Apart from ongoing projects, it will promote modern construction technology and establish support systems for start-up units and incubation centres at Thiruvananthapuram, Kozhikode and Kochi.

1. *National Housing Park.* Laurie Baker International School of Habitat Studies (LaBISHas) will introduce a National Housing Park, which will serve as a single point where model houses using various technologies will be showcased. It will provide a platform for stakeholders and start-ups to introduce and display innovative products and technology, thus becoming a venue for demonstrating proven technology and also potential future technologies for incubation and acceleration support. It is seen as a “Model Construction Technology Hub”. It will have four zones, namely, Academic Zone, Heritage Zone, Exhibition and Entrepreneur Promotion Zone, Social Activities and Training Zone.
2. *Finishing school for skill improvement.* Over the years, KESNIK has focussed on providing technical support to persons engaged in the construction field to add to their knowledge. It is proposed to organise certificate courses of four months’ duration for students who have completed their courses from engineering institutions to overcome the shortage of skilled engineers. In five years, 23 such courses are planned to be conducted in Thiruvananthapuram, Ernakulam and Kozhikode, benefiting 460 civil engineers.
3. *Skill improvement training.* KESNIK proposes skill improvement training in carpentry, digital survey, AutoCAD, pre-fab, painting, electrical and plumbing courses. Training for a skilled labour force will be conducted by administering 168 courses in five years all over the State, so as to train 2,520 people.
4. *Mobile testing lab.* KESNIK proposes to start a mobile testing laboratory for on-site inspection and testing of construction materials. Spot-testing of building materials will be done with the help of a mobile testing lab which will assure quality of construction. At least 10 units will be set up across the State in five years.
5. *Awareness programme.* Laurie Baker International School of Habitat Studies (LaBISHas) proposes to organise awareness programmes on alternative construction technology, pre-fab, and 3D printing technology. This programme will be for engineers, technical experts and members of the public.

**Public Works Department (buildings and local works).** During the 14th Five-Year Plan, the Public Works Department proposes to give a facelift to old rest houses and guest houses in major tourist spots. It envisages development of civil stations and construction of new mini civil stations, mobility hubs and logistics parks along the major highways. It will also take up the construction of a PWD complex in Thiruvananthapuram, short-stay homes for women, and studio-type quarters for working women. It proposes to enhance the

security of existing prisons. Emphasis will be given to the construction of environment-friendly buildings, in tune with the green building concept, by reducing the environmental impact of construction.

The Department also proposes to upgrade infrastructure facilities in existing hospitals including medical colleges, community health centres (CHCs), primary health centres (PHCs) and family health centres (FHCs). PHCs and CHCs in rural and tribal areas will be specially considered for infrastructure upgradation. Security will be strengthened in office complexes using advanced surveillance systems. Office automation including electronic guiding systems for differently abled persons will be introduced.

**New projects initiated in Annual Plan 2022-23**

1. *Housing park.* It is a comprehensive project that will create an International Technology Hub with the help of research institutions related to Architecture.
2. *Thanteyidam project.* The scheme aims at providing housing to homeless children living in Government/non-Government welfare institutions who have to leave the institutions once they attain 18 years of age. Kerala State Housing Board would implement the scheme in collaboration with the Department of Women and Child.

Considering the significant role of housing in ensuring the well-being of people and upward social and economic mobility, housing requirements of the poor would be addressed with utmost priority. Housing provision should be supplemented with basic services, infrastructure facilities and opportunities for employment, income-generation and improvement of better livelihoods.



## Chapter 10 Cooperation

### Overview

The cooperative movement in Kerala began in the early 20th century. Today, with more than 16,000 cooperatives, the movement has spread its wings in almost all parts of the State and most spheres of life. Today there is a wide network engaged in promotional activities, particularly in agricultural credit, the public distribution system, the distribution of agricultural commodities, marketing, agro-processing, consumer activities, public health, education, housing, insurance and infrastructure development, the Scheduled Caste/Scheduled Tribe sector, women's development, and so on.

Cooperatives are classified according to the area and nature of their work, and the authorities and functions they undertake. As of March 31, 2021, there were 16,112 cooperative societies under the administrative control of the Registrar of Cooperative Societies, of which 12,265 were working and undertaking various activities. The cooperative sector has been playing a distinct and significant role in the process of socio-economic development of the State with a special focus on rural populations and livelihoods.

About 848 cooperative societies participated in the *Subhiksha Keralam* Project. As a part of this, 3,189.465 acres of land was utilised for creating 1,838 model farms, and about 43,979 temporary job opportunities were created.

### 13th Five-Year Plan

The vision of the 13th Plan was to promote an inclusive cooperative movement by giving special focus to the marginalised sections and modernising the cooperative credit structure in the State. The 13th Plan also gave emphasis to raising the living standards of the Scheduled Caste and Scheduled Tribe population and making systems gender-sensitive.

In the 13th Plan, Rs 1,516.15 crore was allocated for the cooperative sector under the State Plan and Rs 572.55 crore for schemes assisted by the National Cooperative Development Corporation (NCDC) including for SDG and AA. However, during the 13th Plan, the percentage of State Plan expenditure was 76.16 of the total including SDG and AA, and the NCDC's share was 79.46 per cent (including SDG and AA). The Table 10.1 gives the year-wise outlay and expenditure during the 13th Plan.

Table 10.1 State Plan and NCDC schemes, budgeted outlay and expenditure in the 13th Plan, in Rs crore

Year	NCDC Out lay and Expenditure					State Plan Outlay and Expenditure				
	NCDC plan	SDG/Adl Authorisa	Total NCDC Plan	Expend	%	State Plan	SDG/Adl Authorisa	Total State Plan	Expend	%
2017-18	55.00	100.00	155.00	153.87	99.27	124.50	28.76	153.26	82.34	53.73
2018-19	65.00	100.00	165.00	123.96	75.13	154.75	324.95	479.70	391.32	81.58
2019-20	65.00	5.31	70.31	45.87	65.24	154.25	28.10	182.35	90.32	49.53
2020-21	65.00	52.24	117.24	109.76	93.62	134.96	403.55	538.51	513.77	95.41
2021-22	65.00	0.00	65.00	21.50	33.08	159.33	3.00	162.33	77.02	47.45
Total	315.00	257.55	572.55	454.96	79.46	727.79	788.36	1516.15	1154.77	76.16

Note: \*Expenditure includes supplementary Demand for Grant and Additional Authorisation

Source: Planspace

During the Plan period, the e-office system was implemented in the head office, Directorates, and the offices of the Joint Registrar and Director. As a part of encouraging ease of doing business, an online application has



been developed for registration and bylaw amendment. The Cooperative Audit Monitoring and Information System (CAMIS) has been implemented to monitor the progress of cooperative audits. In the first phase of the Care Home project, 2,091 houses were constructed, and in the second phase, the plan was to construct 14 flats (one in each district). However, in 2021, a flat complex was constructed for 40 families in Thrissur District. There were 231 cooperative vegetable marts started all over Kerala. The complicated three-tier cooperative structure was converted into a two-tier structure. During the Plan period, the comprehensive health care project for the Attappady tribal population was introduced. *Muttathe Mulla* was introduced in 2018 to protect common people from private moneylenders. A number of new cooperative societies were formulated for the welfare of transgenders and the youth. India's first India International Coop Trade Fair was conducted during the Plan period. For cooperative sector products, a common branding was introduced. A significant achievement of the Kerala Government in the cooperative sector during the 13th Five-Year Plan period is the amalgamation of 13 district cooperative banks into one, as Kerala Bank.

A fall in the number of agricultural loans, weak linkages with Local Government institutions, mounting non-performing assets (NPAs) and slow progress of modernisation measures are some of the weaknesses and problems that persist in the cooperative credit sector. Integration of the activities of cooperatives and local bodies will have to happen in the 14th Plan period. Along with that, the primary agricultural credit societies (PACS) should be recognised as the official banking service provider to the local bodies. There is an absence of youth involvement in the business and development activities of rural cooperatives. This should be addressed during this Plan period. Resource availability imbalance in the credit-deposit scenario is another weakness that curtails the development of the cooperative banking sector. Cooperative banks cannot deal with non-resident Indians' NRI deposits and foreign exchange transactions, which is another grey area to be addressed. The Central Government recently formed a separate ministry for cooperation, to streamline the processes of ease of doing business and to enable the development of multi-State cooperatives (MSCS). This move is also a major threat to the State cooperative system.

To modernise hospital cooperative societies and rejuvenate, diversify and strengthen professional educational institutions, a special package is required in the cooperative sector. A special package is also required for the revitalisation of unprofitable societies. Reasonable financial assistance has to be provided for modernisation, especially for e-office implementation and e-governance activities. A critical evaluation shall be done to identify weaknesses in the cooperative institutional framework with respect to their contribution to the agricultural production processes. To improve agricultural growth and farmers' incomes, the cooperatives and farmer producer companies (FPC) need to be strengthened.

A critical assessment should be done regarding the performance of Kerala's cooperative credit system in financing agricultural activities. The involvement of the cooperative sector in the supply chain should be accelerated. There is a lot of improvement required in the coordination across line departments, Local Governments, cooperatives and FPCs to contribute to agricultural growth. A transformation must happen in Kerala Bank to support the resource needs of the productive sector. For the economic growth of the sector as well as the State as a whole, it has to deepen and expand the involvement of youth in the cooperative movement. Kerala Bank has to serve as a key provider of resources to the productive sectors, such as agriculture and MSMEs as well as tourism. The Government of Kerala has to formulate a comprehensive policy that can accelerate the growth of the cooperative movement. In the new Plan period, the cooperative sector should be involved in funding new enterprises, especially start-ups.

#### **14th Five-Year Plan**

Cooperative institutions should intervene in the primary sector to increase investment in the sector, in agricultural marketing and product aggregation, in industry and services and in retail trade, among others. Kerala Bank, the flagship establishment in Kerala's cooperative structure, has to refine its development role, broaden its portfolio of banking products and contribute to the State's economic growth. The cooperative movement has to establish itself as an organisational form of the future, to attract and involve youth in large numbers. The cooperative sector should infuse more technology and funds for new enterprises, including start-ups. Steps should be taken to help and attract youth to the cooperative movement. The economic relationship between Kerala Bank and primary cooperative societies must be strengthened and the activities and financial strategies of primary cooperative societies coordinated with the commercial activities of Kerala Bank. The introduction of a common software at all levels of cooperatives is vital. Non-functional and dormant cooperatives should be encouraged by the improvement of financial performance, better supervisory structures and coordinated efforts to understand specific issues of the sector. Cooperative institutions should promote farming through more credit support.

A strategy should be formulated to achieve functional convergence between and among LSGs and development departments. The creation of multiple forms of farmer-producer organisations will be promoted. Steps shall be taken to create Panchayat-level land use plans and make legal changes to facilitate land-leasing by self-help groups (SHGs) and joint liability groups (JLGs) for farming. Liberalisation of the land acquisition policy and licensing should happen for the creation of storage infrastructure and State-level investment in the storage/warehousing. The utilisation of land and godowns owned by primary agricultural credit societies (PACSs) should be encouraged by increasing credit flow into the storage/warehousing sector with the entrustment of Kerala Bank. Encouragement of value-addition enterprises, particularly in coconuts, vegetables, fruits, spices and condiments, and medicinal plants should be given more importance. More credit should be extended for the creation and expansion of agricultural marketing infrastructure. The possibility of bringing forward an overarching State legislation for private, public, and cooperative sector agricultural markets should be evaluated. Establishing a modern supply chain in agriculture, bottom-up development of the supply chain, including mobile cold storage facilities at the Panchayat and Block-level, and even larger warehouses at the district-level, are important. PACSs should go back to their primary function of being an "agricultural" credit society, and their primary function must be agriculture financing. They must diversify their short-term and long-term agricultural credit to newer agricultural areas, such as developing inland fisheries, commercial dairy farms, and livestock ventures, and supporting high-value poultry and other livestock activities. The Kerala Cooperative Societies Act, 1969 ought to be amended for the development of the sector. Kerala Bank must reduce NPAs and fresh slippages by expanding its credit portfolio. A platform must be constituted by Local Governments for periodic interaction with PACSs and other local stakeholders in their jurisdictions, including agriculture, rural development, dairying and fisheries. Kerala Bank must finance long-term agricultural projects of Local Governments, instead of leaving them to use their own funds. Thus, PACSs can become the banking partners of Local Governments. Kerala Bank must set up a separate but composite credit target for financing women's, SC/ST groups' and newly started youth cooperatives' ventures. For the promotion of products and activities of credit and non-credit societies, there must be an annual trade fair to enable interaction with cooperative entrepreneurs from other States and countries. Kerala Bank must collaborate with Kudumbasree units and financially support the FPCs that are promoted by Kudumbasree units.

With interventions in the primary sector, there will be increased investment in the sector, in agricultural marketing and product aggregation, in industry and services, in retail trade, and in other sectors. Kerala Bank

should develop and broaden its portfolio of banking products to contribute to the economic growth of the State. As an organisational form of the future, the cooperative sector should attract and involve the youth in large numbers. This sector could infuse more technology and funds into new enterprises, including start-ups that will attract the youth. Steps will be taken to strengthen the economic relationship between Kerala Bank and the primary cooperative societies. The activities and financial strategies of primary cooperative societies will be coordinated with the commercial activities of Kerala Bank. Improving their financial performance and creating better supervisory structures and coordination, will turn around even non-functional cooperatives into functional ones. Steps will be taken to accelerate the involvement of the cooperative sector in the supply chain and value-addition functions. Steps will be taken to improve coordination and integration across line departments, Local Governments, cooperatives and FPCs to contribute to agricultural growth. Efforts must be made during the 14th Plan period to implement information technology-based solutions for the financial management of PACSs, including a unified software and core banking systems. This sector must establish successful value-driven subsidiary enterprises by self-transformation and the creation of subsidiaries. This sector will seek maximum functional convergence between and among Local Governments, cooperatives and development departments. The creation of multiple forms of farmer producer organisations is essential for future processes, in the form of both cooperatives and FPCs at the Panchayat-level. Kerala Bank will be entrusted with the task of increasing credit flow into the storage and warehousing sector. The sector will try to extend more credit for the creation and expansion of agricultural marketing infrastructure. Women and SC/ST cooperatives will be further diversified and strengthened. There is an opportunity to form a consortium of cooperatives, thereby promoting the production, marketing, online marketing, and branding of products from the sector. The consortium can make experimental forays into the waste management and treatment field.

There is an investment of more than Rs 1 lakh crore in cooperative societies. This sector can channel these funds to productive sectors in the State with the participation of the Government by forming a consortium of groups. This will create jobs and ensure the production of value-added products. It will prevent price collapse trends in the agricultural sector to some extent.

#### **Key initiatives proposed in the 14th Five-Year Plan**

1. There is an urgent need to rehabilitate primary-level cooperatives. It should be done by analysing the various causes of loss, suggesting specific solutions, providing technical assistance, and strengthening the monitoring systems of primaries. Even if the Government wishes to provide financial assistance, it should be in the form of one-time aid by analysing the various causes of losses.
2. Youth cooperatives should be encouraged. Various projects of the youth should be examined, evaluated and encouraged by providing basic financial support.
3. SC/ST groups should be encouraged and revived. While implementing their schemes, there should be a panel of experts at the department-level to guide, evaluate and take forward projects.
4. Rice production and distribution in the cooperative sector should be assisted and encouraged in the 14th Plan period.
5. Modernisation and diversification of processing cooperatives, consumer cooperatives and Neethi stores are needed to comply with current trends.
6. The involvement of cooperative institutions in the primary, industrial, service, and trade sectors should be increased so as to increase investment in the primary sector, agricultural marketing, product integration and industry, service and retail trade, and other sectors.

7. Assistance should be provided to promote grameen markets. Organisations like NABARD are providing assistance to build warehouses, but these institutions are facing difficulties in purchasing land and proceeding with operational activities. Therefore, special attention should be given to that area.
8. Cooperative movements in the field of education should refresh their activities, bringing in modern curricula that suit the present era, and revising and diversifying courses. Preliminary work has started and it should continue during the Plan period.
9. Women's cooperatives should continue projects such as *Muttathe Mulla* and *Snehathiram*, which are currently being carried out in a good manner, and also introduce new projects.
10. Steps should be taken to ensure due representation to primary cooperative societies and Kerala Bank in working group levels to improve coordination and integration across Local Governments, cooperative societies and other departments, and FPOs/FPCs.
11. Kerala Bank should garner the deposits of about Rs 250,000 crore made by non-residents in a scattered fashion. Kerala Bank should also create an awakening in the financial sector of Kerala by intervening in production, construction, storage, distribution and provision of basic facilities.
12. Cooperative movements have a large presence in the health sector, and this benefited Kerala during the COVID-19 pandemic. There is potential for hospital cooperative societies to expand in the health sector. Steps must be taken to increase the involvement of cooperative movements in the field of elder care self-care in Kerala.
13. The comprehensive amendment of the Kerala Cooperative Societies Act will warm the relationship between the cooperative sector and Local Governments.
14. Efforts are on to implement a unified software for PACSs and Kerala Bank. Once this is done, modern systems in the banking sector such as core banking solutions, NEFT and ATM facilities will be enabled in the cooperative sector.
15. Efforts should be made to modernise the cooperative sector by utilising the possibilities of modern technological integration.
16. There will be a concerted effort on the part of the department for the timely completion of projects over the next four years of the Five-Year Plan period, setting targets for each year.
17. During the Five-Year Plan period, the involvement of the cooperative sector in the primary sectors such as agriculture, marketing, dairy, fisheries, and animal husbandry should be intensified and future cooperative sector activities should be conducted in a manner conducive to their revival and stimulation.

### **Initiatives already started in the 14th Five-Year Plan**

**Cooperative initiatives in technology-driven agriculture.** In order to enhance the competitiveness and viability of agriculture and allied sectors, a new initiative emphasising the welfare of farmers has been introduced from 2022-23. The scheme is intended for the cultivation, aggregation (homestead collection), storage, value addition and retail sales of agriculture products to enhance agriculture with the support of the cooperative sector.

**Setting up a unified software for Primary Agricultural Credit Societies (PACSs).** Assistance for the modernisation of credit cooperatives includes development of core banking solutions, a unified technology platform, technology upgradation, hiring of national-level IT experts, engaging national-level IT institutions for technology support and so on. The State cooperative bank (Kerala Bank) and PACSs should be a part of the technology platform.

**More youth cooperative societies will be formed.** Sufficient funds have been earmarked for a scheme for start-ups related to event management and catering services in 2022-23, and it will continue through the 14th Plan period. Financial assistance will be given to the existing youth cooperative societies also.

**‘Punarjani’ project.** A project for the revitalisation and overall development of SC/ST cooperatives to make them profitable and viable. For the *Punarjani* component, under the scheme for assistance to SC/ST cooperatives, an amount of Rs 463.20 lakh is earmarked in 2022-23 during the 14th Five-Year Plan period. Administrative sanction has been issued for the 14 vibrant projects of this component (Rs 273.74 lakh).

**Assistance to cooperative examination board.** Under this scheme, assistance will be provided for the revamping of the cooperative examination board to ensure transparency in the recruitment of candidates.

## Chapter 11

### Education

#### Overview

Kerala was declared fully literate in 1991. The Kerala Government is now taking every possible step to improve the quality and standards of education. Increasing the quality of education at the school and higher education-level is the thrust area for the 14th Five-Year Plan. Through projects such as *Vidya Kiranam*, a component of the Nava Kerala Mission which is a continuation of *PothuVidyabhyasa Samrakshana Yajnam* and the *Kerala Knowledge Economy Mission*, the Government aims to make drastic changes at the school and higher education levels. Special focus has been given to children who need special care and attention and those from the marginalised and deprived sectors, to make the education system more inclusive. The 14th Plan proposes to make available the best possible education to every child at the school and higher education levels and make Kerala an education hub.

During the 13th Five-Year Plan the total outlay for the education sector as a whole (School Education, Higher Education and Technical Education) was Rs 8,908.38 crore and the outlay provided for the first year of the 14th Five-Year Plan is Rs 1,715.04 crore.

#### 11.1 SCHOOL EDUCATION

##### Overview

The State has a well-knit network of public sector schools. Social intervention in education has been quite prominent in Kerala. Education plays an important role in determining the progress of Kerala society and also in inculcating social values to strive for the ideals of social justice, equality, democracy and secularism. We have to ensure equal opportunity for equitable quality education for every child while formulating policy guidelines and action plans.

There were 12,986 schools in Kerala in 2020-21, of which 4,697 (36.17 per cent) were Government schools, while 7,214 (55.55 per cent) were aided and 1,075 (8.28 per cent) were unaided. More Government schools are functioning at the lower primary (LP)-level than in the upper primary (UP) and high school (HS) sections. Aided schools outnumber Government schools in all the sections. There are 1,534 schools offer syllabi other than the one prescribed by the State Government. These include 1,320 CBSE schools, 164 ICSE schools, 36 Kendriya Vidyalayas and 14 Jawahar Navodaya Vidyalayas.

In 2021-22, of the total number of students enrolled, girls constituted 48.38 per cent. Boys outnumbered girls in all the districts. But the gender gap is very narrow in Kerala in terms of enrolment. Scheduled Caste (SC) students constituted 9.90 per cent of the total. The percentage figures of SC students in Government schools, Government-aided schools and private unaided schools were 12.29, 9.49, and 3.95 respectively. ST students constituted 1.85 per cent of the total enrolment in 2021-22. The percentage of ST students in Government schools, private aided schools and private unaided schools was 3.33, 1.23, and 0.47 respectively in 2021-22.

The implementing agencies in school education are 1) Directorate of General Education, 2) Directorate of Higher Secondary Education, 3) Directorate of Vocational Higher Secondary Education, 4) Education Mission, 5) Kerala Infrastructure and Technology for Education (KITE), 6) Kerala State Literacy Mission Authority (KSLMA), 7) Samagra Shiksha Kerala (SSK), 8) State Institute for Mentally Challenged (SIMC),

9) State Council of Educational Research and Training (SCERT), 10) State Institute of Educational Management and Training (SIEMAT), and 11) Kerala State Bharat Scouts and Guides.

### 13th Five-Year Plan

The outlay and expenditure for the school education sector in the 13th Five-Year Plan (2017-2022) are given in Table 11.1.

Table 11.1 *Outlay and expenditure for school education sector for 13th Plan, in Rs crore*

Year	Outlay	Expenditure	Per cent
2017-18	863.08	742.50	86.03
2018-19	1,013.98	662.66	65.35
2019-20	992.60	482.86	48.65
2020-21	926.75	738.62	79.70
2021-22	920.60	863.23	93.77
Total	4,717.01	3,489.86	73.98

Source: Annual Budget document and Planspace

Total outlay for school education during the 13th Five-Year Plan was Rs 4,717.01 crore and the total expenditure Rs 3,486.86 crore. The expenditure in 2021-22 was 93.77 per cent of the allocation. The reasons for the low expenditure during 2018-19, 2019-20 and 2020-21 were the floods and the COVID-19 pandemic.

Outlay and Expenditure of Plan Funds under various departments and implementing agencies during 13th Five-Year Plan are in Table 11.2.

Table 11.2 *Department/Agency-wise budgeted outlay and expenditure for school education in the 13th Five-Year Plan, in Rs crore*

Departments/ Agencies	2017-18		2018-19		2019-20		2020-21		2021-22		2017-22	
	Budget Outlay	Exp.	Budget Outlay	Exp.	Budget Outlay	Exp.	Budget Outlay	Exp.	Budget Outlay	Exp.	Total Outlay	Total Exp.
DGE	557.03	365.37	677.67	495.28	690.13	350.89	643.75	437.05	646.43	655.87	3,215.01	2,304.45
KITE	32.00	32.00	34.00	19.67	34.00	16.32	34.00	11.02	30.00	16.29	164.00	95.29
Education			1.00	1.79	2.00	2.15	1.00	2.20	1.00	1.45	5.00	7.57
Mission												
VHSE	13.50	18.07	15.00	8.26	15.20	5.47	14.00	11.69	14.00	14.03	71.70	57.51
DHSE	101.00	93.59	110.10	71.40	109.31	64.58	94.50	93.84	97.41	81.99	512.32	405.38
SIMC	7.50	4.90	9.00	4.64	9.00	1.21	9.00	3.19	9.00	3.67	43.50	17.61
SCERT	18.00	16.00	18.75	2.77	19.50	3.66	18.00	10.34	18.00	4.09	92.25	36.86
SSK	115.00	22.82	127.56	34.42	91.96	19.95	91.50	134.61	83.26	70.07	509.28	281.88
KSLMA	15.50	24.75	17.00	22.00	17.50	16.17	17.50	14.02	18.00	14.41	85.50	91.35
SIEMAT	3.50	2.30	3.90	1.24	4.00	1.59	3.50	1.39	3.50	1.36	18.40	7.88
Others	.05	162.71		1.20		.88		19.26			.05	184.06
Total	863.08	742.50	1,013.98	662.66	992.60	482.86	926.75	738.61	920.60	863.23	4,717.01	3,489.86

Source: Annual Budget documents for various years

### Achievements in the sector during 13th Five-Year Plan

The 13th Five-Year Plan marked a transformation in the sphere of school education, particularly in Government and aided schools. The period was marked by new investments in school education, particularly in infrastructure, improvement of the quality of schools and instruction, improvement of social coverage and inclusion in the school education system. High-quality school education was made available to a wider section of the people than ever before.

During the 13th Five-Year Plan period, infrastructure facilities in public schools improved considerably. KIIFB played a major role in providing financial support for infrastructure development. Thus, Rs 5 crore

each was allotted to 141 schools, Rs 3 crore each to 386 schools and Rs 1 crore each to 446 schools under KIIFB. Under Rs 5 crore category constructions of buildings have been completed in 120 schools and Rs 3 crore category constructions in 96 schools.

School education in Kerala surged in the 13th Five-Year Plan period. The most important policy measure here was the school education developmental programme called the Public Education Protection Mission (*Pothuvidyabhyasa Samrakshana Yajnam*), inaugurated by the Government in 2016. Its focus was on raising the quality of infrastructure and services in school education in the public sector. A remarkable outcome of recent policies was that 8, 91,046 additional children enrolled in Government and aided schools between 2016-17 and 2021-22.

Table 11.3 New students who sought admission to public-funded schools in Kerala from 2016-17 to 2021-22

Management	I-IV	Standards V-VII	VIII-X	Total I-X
From 2016-17 to 2017-18				
Government	15588	5475	38789	59852
Government Aided	25199	58670	12844	96713
Total	40787	64145	51633	156565
From 2017-18 to 2018-19				
Government	22931	12229	35484	70644
Government Aided	29186	67483	18658	115327
Total	52117	79712	54142	185971
From 2018-19 to 2019-20				
Government	16223	12616	36376	65215
Government Aided	19412	63312	15619	98343
Total	35635	75928	51995	163558
From 2019-20 to 2020-21				
Government	21339	9659	3859	34857
Government Aided	32493	57844	3310	93647
Total	53832	67503	7169	128504
From 2020-21 to 2021-22				
Government	50124	20018	37316	107458
Government Aided	56196	77094	15700	148990
Total	106320	97112	53016	256448
Total new students during the five years				891046

Source: Directorate of General Education

Around 128,504 new students sought admission to Government and Government-aided schools in 2020-21. The corresponding number for 2021-22 is 256,448. It is seen that during the COVID-19 pandemic, students preferred public-funded schools, and compared to previous years more students enrolled in Government schools. The total number of new students who sought admission in Government and aided schools over the last five years is 8, 91,046.

All the schools in the State prepared Academic Master Plans to improve academic aspects in a phased manner.

Biodiversity parks have been developed in schools so as to enable students to understand the need for the conservation of the environment in the context of global warming and climate change, and this has also been instrumental in making school campuses 'environment-friendly'.

During the pandemic period, since June 2020, the Government tried to reach out to students through digital platforms to keep them engaged and dispel their feeling of loneliness. Accordingly, the Government devised a programme of Digital Classes named "First Bell", broadcast through the VICTERS educational channel. Digital classes in vocational subjects were made available to students through the 'VHSE e-Vidyalayam'



YouTube channel.

With the support of the public, a number of initiatives are being taken to make the mid-day meal programme better and to nurture a generation of physically and mentally healthy pupils by providing them with nutritious and quality lunch. Currently, 97.56 per cent of the total enrolled children in Government and aided schools from pre-primary to Class VIII are beneficiaries of the mid-day meal scheme.

The distribution of handloom uniforms to students was started from 2017-18. In 2017-18, handloom uniforms were provided in classes 1 to 4 in the Government sector. In 2018-19, the scheme was extended to classes 1 to 7 in the Government sector and from 2019-2020 to classes 1 to 4 in aided schools.

Financial assistance was given to 321 institutions for providing care for the mentally challenged. As per statistics given by Directorate of General Education, there were 45 special schools functioning in Kerala in 2019-20. In addition, there were 328 special schools functioning under non-governmental organisations (NGOs) and the Local Self Government Department in the State. Apart from free uniforms and the mid-day meal, financial assistance is given to meet expenses for travelling, hostel facilities, school excursions and so on. Disabled-friendly facilities such as barrier-free campuses, equipment, services from resource centres, services of resource teachers and so on are provided for ensuring inclusive education.

#### **Critical gaps in school education sector**

1. The State has to move on and work towards ensuring equity, quality and inclusion. The curriculum needs to be revised comprehensively to address present-day challenges.
2. Even though digital classes are being conducted successfully, there are technical and academic constraints to utilising them optimally.
3. The School Resource Groups have to be strengthened to ensure the development of proper action plans matching the school-level Academic Master Plans. A mechanism to properly monitor the process has to be evolved.
4. The mentoring programme has to be strengthened to ensure personal attention to each child.
5. A comprehensive database for education has to be developed, which can be used even by the Local Governments at all levels for educational planning.
6. A significant fraction of students passing out of school lack the confidence, knowledge, ability or skill required to secure a sustainable livelihood.
7. There are no proper linkages between school and the higher education sectors.
8. Avenues of health and physical education are few in school education.
9. Access to technology-aided education is very poor for vulnerable and deprived children.
10. Children from deprived sections and the minorities, including linguistic and migrant families, may not have appropriate social skills, which may make them remain aloof.

#### **14th Five-Year Plan**

The 14th Five-Year Plan mainly concentrates on enhancement of the quality of infrastructure as well as academic excellence, and inclusion of the best possible education to all sections of society, especially socially oppressed communities and children who need special care and focus.

#### **The main focus area of the 14th Five-Year Plan**

Schemes under the 14th Plan will focus on academic improvement in schools and on the enhancement of the quality of teaching and pedagogy. Curricula and programmes of learning at every-level, from pre-school

through higher secondary, are in the process of being revised. A gender audit is being conducted on textbooks at every-level of instruction. The Government of Kerala has planned special programmes to improve skills in language and communication, particularly in English, and in mathematics.

The 14th Five-Year Plan will support continuing efforts to bring the best school education to all children. This includes planned efforts to further enhance the quality of school education received by children of the Scheduled Tribes with regard to pedagogy, infrastructure facilities, and facilities for quality residential education. The Plan will work to end the digital divide between children of the Scheduled Castes and Scheduled Tribes and the rest of the population.

Kerala learnt valuable lessons in methods of bridging the digital divide during the pandemic, when online learning became the major mode of school education. The 14th Five-Year Plan will support every effort to close the digital divide, ensure better connectivity to school education and give the poor access to digital study materials and library networks on a completely new scale.

The 14th Five-Year Plan will support efforts to help pre-school education fulfil the tasks of helping children's emotional, social, and personal growth in an inclusive environment. We see early childcare and pre-school education as the first step in the formal educational structure.

The 14th Five-Year Plan will support efforts to help schools serve the special needs of children with intellectual and physical disabilities.

The 14th Five-Year Plan will support efforts to dovetail vocational learning in higher secondary schools with the general effort to upgrade skill levels in the economy.

#### **Objectives of 14th Five-Year Plan**

“Ensuring equitable and quality education for all children and leading them to be productive and socially responsible citizens” is the main objective of 14th Five-Year Plan. To raise the quality of school education to international standards, curricula and programmes of learning at every-level, from pre-school through higher secondary, should be modernised. Government has begun the process of revision and modernisation of curricula. Local Governments and programmes like Sarva Shiksha Abhiyan (SSA) have contributed much to the overall development and improvement of physical infrastructure and common facilities in Government schools in the State.

#### **Key initiatives proposed in the 14th Five-Year Plan**

The Directorate of General Education coordinates all the activities of public education from Class 1 to Class 10, higher secondary and vocational higher secondary education. Earlier, classes from 1 to 10 were under the administrative control of the Directorate of Public Instruction. Also there existed separate directorates for higher secondary and vocational higher secondary education. Now these three sections are merged to form the Directorate of General Education.

As part of the quality enhancement programme in schools, in the 14th Five-Year Plan the target is to elevate Government schools to international standards and achieve better learning experiences.

The scheme of ‘Academic Excellence’ aims at the participation of all children in all spheres of their life in and out of the school. Schools need to become centres that prepare children for life and ensure that all children,

especially the differently abled, transgender, children from marginalised sections, children of immigrant people, children from coastal and tribal belts and children in difficult circumstances, get the maximum benefit of this critical area of education. Special attention needs to be given to language barriers. As in all other social contexts, language acts as a powerful instrument of exclusion. Hence in the 14th Five-Year Plan special emphasis is given to language enrichment programmes.

The curriculum needs to be flexible and appropriate to accommodate the diversity of school children including those with disabilities in cognitive as well as non-cognitive domains. It shall address concerns about nurturing physical, aesthetic and skill-related capabilities.

All schools in the State have to be made disabled-friendly. Priority needs to be accorded to removing physical barriers and enabling the participation of children with disabilities in schools. Access-friendly physical spaces need to become the norm.

Special programmes shall be implemented to address the needs of children belonging to different areas/sections such as tribal, coastal, marginalised and disadvantaged family backgrounds in a phased manner.

Teacher education and teacher professional development programmes, as well as training of educational functionaries at all levels, must be reoriented towards equity and quality considerations. Science education is a core part of the school curriculum.

As English remains one of the major languages for social mobility and economic success, school-going pupils and families look for quality English learning resources. Schools in Kerala must adapt their language curriculum to enhance the English proficiency of pupils while also focussing on expanding their knowledge and creativity offered by English as a second language.

Thrust has been given to reformulate work education. Work-related generic experiences (basic, interpersonal and systemic) could be pursued at all stages of education. This includes critical thinking, transfer of learning, creativity, communication skills, aesthetics, work motivation, work ethics of collaborative functioning and entrepreneurship-cum-social accountability. Age-appropriate, work-integrated education may be provided to all students from primary to secondary stages.

Apart from the on-going programmes under five categories such as infrastructure, academic activities, student-centric activities, modernisation and governance, monitoring of the following programmes have been started in 2022-23. Focus has been fixed on infrastructure facilities.

1. **Focus school.** Rejuvenation of Government schools has been a flagship programme of the Government since the previous Five-Year Plan. This project is aimed at such Government schools that have fewer than 10 students. The major objective is to improve low-performing schools, bringing them on a par with benchmarks. Preparation of an activity package suitable for schools and implementing a special activity package are the major steps proposed under the project.
2. **Model inclusive school.** This programme envisages strengthening of selected general schools to function as model centres of inclusive education with regard to specific disabilities. These model inclusive schools will provide appropriate and qualitative education to pupils who need special care along with their peers.
3. **Vayanayude vasantham.** This project aims to inculcate the habit of reading among school students.

4. **English language enrichment programme.** This programme aims to initiate a comprehensive English language enrichment programme focussing on students and teachers of upper primary classes. As the first phase, 163 schools are selected for implementing the programme. It will be done with the help of mentors and resource teams. Content generation, workshops, training to members of the resource team and teachers are the major components of the project.

**Higher secondary education.** At present there are 817 Government Higher Secondary Schools in addition to 16 model residential schools located in areas of tribal concentration. There are 17 Technical Schools and 16 Special Schools. The target of the Higher Secondary Education Department set for the 14th Five-Year Plan are: achievement of academic excellence in teaching, improvement of quality of teaching and teaching methodology, revision of curriculum of Higher Secondary courses, improvement of language and communication skills, especially in English and mathematics, improving facilities for residential education, adequate infrastructure facilities in all Government Higher Secondary Schools, well-equipped libraries and laboratories, regularly trained teachers, strengthening online teaching and ensuring Internet connectivity everywhere in Kerala, proper training for selecting careers suited to students, facilities for adolescent counselling to overcome stress, schemes for rendering financial help to students belonging to below poverty line (BPL) families through merit-cum-means scholarships, special programmes for students who score below average marks in examinations through quality improvement programmes, e-governance in administration and empowering principals for proper administration.

The initiatives proposed in the 14th Plan include improvement of teaching quality, periodic compulsory training to teachers, introduction of new methods of teaching, addressing issues of social exclusion and cumulative deprivation among the socially deprived, motivation and training to tackle issues faced by target groups, imparting compulsory residential refresher training to teachers, organising teachers' congress to encourage research among teachers, creating platforms for transforming ideas, and adopting schools with low performance and offering special training and remedial coaching.

**Vocational higher secondary education.** Vocational Higher Secondary Education in Kerala started in 1983 with just 19 schools as an experiment. There are 389 schools with the latest expansion in 2007, and together they have a student-strength of 30,000. NSQF (National Skill Qualification Framework) was rolled out in the State in a phased manner. NSQF was extended to all 389 VHS schools including aided VHS schools at the end of the 13th Five-Year Plan, The 14th Plan aims to expand National Education Policy-compliant skill education in a hub-and-spoke model.

The Sustainable Development Goals (SDG 2030) aim to inculcate skill/vocational education with all forms of academic education by 2030. The Government of India directive DO No1-3/2021-IS.16 dated November 11, 2021 aims to ensure that 50 per cent of students at the Higher Secondary-level get trained in one or the other vocation by 2025.

The programmes and schemes of Vocational Higher Secondary Education during 14th Five-Year Plan are: 1) ASPIRE, an Industry-Academia Partnership for effective skilling, 2) Professional development schemes for stakeholders, student-centric programmes, 3) Comprehensive upgradation of skill labs, 4) Skill development institutions-in hub and spoke model, 5) School infrastructure development, 6) e-governance, and 7) NOS-QP (National Occupational Standards – Qualification Pack) Development.

**Kerala State Literacy Mission Authority (KSLMA).** Kerala State Literacy Mission Authority is the nodal agency for implementing a continuing education programme launched in the State in 1988 through Local Governments and voluntary organisations. The authority has over 4,000-plus centres through which the programme is being implemented in the State. The new initiatives of KSLMA during the 14th Five-Year Plan include special literacy/equivalency programme for Scheduled Castes (*Navachethana*), special projects for Scheduled Tribes in Attappady and Wayanad, special package for continuing education of transgenders (*Samanwaya*), literacy programme for migrantlabourers (*Changathi*), environment literacy programme, coastal literacy programme, and other ongoing activities.

**State Council of Educational Research and Training (SCERT).** The State Council of Educational Research and Training was established by Kerala on the lines of NCERT at the national-level, as a resource body in academic matters for policy, research, vocationalisation of education, curriculum development and teacher development programmes. Apart from the ongoing activities under divisions of the SCERT, the new programmes proposed include the development of the Kerala Curriculum Framework for pre-school education, school education, teacher education and adult education, and a comprehensive revision of curriculum, preparation of text books, teachers' handbooks, supplementary learning materials for all classes, launching of an international conference, the Kerala Education Congress, publish both online and print versions of the *Kerala Education Journal*, a programme to nurture creativity and entrepreneurship among secondary and higher secondary school students, and so on.

**Samagra Shiksha Kerala (SSK).** Samagra Shiksha Abhiyan, Centrally sponsored, was started as an integrated programme for school education subsuming Sarva Shiksha Abhiyan (SSA) and Rashtriya Madhyamik Shiksha Abhiyan (RMSA) in 2018. To attain the SDG goals by 2030, ensure that all boys and girls complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations, is the vision of SSK during the 14th Five-Year Plan. Major programmes proposed to be implemented during the period are: 1) provision of quality education and enhancing learning outcomes of students, 2) bridging social and gender gaps in school education, 3) ensuring equity and inclusion at all levels of school education, 4) ensuring minimum standards in schooling provision, 5) promoting vocationalisation of education, 6) support States in the implementation of the Right of children to free and compulsory education (RTE) Act, 2009, and 7) strengthening and assigning SCERTs/State Institute of Education and DIET as nodal agencies for teacher training.

**Education mission.** As part of the *Nava Keralam* Mission launched by the State overnment in November 2016, the General Education Department has initiated an ambitious programme for the implementation of Public Education Rejuvenation Campaign. Now it functions as the *Vidyakiranam* project. Proper coordination of different missions that are part of *Navakeralam Karma Padhathi* with the Education Department and its agencies is the main thrust of the programme.

**State Institute of Educational Management and Training (SIEMAT)-Kerala.** The Government of Kerala had sanctioned the State Institute of Educational Management and Training-Kerala (SIEMAT) in 2005 as envisaged in the National Policy on Education 1986, for capacity-building among educational functionaries. Its prime thrust during the 14th Five-Year Plan will be on quality enhancement and academic excellence. All the academic and capacity enhancement programmes were brought under the umbrella scheme, Progressive Edulead Programme (PEP). Other programmes proposed during the period are D-Sight (Data Based Insight),

research, training, national educational leadership exchange programme, Kerala Education Summit, *Vidyakiranam*, State-level planning and appraisal and so on.

**Kerala Infrastructure and Technology for Education – KITE (IT@ School Project).** Kerala Infrastructure and Technology for Education (KITE) is exclusively concerned with the implementation of high-tech school programmes. It is also meant to scale-up ICT-enabled education to the higher education sector. In view of the COVID-19 pandemic, KITE has introduced ‘First Bell’ digital classes through its KITE VICTERS educational channel, albeit with its limited resources and technology. Major programmes proposed to be implemented during the 14th Five-Year Plan period are ICT hardware deployment and maintenance, content development, infrastructure upgradation, monitoring and capacity-building, providing best practices in ICT, project management and e-governance.

The C.H Mohammed Koya Memorial State Institute for the Mentally Challenged, Pangappara, Thiruvananthapuram (SIMC), is an autonomous registered society working under the General Education Department. It imparts special education, training and rehabilitation services to differently abled children. Its main objective during the 14th Five-Year Plan is to achieve the goal of improving the quality of life of intellectually challenged persons and their families. The major ongoing activities include vocational training, administrative expenses, diploma courses on special education, community-based parent training programme, construction of hostels for the children, infrastructure development, augmentation and documentation, early intervention using a mobile unit, Susthithi project, and SIMC service centres in 13 districts. New projects such as barrier-free environment-sensory parks, differently abled science and research cell, preparation of curriculum for vocational training centres, and development of virtual platforms for the differently abled are also to be pursued during the 14th Five-Year Plan.

**Kerala State Bharat Scouts and Guides.** This is a voluntary organisation functioning in schools under the Kerala Education Rules. Scouting is a voluntary movement for young people to develop their physical, intellectual, social and spiritual potential as individuals, as responsible citizens and as members of the local, State, national and international communities. Major initiatives proposed during the 14th Five-Year Plan are *Sneha Bhavanam*, a housing scheme for poor children, *Kuttikkoru Library* and *Muttathoru Krishithottam*.

## 11.2 HIGHER EDUCATION

### Overview

There are 14 State universities in Kerala. Out of these, Kerala, Mahatma Gandhi, Calicut and Kannur are general in nature and offer courses in various disciplines. Sree Sankaracharya University of Sanskrit, Thunchath Ezhuthachan Malayalam University, Cochin University of Science and Technology, Kerala Agricultural University, Kerala Veterinary and Animal Science University, Kerala University of Health Sciences, Kerala University of Fisheries and Ocean Studies, and Kerala Technological University offer specialised courses in specific subject areas. Besides, the National University of Advanced Legal Studies (NUALS) established in 2005 and a Central University in Kasaragod District are also functioning.

There are 229 arts and science colleges in the State, of which 163 are Government-aided and 66 are Government colleges. In addition, there are three Government colleges of teacher education, one Institute of Advanced Study in Education, four music colleges, and one physical education college.

The implementing agencies under the State Higher Education Department are, 1) Collegiate Education Directorate, 2) Kerala State Higher Education Council, 3) Universities (Kerala, Calicut, Mahatma Gandhi, Kannur, Sree Sankaracharya Sanskrit University, Malayalam University and NUALS), 4) Centre for Continuing Education, 5) Kerala Council for Historical Research (KCHR), 6) Law Colleges (Thiruvananthapuram, Ernakulam, Thrissur and Calicut), 7) Rashtriya Uchchadar Shiksha Abhiyan (RUSA), 8) Additional Skill Acquisition Programme (ASAP), and 9) National Cadet Corps (NCC).

### 13th Five-Year Plan

The outlay and expenditure for higher education (universities and collegiate education) sector for 13th Five-Year Plan (2017-2022) were as follows:

Table 11.4 13th Five-Year Plan outlay and expenditure for higher education, in Rs crore

Year	Outlay	Expenditure	Per cent
2017-18	815.78	317.66	38.93
2018-19	684.23	562.16	82.16
2019-20	695.79	289.07	41.55
2020-21	407.56	429.28	105.33
2021-22	410.76	306.51	74.62
<b>Total</b>	<b>3,014.12</b>	<b>1,904.68</b>	<b>63.19</b>

Source: Annual Budget Documents and Plans page

The total outlay for higher education (universities and collegiate education) during the 13th Five-Year Plan was Rs 3,014.12 crore and the total expenditure during the period was Rs 1,904.68 crore (63.19 %). The expenditure in 2020-21 and 2021-22 was comparatively high. Low expenditure in 2019-20 was mainly due to restrictions imposed during the COVID-19 pandemic.

The outlay and expenditure of Plan funds under various departments and implementing agencies during the 13th Five-Year Plan are given in Table 11.5.

Table 11.5 Department/agency-wise budgeted outlay and expenditure on higher education in the 13th Five-Year Plan, in Rs crore

Departments/Agencies	2017-18		2018-19		2019-20		2020-21		2021-22		2017-22	
	Budget Outlay	Exp.	Budget Outlay	Exp.	Budget Outlay	Exp.	Budget Outlay	Exp.	Budget Outlay	Exp.	Total Outlay	Total Exp.
Kerala University	26.00	15.50	27.00	17.54	29.00	9.28	25.00	15.80	26.00	11.69	133.00	69.81
Calicut University	24.00	5.00	25.00	13.00	25.00	2.98	22.00	18.71	22.50	13.70	118.50	53.39
Mahatma Gandhi University	24.00	15.00	25.00	22.41	27.00.00	4.74	25.00	18.90	27.00	15.10	128.00	76.15
Sree Sankaracharya University of Sanskrit	15.40	9.70	16.50	9.39	17.00	5.44	16.50	12.06	17.00	10.21	82.40	46.79
Kannur University	24.00	11.00	25.00	23.61	25.00	1.22	22.00	17.37	22.50	17.82	118.50	71.02
(NUALS)	6.80	11.80	7.25	4.20	7.25	2.91	7.25	2.48	8.00	3.29	36.55	24.68
Malayalam University	7.50	5.20	8.50	5.62	9.00	9.76	8.01	9.33	8.01	2.15	41.02	32.06
Law Colleges	7.50	24.50	8.00	26.81	8.00	23.59	7.00	15.23	8.00	8.38	38.50	98.50
NCC	6.50	8.27	7.50	1.59	8.00	4.54	7.00	7.40	8.00	19.21	37.00	41.01
DCE	129.40	79.94	117.78	90.29	123.35	52.00	125.19	56.31	135.71	96.73	631.43	375.26
SN Open University	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00	5.01	0.00	5.01	3.00
CCEK	4.50	2.64	5.00	2.57	5.25	.86	5.25	5.25	5.50	4.16	25.50	15.48
KSHEC	16.50	6.30	17.50	10.45	18.00	11.37	16.75	11.64	16.80	11.20	85.55	50.95
KCHR	9.50	0.00	10.00	0.00	10.00	0.00	9.00	0.00	9.00	2.22	47.50	2.22
ASAP	429.60	100.00	282.20	117.82	281.94	100.42	50.00	154.98	25.00	68.00	1068.77	541.22
RUSA	82.80	2.07	100.00	53.69	100.00	17.80	57.60	35.36	57.73	.39	398.13	109.31
K.R. NIVSA	1.75	1.75	2.00	4.47	2.00	1.39	2.00	5.04	2.00	1.78	9.75	14.43
Higher Education Department	0.00	0.00	0.00	0.00	0.00	0.00	2.01	0.00	7.00	20.50	9.01	20.50
Others		19.00		158.71		40.77		40.44			0.00	258.93
<b>Total</b>	<b>815.78</b>	<b>317.66</b>	<b>684.23</b>	<b>562.16</b>	<b>695.79</b>	<b>289.07</b>	<b>407.56</b>	<b>429.28</b>	<b>410.76</b>	<b>306.51</b>	<b>3014.12</b>	<b>1904.68</b>

### 13th Five-Year Plan – achievements

Even though COVID-19 disrupted the education system, there were significant achievements in the higher education sector during the 13th Five-Year Plan. The major accomplishments are:

1. KALNET is an initiative of the Kerala State Higher Education Council, intended to ensure cooperation of the libraries attached to the higher education institutions by forming a network that would enable sharing of resources among them.
2. Sree Narayana Guru Open University, the only Open University in Kerala, was established in 2020 with its headquarters at Kollam city. It has regional centres and study centres across the State and offers distance education courses. All the distance education courses offered by Kerala University, MG University, Calicut University and Kannur University come under the administrative control and purview of this university.
3. The Earn While You Learn (EWYL) scheme is being implemented successfully in Government colleges. It is a mentoring project to gain experience while learning and earning.

### Critical gaps in higher education sector

1. Measures to improve quality to enable the higher education institutions to get NAAC accreditation are inadequate.
2. Measures to increase the Gross Enrolment Ratio in higher education institutions are inadequate.
3. The Learning Management System (LMS), the online support for learning, has not been established in all colleges.
4. There are more than 50,000 students in Government colleges across Kerala. But there is only one Physical Education College in the Government sector for promoting sports. Also, there is lack of infrastructure facilities like playgrounds, multipurpose indoor stadia, synthetic tracks and modern sports equipment in most of the colleges. In some colleges there is a lack of adequate land for college buildings.
5. Linkages between higher education institutions and industry are weak.

### 14th Five-Year Plan

The following areas have been identified as requiring policy attention and public expenditure.

1. **Infrastructure, teaching, and curriculum development.** Plan funding for higher education institutions will support infrastructure development and curriculum reforms. It should support capacity-building in individual disciplines/subjects; the formulation of strategies for improving undergraduate and postgraduate education and academic research; course design; planning for departments of excellence and centres of excellence; sharing experiences with national experts on centres of excellence; and teacher training and development.
2. **Institutional reforms and innovation.** In the 14th Five-Year Plan, efforts will be made to develop administrative regulations that are flexible, transparent, and responsive to the requirements of teachers and students.
3. **Online course development.** The Plan will support measures to explore new technologies of instruction, such as MOOCs (Massive Open Online Courses), which can best be introduced in colleges and universities, and set up inter-university groups to develop online courses.
4. **Networks for teaching, research, and student exchange.** Efforts are required to expand national and transnational networks for teaching, research, and student exchange.
5. **Library development, IT on campus.** Plan funding will support enhancement of digital infrastructure and promotion of libraries. The Plan will support efforts to share e-resources among institutions on different campuses.



6. **Equity.** Policy efforts by the Government will include ways and means of ensuring and deepening the socially inclusive character of higher education and ensuring regional balance in higher education. The Plan will support new scholarships, improved hostels, free access to digital infrastructure, and assistance to students for conference travel and exchange programmes.
7. **Micro planning.** The Plan will support efforts to formulate specific plans and programmes for individual universities, colleges, and related institutions as needed.

The New Education Policy (NEP) has justifiably been criticised on various grounds. The State has its concerns. There is ambiguity and confusion over how to operationalise certain aspects of NEP, and its implementation is marked by an absence of a continuing and continuous consultative process between the Centre and States.

The Government of Kerala is committed to the academic and administrative reform of the higher education system. Its higher education policy will be shaped to meet the felt needs and demands of the people in Kerala, particularly the youth.

#### **Key initiatives proposed in the 14th Five-Year Plan**

**Directorate of Collegiate Education (DCE).** The vision of the Directorate of Collegiate Education is “to impart accessible and affordable quality higher education that is competent and competitive, as well as intellectually and socially transformative”, and the mission is to achieve academic excellence by incorporating traditional and innovative methods to enhance and enrich the quality of higher education. The guiding principles of the Directorate of Collegiate Education are ensuring quality and academic excellence in the teaching-learning process and other academic discourses in institutions, promoting innovation and research capabilities in students and faculty members, and expanding the scope of scholarships to support needy students through innovative schemes.

The objectives of the Directorate of Collegiate Education in the 14th Five-Year Plan are to achieve academic excellence, enhance infrastructure development, promote quality and productive inter-disciplinary research and studies, ensure need-based industrial collaboration, promote study-work culture, initiate social outreach programmes and mould responsible citizens. The Directorate will try to attain the SDG goals related to education.

#### **The core areas of intervention during 14th Five-Year Plan**

NAAC accreditation of all colleges in a phased manner, infrastructure development for newly started colleges, promotion of interdisciplinary research, library development, student support and academic outreach and quality assurance in academics.

Major ongoing schemes proposed during the 14th Five-Year Plan are development of libraries and laboratories, acquisition of furniture, introduction of autonomy, and related development activities in selected well-established colleges (with matching grant for amounts collected by the College Development Council (CDC) for the development of colleges), development of training colleges, capacity building of teaching and non-teaching staff, quality enhancement and accreditation, autonomous colleges and establishing lead colleges as integrated education hubs which can be utilised for the activities of Government autonomous colleges, infrastructure upgradation, development and maintenance of Government colleges, information and

communication technology modernisation, student support, welfare and outreach, academic excellence in learning, teaching and research and physical education in colleges.

**Kerala State Higher Education Council (KSHEC).** KSHEC is an advisory body to the higher education departments, universities and other institutions of higher education in the State. Major programmes proposed by KSHEC during the 14th Five-Year Plan period are digitisation projects in higher education institutions which include an e-journal consortium and KALNET. KSHEC also intends to conduct surveys of higher education and programmes on faculty development, institutional strengthening, quality assurance and Nava Kerala post-doctoral fellowships.

**Additional Skill Acquisition Programme Kerala (ASAP Kerala).** Additional Skill Acquisition Programme (ASAP) Kerala is a Section-8 Company of the Higher Education Department that focusses on skilling students and the general community to enhance employability. Instituted in 2012, it was transitioned into a company in 2021. A unique skill-development model designed by ASAP Kerala is the Community Skill Park (CSP). Established across the State, the 16 CSPs are conceived as public-private partnership models of skill training to provide hands-on industry-relevant training to job aspirants. ASAP Kerala focusses on industry-relevant courses to eliminate the high unemployment rates among the educated in the State.

During the 14th Five-Year Plan period, ASAP Kerala will focus on two aspects:

1. A skilling mission to effectively utilise the globally favourable demographic dividend that India will possess by 2030.
2. Evolve a self-sustainable and well-established skilling model to effectively address current and future skill gaps.

**Universities.** Universities have proposed innovative projects in the 14th Five-Year Plan period with focus on infrastructure development, creating centres of excellence, academic diversification, research and innovation, establishment of incubation centres, evolving models of academia-industry interface, academic research and development, IT-enabled academic initiative, enhancing GER, laboratory and library development, setting up of physical and mental health counselling facilities and environment-friendly campus development. The universities will be transformed into institutions of excellence, with higher ranks in the National Institutional Ranking Framework (NIRF).

**Law Colleges.** There are four Government Law colleges, in Thiruvananthapuram, Ernakulam, Kozhikode and Thrissur. Proposed activities mainly focus on enhancing ongoing programmes. During the 14th Five-Year Plan they will mainly focus on development of infrastructure facilities, e-governance and digitalisation, academic and campus development activities, construction of additional academic blocks, research centres, library development and career and skill development programmes.

**Kerala Council for Historical Research (KCHR).** KCHR is an autonomous academic institution established in 2001, committed to scientific research in archaeology, history and social sciences. It is a recognised research centre of the University of Kerala and has bilateral academic and exchange agreements with leading universities and research institutes in India and abroad. The main thrust areas of the council during the 14th Five-Year Plan include in-house research, supporting research conducted by scholars outside the council, enhancing existing capacities of, and developing, a specialised library and resource centre on both the Thiruvananthapuram and Pattanam campuses, facilitating epigraphical and paleographical study of old scripts

including those in use in Kerala and medieval Dutch, and the publication of selected works in the form of working papers, occasional papers and monographs, and edited volumes.

**Centre for Continuing Education Kerala (CCEK).** CCEK is an autonomous institution that functions in the higher education sector. The Kerala Civil Service Academy is under the administrative control of CCEK, as a centre of excellence to mould the youth to reach top positions in the civil service examination. The initiatives proposed by the council during the 14th Five-Year Plan include commencement of coaching programmes for national-level competitive examinations and online coaching programme for civil service examination, by developing online study materials and conducting online test series.

**K R Narayanan National Institute of Visual Science and Arts.** K R Narayanan National Institute of Visual Science and Arts established by the Government of Kerala is an audio-visual training and research centre of international standards. Apart from ongoing projects, major programmes proposed to be undertaken in the 14th Five-Year Plan are: formulation of a department of cinematography, two-year programme for VFX and Virtual Production, which is a culmination of basic digital film-making, advanced visual effects and modern cinematic technology of virtual production, setting up of an international centre for film studies to foster film education and a film culture, setting up of a film archives and preservation unit for the spread of the film culture and education through cinema, and setting up of a new campus in Kochi.

**National Cadet Corps (NCC).** NCC was established in 1948 as the largest uniformed youth organisation in India, and the motto for the NCC is “Unity and Discipline”. The objective of NCC is to develop character, discipline and leadership qualities among students and youth. There are five group headquarters, 42 battalions and one directorate of NCC in the State. The major activities proposed by NCC during the 14th Five-Year Plan include infrastructure facilities for training, office building, development of the directorate and so on.

**Rashtriya Uchchathar Shiksha Abhiyan (RUSA).** RUSA is a Centrally Sponsored Scheme initiated in 2013 with the aim of bringing about a comprehensive changes in the higher education system. The scheme is funded in the ratio 60:40 by the Centre and State Governments respectively. RUSA is expected to continue in the 14th Five-Year Plan period as well.

### **11.3 TECHNICAL EDUCATION**

#### **Overview**

Technical education aims at human resource development by way of application of technology for the benefit of society, in terms of improving the quality of life, enhancing industrial productivity and improvising technologies for the overall development of the community. Technical education imparts education to the young, enabling them to contribute to the sustainable development and improvement of quality of life of the society.

The implementing agencies coming under Technical Education Department are,

1. Directorate of Technical Education
2. Kerala Technological University
3. Cochin University of Science and Technology (CUSAT)
4. Institute of Human Resource Development (IHRD)
5. Kerala Science and Technology Museum (KSSTM)
6. LBS Centre for Science and Technology

7. TrEST Research Park, and
8. Centre for advanced printing technology (C-apt).

### 13th Five-Year Plan

The outlay and expenditure for the technical education sector for 13th Five-Year Plan (2017-2022) are as follows:

Table 11.6 13th Five-Year Plan outlay and expenditure for the technical education sector, in Rs crore

Year	Outlay	Expenditure	%
2017-18	248.36	220.50	88.78
2018-19	249.93	260.58	104.26
2019-20	249.41	189.85	76.12
2020-21	213.69	206.68	96.72
2021-22	215.86	177.13	82.06
13th Plan Total	1,177.25	1,054.74	89.59

Source: Annual Budget documents and Planspace

Total outlay earmarked for technical education during the 13th Five-Year Plan was Rs 11, 77.25 crore and the total expenditure during the period was Rs 1,054.74 crore (89.59 per cent). The low expenditure in 2019-20 was due to the floods and the COVID-19 pandemic.

The outlay and expenditure of Plan funds of various departments and implementing agencies during 13th Five-Year Plan are given in Table 11.7.

Table 11.7 Department/agency-wise budgeted outlay and expenditure of higher education in the 13th Five-Year Plan, in Rs crore

Departments /Agencies	2017-18		2018-19		2019-20		2020-21		2021-22		2017-22	
	Budget Outlay	Exp.	Budget Outlay	Exp.	Budget Outlay	Exp.	Budget Outlay	Exp.	Budget Outlay	Exp.	Total Outlay	Total Exp.
DTE	148.76	150.22	144.93	176.28	139.41	163.00	125.15	128.93	121.82	114.92	680.07	733.34
CUSAT	23.00	19.75	24.00	13.00	25.50	4.88	22.00	14.29	23.00	17.92	117.50	69.83
KSSTM	15.50	3.88	18.00	17.80	19.00	0.00	18.00	18.00	19.00	8.10	89.50	47.77
IHRD	18.00	14.23	20.00	13.20	20.50	8.61	19.00	19.48	20.00	20.67	97.50	76.19
LBS	5.00	5.00	5.30	2.75	5.30	.88	4.52	5.99	4.75	4.35	24.87	18.96
(C-APT)	2.90	2.28	3.20	1.57	3.20	3.08	3.00	3.00	4.00	.98	16.30	10.91
KTU	33.20	21.70	33.50	17.70	33.50	7.40	20.51	1.87	21.01	8.49	141.72	57.16
Trest Park	2.00	.05	1.00	.70	3.00	2.00	1.51	1.50	2.28	1.72	9.79	5.97
Others		3.40		17.58				13.63			0.00	34.61
Total	248.36	220.50	249.93	260.58	249.41	189.85	213.69	206.68	215.86	177.13	1,177.25	1,054.74

Source: Annual Budget documents and Planspace

### Critical gaps in technical education sector

1. Insufficient industrial exposure for faculty members and students.
2. Inadequate facilities to foster innovations by students.
3. Inadequate facilities to incubate entrepreneurial ideas and provide technical support.
4. Lack of training to selected/interested faculty members for handling psychological problems of students so as to decide whether a student needs professional help.
5. Lack of guidance to students in schools coming under rural/coastal areas and for students of marginalised communities for pursuing higher education.
6. Lack of professional student counsellors in all higher educational institutions to address mental health issues of students

7. To encourage research in institutions where there is a need to extend incentives, by providing seed-money, fellowships, research grants and travel grants.

## **14th Five-Year Plan**

### **Key initiatives proposed in 14th Five-Year Plan**

The focus of technical education is to impart education to the young generation, enabling students to contribute to the sustainable development and improvement of the quality of life of the society. The key initiatives taken under different department of technical education in the 14th Five-Year Plan are as follows.

**The Directorate of Technical Education.** Directorate of Technical Education is the nodal department for technical education in the State. The department came into existence in 1957. The department of technical education is entrusted with the implementation of schemes to strengthen technical education aimed to produce technocrats with social commitment and also high academic standards. Along with the modernisation of curricula, the department trains students to be able to try their niche in entrepreneurship/start-up ventures. Under this Department there are nine Government Engineering Colleges, three Government-aided Engineering Colleges, 45 Government Polytechnic Colleges (including seven Women's Polytechnic Colleges), six Government-aided Polytechnic Colleges, 39 Technical High Schools and 42 Government Institutes for Fashion Designing (GIFD).

### **The Vision of 14th Five-Year Plan**

To build up technical education to attain competence and efficiency-level on par with the national and international standards. The specific focus is to groom young men and women to enable them to face local and global challenges, become high quality professionals and contribute to the development of the nation. With this vision, the thrust areas are the following:

1. Establish lead institutes with national eminence and international visibility.
2. Establish inter-disciplinary research centres with a futuristic outlook
3. Formulate and implement a technician-level skilling master plan to produce employable human power
4. Establish a skill corridor to integrate technical education in the State from the school-level to research and development stage
5. Institute job-oriented technical/vocational training and promotion of self-employment initiatives for the marginalised

By focussing on the identified thrust areas, the Directorate of Technical Education has proposed the following new schemes in 2022-23 that will continue during 14th Five-Year Plan:

1. **CORaL (Collaborative Research and Learning).** This is to undertake socially relevant research activities in collaboration with Government departments and agencies. The centre acts as a link, facilitating give-and-take among research institutes, LSGDs and Government missions on one side and academic institutions on the other.
2. **Scheme for Her Empowerment in Engineering Education (SHE).** Initiated at GCE Kannur, proposes to enable girl students to realise how much potential they have and provide the support they require to become leaders in technical fields.
3. In 2022-23, DTE proposes to identify the changes in the teaching-learning process, acknowledging the growing importance of e-Learning, and set up a centralised Resource Management System. This system will coordinate curricular, co-curricular and research activities of all institutions under the Directorate. The proposed centre will act as a common digital platform for sharing learning resources, library,

software, coordinating different research initiatives/activities taking place in all institutions. A centralised digital platform will be established for sharing e-resources with all the institutions under the Directorate.

4. It is planned to strengthen the Industry Institute Interaction Cell (IIIC) under the Directorate, so as to improve the professional skills of students with the help of industry personnel and professional trainers.
5. In 2022-23, the department aims to be part of the skilling initiative of the State Government, through utilisation of technical know-how, human resources and infrastructure available at institutions under the department, to serve beneficiaries from various walks of life. An action plan shall be formulated and implemented as approved by the Government.

**A P J Abdul Kalam Technological University.** A P J Abdul Kalam Technological University came into existence in 2014, with the aim to provide accessible and inclusive education in the fields of engineering, technology and management with focus on knowledge paradigms that shall contribute to research-driven advancements in technical and scientific innovations. With the aim of transforming the affiliated engineering colleges to enter into developmental collaborations with local self-help departments and agencies of the Government, specifically to interface the developmental initiatives, several programmes were initiated in 2022-23. These include academic quality improvement, establishment of research amenities, construction and infrastructure development, intellectual property development and industry promotion, development of e-Governance Management Systems, construction of amenities for students, faculty members and staff members.

During the 14th Five-Year Plan period, the A P J Abdul Kalam Technological University, with its strong proclivity to embrace the digital space to lead academic and research initiatives, proposes to bring radical transformation in engineering education in the State.

**Cochin University of Science and Technology (CUSAT).** CUSAT was established in 1971 to develop higher education with particular emphasis on post graduate studies and research in applied science, technology, industry and commerce. NAAC accreditation with 'A' Grade, high student employability rate, conversion of academic programmes into full-fledged outcome-based educational mode, and academic and research collaboration with reputed national and international institutes were some of the accomplishments of the university during the 13th Five-Year Plan.

The major activities proposed during 14th Five-Year Plan include construction of new and additional buildings for various departments, completion of indoor stadium, construction and extension works of hostels, improvement of laboratory facilities, expansion of the activities of the Centre for Science in Society (C-SiS), development of quality content for learning, training for teachers, research activities, fire and safety measures, installation of solar power systems, digitalisation of old journals, scholarship to research scholars and general campus development.

**Institute of Human Resource Development (IHRD).** IHRD was set up in 1987 as an autonomous body fully owned and controlled by the State Government imparting quality technical education to address the needs of society on an equitable basis by providing quality education at different levels. There are nine engineering colleges, eight polytechnics, 45 colleges of applied sciences, 15 technical higher secondary schools and two finishing schools under IHRD. Some of the major achievements of the institution during the 13th Five-Year Plan were upgradation of equipment in all laboratories of schools and colleges, purchase of furniture and library books, setting up of smart classrooms as part of ensuring quality education, and so on. The major activities proposed by IHRD in the 14th Five-Year Plan are establishment of Technology Business

Incubators, establishment of staff training college at Kottarakkara, establishment of Skill Development Centre and Industry on the campus.

**Centre for Advanced Printing and Training (C-apt).** C-apt, previously known as Kerala State Audio Visual and Reprographic Centre, was founded in 1992. It is functioning as a resource centre for technical and non-technical institutions in Kerala. It is also engaged in Human Resource Development activities, conducting job-oriented courses in printing and modern reprographic equipment. Major activities proposed by C-apt are, purchase of five sheet-fed colour offset printing machines, providing e-infrastructure, conversion of sub-centre training division into skilled centres, purchase of machines and equipment, construction of new buildings, maintenance and extension of the building of sub-centres, and purchase of post-production equipment, binding equipment, forklift and braille printing machine.

**LBS Centre for Science and Technology.** LBS Centre for Science and Technology, Thiruvananthapuram, was established in 1976 as an autonomous body with the main objective of acting as a link between industries and technical institutions so as to benefit society. It has its headquarters at Thiruvananthapuram, five regional units, 18 sub-centres, two engineering colleges, centre for disability studies at Poojappura and the Model Degree College at Parappanangadi. Various construction and developmental activities in engineering colleges, arts and science colleges and development of centres for disability studies are proposed in the 14th Five-Year Plan.

**Trivandrum Engineering Science and Technology Research Park (TrEST Research Park).** TrEST Research Park was incorporated in 2015 to promote industry-academia collaboration and engineering research. The main objective of TrEST Park is to help engineering students and faculty members to team up with industries and acquire hands-on experience by working on projects. Establishment of two centres of excellence, electronic testing labs, six companies, training and R&D projects and so on were the major achievements during the 13th Five-Year Plan. Key initiatives proposed by TrEST Research Park during 14th Five-Year Plan is setting up of a Drive Train lab and a permanent campus.

**Kerala State Science and Technology Museum (KSSTM).** KSSTM was established in 1984 with a view to popularising different aspects of science and technology. In the 14th Five-Year Plan, Kerala State Science and Technology Museum will focus on programmes to improve and strengthen the existing facilities at the Thiruvananthapuram and Chalakudy centres, commissioning of the Science City at Kuravilangadu, Kottayam, Regional Science Centre at Parappanangadi, Malappuram and starting a new Regional Science centre at Thrithala, Palakkad and a Science Park at Mavelikara.

## Chapter 12

### Health

Kerala stands first among all the States in the health sector, having advanced substantially beyond the Indian average in indicators such as life expectancy at birth, infant mortality, maternal mortality and male-female ratio in the population. Kerala's health policy envisages higher standards of care based on the principles of social justice. The publicly funded health care system (with facilities ranging from Primary Health Centres (PHC) to Medical College Hospitals) helped in providing health facilities to people of all strata of society. During the 14th Five-Year Plan period, the State aims to make the best possible preventive, promotive, curative, rehabilitative and palliative care available in the public sphere in the country.

Kerala's health sector has been a model for other States of India not only in terms of gains in the sector but also in dealing with public health exigencies. The system rose to the occasion in dealing with the COVID-19 pandemic situation. The strong public health system in the State made it possible to deal with the pandemic effectively.

Now the State faces important second-generation problems including non-communicable diseases, recurrence of certain communicable diseases and palliative care for the elderly. Comprehensive efforts to tackle these will be an integral part of the 14th Five-Year Plan. The Government's main objective is to establish a people-friendly health care delivery system.

#### Healthcare Infrastructure in Government Sector

The health infrastructure in the State consists of 2,959 institutions with 57,995 beds. Besides, there are 5,403 sub-centres under the Directorate of Health Services (DHS). Out of the institutions, 44.03 per cent are under Modern Medicine, 32.14 per cent under Ayurveda and 23.83 per cent under Homoeopathy. Medical services are also provided through the cooperative sector, Employees Savings Insurance hospitals and the private sector. Health care institutions, beds and patients (cases) treated in Government sector in 2021-22 is in Table 12.1.

Table 12.1 *Health care institutions, beds and patients treated in Government sector in 2021-22, in numbers*

No	System of Medicine	Institutions	Beds	Cases treated	
				Inpatient	Outpatient
1	Modern Medicine (Health Services)	1,284	38,506	6,13,165	6,08,37,631
2	Modern Medicine (Medical Education)	19	13,756	1,91,978	16,69,278
3	Ayurveda (ISM)	948	3,154	2,06,584	1,40,59,883
4	Ayurveda (DAME)	3	1,361	3,987	2,34,089
5	Homoeopathy	703	1,000	4,384	1,00,38,999
6	Homoeopathy Education	2	218	3,022	2,80,180
Total		2,959	57,995	10,23,120	8,71,20,060

Source: Health Department

#### 13th Five-Year Plan

Health has been a major area of allocation in the State Budget over the years. Government healthcare expenditure has shown a steady increase in recent years. Kerala invests approximately 5 per cent of its total State Plan outlay on health care, excluding the contribution of LSGs and other line departments. In addition, the Government is investing large amounts in this sector through KIIFB and NABARD assistance for the construction of buildings and purchase of high-end equipment. The outlay earmarked for the implementation



of schemes in the 13th Five-Year Plan was Rs 7,19,929 lakh (BE). The total expenditure reported during the Plan period was Rs 9,10,077.50 lakh. Department-wise outlay and expenditure on the health sector in the 13th Five-Year Plan are given in Table 12.2.

Table 12.2 Department-wise outlay and expenditure on health sector in the 13th Five-Year Plan, in Rs crore

Sub-sector	2017-18		2018-19		2019-20		2020-21		2021-22		2017-22	
	BO	E	BO	E	BO	E	BO	E	BO	E	BO	E
DHS	724.02	717.76 (99.14)	789.21	681.95 (86.41)	787.79	1,399.4 7 (177.65)	991.40	1,291.9 4 (130.31)	991.85	2,045.0 7 (206.19)	4,284.2 7 (143.23)	6,136.1 9 (143.23)
DME	470.09	454.39 (96.66)	494.14	429.33 (86.89)	484.25	625.67 (129.20)	420.60	507.61 (120.69)	420.60	468.55 (111.40)	2,289.6 8 (108.56)	2,485.5 6 (108.56)
ISM	43.20	44.16 (102.23)	48.20	33.40 (69.29)	47.55	32.43 (68.21)	41.95	45.00 (107.29)	41.95	38.26 (91.22)	222.85 (86.73)	193.26 (86.73)
DAME	46.00	24.69 (53.68)	50.60	29.45 (58.21)	49.75	19.18 (38.56)	43.20	23.22 (53.76)	43.20	27.16 (62.86)	232.75 (53.15)	123.71 (53.15)
Homoeo	23.00	21.62 (94.00)	27.00	24.09 (89.24)	26.60	16.62 (62.47)	23.75	23.26 (97.92)	23.95	25.09 (104.78)	124.30 (89.04)	110.68 (89.04)
Homoeo Medical Educatio n	8.64	5.69 (65.87)	10.15	10.15	10.00	8.19 (81.89)	8.65	16.96 (196.05)	8.00	10.36 (129.58)	45.44 (113.02)	51.35 (113.02)
Total	1,314.9 5	1,268.3 1 (96.45)	1,419.3 0	1,208.3 9 (85.14)	1,405.9 4	2,101.5 7 (149.48)	1,529.5 5	1,907.9 9 (124.74)	1,529.5 5	2,614.5 1 (170.93)	7,199.2 9 (126.41)	9,100.7 7 (126.41)

Note: Figures in brackets indicate per cent; BO = Budgeted Outlay, E = Expenditure

Expenditure includes Supplementary Demand for Grants

Source: Budget documents, Planspace, Government of Kerala

### Major achievements during 13th Plan

The Aardram Mission was started during the 13th Five-Year Plan period in order to make Government hospitals people-friendly by improving their basic infrastructure and capacity to provide services. In the first phase in 2017-18, the Government identified 170 PHCs covering all 14 districts to be developed as Family Health Centres (FHC). Out of this, 166 FHCs are already functional and work the rest is progressing. In the second phase in 2018-19, 504 PHCs were selected to be developed as FHCs, of which 329 are completed and works are progressing in the others. Transformation of the PHCs into FHCs has evoked encouraging community response. In the third phase, 212 PHCs were selected to be developed as FHCs using funds under the National Health Mission, of which six have been completed. In addition, 76 Community Health Centres (CHCs) were selected in a first phase to be converted into Block Family Health Centres in 2019-20, and 76 CHCs were selected in the second phase to be converted thus in 2021-22.

In order to implement the Mission activities, additional posts of one medical officer, two staff nurses and one laboratory technician were created, in order to ensure that there would be a minimum of three doctors and four nurses in the FHCs. In the first phase of the Aardram Mission, 830 posts were created, including medical officers (170), staff nurses (340), pharmacists (150) and lab technicians (170). In the second phase, 1,000 posts have been created, including medical officers (400), staff nurses (400), pharmacists and lab technicians (200).

**Initiatives started as part of Aardram Mission in FHCs.** 'Aswasam' depression management clinics in primary care were started in 224 FHCs. A Chronic Obstructive Pulmonary Disease (COPD) control programme called 'Swaas' is implemented from the FHC-level onwards as part of the Aardram Mission. Conversion of 3,113 sub-centres into health and wellness centres is progressing. In 1,603 centres, staff nurses as middle-level health care providers are posted on temporary basis. In addition, initiative started as part of the Aardram Mission in FHCs are: Patient-friendly hospital environment; OP facilities extended up to 6 p.m. every day;

Nurses' pre-check-up facilities; Laboratory facilities; Lifestyle diseases clinic on all days; Sampoorana Manasika Arogyam Programme (SMAP); and Comprehensive sub-centre services.

*Patient-friendly transformation of the outpatient wings of Government hospitals.* Considering that medical college hospitals and district hospitals provide outpatient care for a large number of patients every day, patient-friendly transformation of the outpatient wings was undertaken as a priority item under the Aardram Mission. A transformation of the outpatient facilities with adequate OP registration counters, waiting areas, seating facilities, token systems, and amenities such as drinking water, toilet facilities, public address systems, information education and communication arrangements and signage systems are being incorporated. For larger institutions, the support of patient care coordinators on a temporary basis would be provided. To ensure quality care, OP computerisation, facilities in the consultation rooms and a guideline-based case management system are planned. These are being implemented in Government medical college hospitals and district hospitals.

*People-friendly OP transformation of general/district/taluk hospitals.* There are 18 General hospitals and 18 district hospitals in the State. Of these, only 15 institutions have been selected for outpatient department transformation (one hospital each in 11 districts and two from Kasaragod and Wayanad Districts). The construction of 10 hospitals has been completed. The work in other hospitals is progressing. Of the total 86 Taluk hospitals, 36 are selected for standardisation in a phased manner; one has been completed. The number of posts created in district/general/taluk hospitals as part of Aardram is 891. These include 14 doctors who are super-specialists, 252 specialists and Casualty Medical Officers, 197 Staff Nurses, 84 Laboratory Technicians and 344 paramedical staff members.

**Initiatives taken in Medical Colleges.** The Aardram Mission is aimed to provide patient-friendly and quality care services in the outpatient wings of medical colleges. As a first step, Medical College Hospitals at Thiruvananthapuram, Alappuzha, Paripally (Kollam), Kottayam, Ernakulam, Thrissur, Malappuram and Kozhikode were selected for the implementation of the OP transformation project. Work in these Medical College Hospitals has been completed. The main components of the project are making available online registration facility to reduce patient waiting time, providing new waiting areas, drinking water facilities, renovation/reconstruction of toilet blocks, OP rooms for all departments, signage to different services, TV and display boards, airport-style chairs, public address system, air conditioning, and provision of ramps.

**National Quality Assurance Standards (NQAS).** Even though NQAS were developed and put in place in 2013, Kerala was not able to accredit many institutions with the system as certain points in the NQAS checklists were not applicable to Kerala. The checklists were customised to Kerala standards in 2017 with the help of the National Health Systems Resource Centre, removing some items irrelevant to Kerala conditions and by adding palliative care. Kerala has made tremendous progress in NQAS accreditation. Up to December 2021, 131 institutions out of 1,284 institutions [district hospitals (3), taluk hospitals (4), Community Health Centres (7), Family Health Centres (83) and Urban PHCs (34)] of DHS from the State have received national-level certification. The number of KASH (Kerala Accreditation Standards for Hospitals) accredited institutions in Kerala is 128.

**e-Health Project.** The e-Health project targets to link health institutions all over Kerala, building a database of individual medical records that are easily accessible to medical practitioners. It includes a unique patient identification system in different settings and exchange of data between different healthcare delivery units at the primary, secondary and tertiary-level across the State. This could help avoid repeat medical tests and

reduce out-of-pocket expenses arising out of a rush to clinics and labs. The scheme is being implemented in all the 14 districts of Kerala with Thiruvananthapuram as the pilot district. The e-health project has been completed in 326 hospitals, of which 71 are now paperless. Niti Aayog has appreciated the e-health project. Kerala is the only State in the country where data relating to 2,62,96,323 people has been collected and stored as electronic records.

**Pradhan Manthri Swasthya Suraksha Yojana (PMSSY).** PMSSY is a Government of India-supported scheme to improve infrastructure facilities and technology in the Government Medical Colleges in Thiruvananthapuram (Phase I), Kozhikode and Alappuzha (Phase III) with an outlay of Rs 150 crore each, of which Rs 30 crore is the State's share. The project for a super specialty block in the Government Medical College, Thiruvananthapuram (Phase I) has been completed and the rest of the projects will be completed in 2022-23.

**Karunya Arogya Suraksha Padhathi (KASP).** From July 1, 2020, the scheme is implemented under assurance mode for the entire Rs 5 lakh coverage. A total of 41.66 lakh families are covered under the KASP scheme, out of which only 22.03 lakh families are covered under the PMJAY and SECC categories.

#### **Issues and challenges**

The major issues and challenges in the health sector are lifestyle diseases such as high blood pressure, diabetes, heart disease, cancer, new generation infectious diseases, presence of old diseases, and problems of the elderly and the bedridden. Alcoholism, mental health problems, suicide and road accidents are on the list. In addition, inadequate infrastructure facilities, need for innovative medicines and equipment, increased health expenditure(out-of-pocket expenditure), lack of medical research and inadequate human resources are challenges. Healthcare issues of the Scheduled Tribe population, fishermen, women, the elderly, transgenders and guest workers are also concerns.

#### **14th Five-Year Plan**

The 14th Plan aims for people-friendly healthcare. The State will attempt to provide the best possible preventive, curative and palliative in health services. Due attention will be given to social determinants of health and the health problems of the tribal population, fisherfolk, women, the elderly, transgenders, migrant workers and the mentally challenged. Palliative care for the elderly/bed-ridden patients will be taken care of. Research and development efforts focussed on State-specific health needs will be supported. Research institutes for communicable diseases and medicine, and interdisciplinary/collaborative research will be promoted. Electronic health record systems will be further enhanced for scientific analysis of healthcare data to suggest corrective measures in public health issues.

The Aardram Mission was started during the 13th Five-Year Plan period in order to make Government hospitals people-friendly by improving their basic infrastructure and capacity to provide services. The Aardram Mission will continue during the 14th Five-Year Plan period, aiming to transform healthcare in the public sector. The programmes developed to achieve the objectives of the Aardram Mission concern the primary, secondary and tertiary sectors. The management and implementation of these programmes will be closely linked to the process of decentralised planning. The Mission objectives are linked to the Sustainable Development Goals recommended by the United Nations. The scope of medical assurance will be expanded during the 14th Five-Year Plan period.

Research and development in the Ayush Sector will be fast-tracked, especially in Ayurveda and homoeo. Ayush systems of medicine will be encouraged in preventive, curative and promotive healthcare. Ayurveda tourism related to wellness medicine and cultivation of medicinal plants will be promoted.

#### **Approach to the 14th Plan**

The approach of the 14th Five-Year Plan was to provide people the best possible preventive, curative, and palliative care in the public sector by improving the infrastructure and quality of services. The Plan will support the continuation and strengthening of the Aardram Mission. The 14th Five-Year Plan will support the efforts of the Government of Kerala in post-Covid management. The 14th Plan will support the efforts of the health administration in dealing with second-generation issues in the health sector, such as the prevalence of non-communicable diseases and emerging (and resurgent) communicable diseases. The 14th Plan will continue to assist programmes that address the healthcare problems of the Scheduled Tribes, fish workers, women, the elderly, transgenders, and migrant workers, and problems of palliative care for elderly and bedridden patients. The Plan will support research and development in Ayurveda, Ayurveda tourism and wellness medicine, and the cultivation of medicinal plants. In the post-Covid context, the State will promote “One Health” in the 14th Plan. In addition to this, efforts will be made to reduce rising treatment costs, strengthen and expand health insurance, encourage research and development efforts focussing on health needs and private sector participation.

#### **Key initiatives in the 14th Plan**

**Modern medicine and health services.** At present there are 1,284 health institutions with 38,506 beds, 6,355 doctors and 21,421 paramedical staff under the Health Services Department consisting of 108 (24X7) PHCs, 740 PHC/FHCs, 226 CHCs/Block FHCs, 87 taluk headquarters hospitals, 18 district hospitals, 18 general hospitals, three mental health hospitals, eight women and children hospitals, three leprosy hospitals, 14 tuberculosis (TB) clinics, 11 specialty hospitals and 48 other hospitals. PHCs/FHCs are institutions providing comprehensive primary care services including preventive care and curative care.

The key initiatives to be undertaken during the 14th Five-Year Plan period by the Health Services Department include further strengthening and consolidation of the achievements of the 13th Five-Year Plan in the primary and secondary healthcare sector and further expansion and strengthening of community-level disease surveillance, disease control programmes including that of non-communicable diseases, palliative care and mental health services. Establishing fully functional FHCs in all Panchayats, development of Block-level Community Health Centres as Block FHCs, development of all sub-centres as Health and Wellness Centres, and providing comprehensive primary healthcare services through HWCs. Developing community-level disease control programmes and disease elimination programmes as envisaged under Aardram Mission II as per State-specific SDG targets is a key task., Annual NCD screening and bringing NCD patients under the treatment programme initiated in one Panchayat each in all Assembly constituencies is to be expanded in the coming years. Development of three mental health centres and consolidation of community-level mental health programmes like Aswasam and Sampoorana Manasika Arogya Programmes by linking it with positive mental health activities, counselling services and de-addiction, are further priorities.

The 14th Five-Year Plan aims to establish Women and Children Hospitals in the remaining three districts, namely, Wayanad, Idukki and Pathanamthitta. W&C buildings of Thrissur and Kanhangad will be made functional. Initiatives will be taken to develop leprosy hospitals as advanced dermatology hospitals and chest disease hospitals as institutes of respiratory medicine. In addition, opening of Emergency Operation Centres

(EOC), strengthening laboratory surveillance and Block-level public health units; initiatives for One Health, strengthening of post-Covid clinics; and improving the healthcare facilities of tribal coastal and urban slum areas are priority areas. Strengthening the administrative machinery of the Health Service Department will be yet another key task during the 14th Five-Year Plan period for the Health Services Department. Rural and urban primary healthcare systems will be strengthened by effectively utilising the 15th Finance Commission healthare grants, health sector funds and Local Government funds.

**Medical education.** In Kerala, medical education is imparted through 10 Government medical colleges, at Thiruvananthapuram, Alappuzha, Kozhikode, Kottayam, Malappuram (Manjeri), Ernakulam, Kollam, Thrissur, Kannur and Idukki Districts. Nursing education is imparted through seven Nursing Colleges, in Thiruvananthapuram, Kozhikode, Kottayam, Alappuzha, Ernakulam, Kannur and Thrissur Districts. There are six Dental Colleges, functioning in Thiruvananthapuram, Kozhikode, Alappuzha, Thrissur, Kannur and Kottayam Districts. Besides, four colleges of pharmacy and one paramedical institute are functioning under the Department. Work on establishing new medical colleges is progressing in Wayanad, Pathanamthitta (Konni) and Kasaragod.

The key initiatives to be undertaken during the 14th Five-Year Plan period by the Health Services Department include upgrading the medical colleges in Thiruvananthapuram, Kottayam, Alappuzha, Thrissur and Kozhikode as centres of excellence as envisaged in Aardram Mission, raising their ranking to be among the 20 national index colleges. The casualty system will be modernised and Emergency Medicine Departments will be started in all the Medical Colleges. Setting up of modern scanning facilities including MRI and CT will be done in all the Medical Colleges, and biomedical engineering teams will be constituted and developed in all of them. A Communicable Disease Research Centre will be started in Medical College Kozhikode, and integrated with the Health University (KUHS). Hostel accommodation for students, smart classes and library facility will be upgraded in all the Medical Colleges. Transgender-friendly treatment systems will be implemented in all the Medical Colleges.

The Neurosurgery Department at the Medical College Thiruvananthapuram and the Cardiothoracic Surgery Department in Kottayam will be upgraded to national standards. Liver and multi-organ transplantation facilities will be established in five Medical Colleges, in Thiruvananthapuram, Kottayam, Alappuzha, Thrissur and Kozhikode. Steps will be taken to start the MBBS course in new medical colleges in Idukki, Konni, Kasaragod and Wayanad. Nursing and dental colleges will come up in the Medical Colleges in Kollam, Manjeri and Ernakulam.

Postgraduate courses will be started in Ernakulam, Manjeri, Kollam and Kannur. Super-specialty facilities will be expanded in five Medical Colleges. The e-Health, e-Office and e-Sanjeevani services will be extended to all institutions under the DME. The telemedicine system will be made more effective in all hospitals with the help of new technology. Effective waste management systems will be ensured in all Government Medical College hospitals. Efforts will be made to acquire land for Wayanad, Kollam and Manjeri Medical Colleges, and the construction of essential buildings will be undertaken. The Apex Trauma and Emergency Learning Centre located on the General Hospital campus will be upgraded and turned into a foremost training centre in South India. Family Medicine, Geriatrics, Critical Care courses will be started in major Medical Colleges.

A research wing will be started under Medical Education, and the Board of Medical Research will be reconstituted. A paramedical council will be constituted early at the State-level to expand education and coordinate its activities in the field. It will be operational as soon as possible. Completion of essential

construction works in Medical Colleges at Konni, Idukki, Kasaragod and Manjeri will be ensured. Geriatric wards will be set up in all Medical Colleges, for the health and safety of the elderly. Energy conservation will be ensured in all institutions and the measures taken to implement solar energy projects will be effectively addressed. Establishment of disease-based centres of excellence under the Medical Education Department, namely, Cardiology and CVTS at the Medical College in Kottayam, Maternal and Child Health-at the Medical College in Kozhikode and SAT Thiruvananthapuram, and Neurology and Neurosurgery at the Medical College in Thiruvananthapuram, are priorities. Super-specialty blocks will be constructed at the new medical colleges in Kollam, Manjeri and Ernakulam. Isolation wards/blocks will be constructed in all the existing hospitals. Family Medicine and Sports Medicine Departments will be started in all the medical colleges. Green Campus, Clean Campus and Friendly Campus policies will be implemented on all campuses within this Five-Year Plan. A full-fledged Stroke Centre in the Neurology Department at Medical College, Thiruvananthapuram, will be realised. SPECT CT scanner will be installed in the Department of Nuclear Medicine at GMCT.

A Surgical Retina Unit will be started in the Department of Ophthalmology at T.D. Medical College, Alappuzha. A Medical Rehabilitation Centre will be set up at the Medical College, Alappuzha. Auditorium-cum-lecture hall complexes will be constructed in all Government Medical Colleges, considering the enhanced student strength. A children's unit will be established at the Mother and Child Institute in Medical College Kottayam. Also, the Oncology Block Phase II with additional infrastructure will come up at the Medical College, Kottayam, which is a tertiary cancer care centre. Nurses' quarters will be constructed at the Government Medical Colleges in Manjeri, Konni, Idukki and Kasaragod. Medical oxygen and other medical gases facilities will be upgraded in all the Medical College hospitals.

Critical Care Units will be implemented in all Medical Colleges. Quality Improvement Programme will be implemented in all institutions under the DME. In addition, an Institute of Infectious Diseases and a Cardiology Block Phase II will come up at the Medical College, Kottayam. A Bone Marrow Transplant Unit and a Paediatric Haemato-Oncology Centre will be set up, and a DM course in Interventional Radiology will be started at the Medical College, Kozhikode. An Institute of Maternal and Child Health and an Oncology Block will come up at the Medical College, Manjeri. Setting up of multi-storeyed parking facilities in all the Medical Colleges is on the cards. a Cardiothoracic Department will come up at the Medical College, Kollam. These are the key initiatives to be undertaken during the 14th Five-Year Plan period by the Medical Education Department.

**Insurance Medical Services Department.** There are 145 ESI (Employees' State Insurance) dispensaries and nine ESI State hospitals to provide medical care to about 12 lakh beneficiaries registered under ESI. New initiatives to be undertaken during the 14th Five-Year Plan period by the Insurance Medical Services Department are the modernisation of the department and upgradation of its infrastructure facilities.

**Food Safety Department.** The Food Safety and Standards Authority of India has been established under the provisions of the Food Safety and Standards Act, 2006 as a statutory body to lay down scientific standards for foodstuff and to regulate the manufacture, storage, distribution, sale and import of food to ensure that they are safe and wholesome for human consumption. The department aims to ensure safe and healthy food and water to the people and to develop healthy food habits. The Government Analyst's Laboratory at Thiruvananthapuram, two Regional Analytical laboratories at Ernakulam and Kozhikode, and the State Food Testing Laboratory at Pathanamthitta are under the Commissionerate of Food Safety. Work on the construction of buildings for district and regional offices under the enforcement wing, for district food testing

labs in nine districts, for a laboratory at Kannur, and for the district food testing lab at Pathanamthitta, is under way. The aim is to make Kerala a 100 per cent food licensed/registered State by 2027. 100 per cent bhakshya suraksha (food safe) Grama Panchayats, safe and nutritious food at school, and promotion of FSSAI initiatives are further initiatives planned during the 14th Five-Year Plan period by the Food Safety Department.

**Drugs Control Department.** The Drugs Control Department ensures the quality of the drugs available in the State. The regulatory work performed by it includes licensing the manufacturing, sale and distribution of drugs, inspection of sales premises/hospitals/institutions, sampling of drugs and analysis of samples, and launch of prosecution against offenders. The Department regulates the supply of narcotic drugs like morphine and pethidine by allowing only institutions and hospitals that have permits under the Narcotic Drugs and Psychotropic Substances Act to deal in them. There is a separate Ayurveda wing in the department. Initiatives planned during the 14th Five-Year Plan period by the Drugs Control Department include a new drug testing laboratory at Kannur and infrastructure facilities in laboratories.

**Malabar Cancer Centre.** The Malabar Cancer Centre, Kannur, an autonomous centre under the State Government, was established to provide oncology care to the people of north Kerala. The key initiatives planned during the 14th Five-Year Plan period by the Malabar Cancer Centre include the development of the Malabar Cancer Centre as a Postgraduate Institute of Oncology Sciences and Research (PGIOSR); development of a self-sustenance system; enhancement of research funding; development of human resources for its operational requirements as a premier training institution; creation of collateral job opportunities by including start-ups and industry in the ecosystem; multidisciplinary and multi-stream academic and research innovations for clinical use; establishment and development of innovative and futuristic departments; state-of-the-art treatment facilities in certain specialised regions to be developed as centres of excellence; completion of ongoing projects; acquisition of additional land; networking of cancer treatment facilities; and community engagement. Obtaining accreditations at the national and international levels for various departments and the institution, including the Institute of Nursing Sciences and Research, are further targets.

**Cochin Cancer Research Centre (CCRC).** Growing concerns over the alarming increase in rates of cancer incidence, together with the need for a dedicated tertiary cancer care and research centre in the Government sector in central Kerala necessitated the setting up of the Cochin Cancer Research Centre. The key initiatives to be undertaken during the 14th Five-Year Plan period by the CCRC include the purchase of hospital equipment; launch of a district cancer control programme; preparation of a cancer registry based on Central Kerala's population and a hospital-based cancer registry; the establishment of a skill laboratory and training of healthcare providers; a morphine manufacturing unit and oxygen plant; the establishment of a hospital information system; creation of a centre for the rehabilitation of cancer survivors; the establishment of a digital pathology lab; satellite centres for CCRC at Thrissur, Idukki, Palakkad and Alappuzha; and a proton therapy unit.

**Institute for Cognitive and Communicative Neurosciences (ICCONS).** The Society for Rehabilitation of Cognitive and Communicative Disorders (SRCCD) is a charitable society registered under the Travancore-Cochin Literary, Scientific and Charitable Societies Act 1955. The institution under this society is the Institute for Cognitive and Communicative Neurosciences (ICCONS). The Institute is working in the field of cognitive and communicative disorders of a developmental and acquired nature affecting persons of all ages. ICCONS has centres at Thiruvananthapuram and Shornur. Development of clinical services in the hospital at Shornur

and Thiruvananthapuram; e-health programme; augmentation facilities in special schools, and starting a course leading to a degree of Bachelor of Science in Audiology and Speech-Language Pathology (BASLP) at the Thiruvananthapuram centre are the key initiatives planned during the 14th Five-Year Plan period by the ICCONS.

**Institute of Mental Health and Neurosciences (IMHANS).** The Institute of Mental Health and Neurosciences (IMHANS) is an autonomous institution established by the Government of Kerala in 1982. It functions on the Government Medical College campus in Kozhikode. It runs M.Phil courses in psychiatric social work (eight seats) and clinical psychology (eight seats) and a post-basic diploma course in psychiatric nursing (10 seats). The aim is to develop IMHANS into a centre of excellence in mental health with focus on child and adolescent mental health and geriatric mental health. Key initiatives planned during the 14th Five-Year Plan period by the Institute include strengthening the functioning of its child development services through improved diagnostic and interventional services; establishing an inpatient facility for children and adolescents with psychological/developmental disorders; starting courses in the next five years at the postgraduate and diplomate-level; community-based mental health projects and research activities.

**Child Development Centre.** The Child Development Centre (CDC) established by the State Government is an autonomous centre of excellence in early childcare and education, adolescent care and education, pre-marital counselling, women's welfare and related fields to reduce childhood disability through novel scientific initiatives and create a generation of responsive parenthood through healthy children and adolescents. The key initiatives planned during the 14th Five-Year Plan period by the CDC include establishing child development centres in all 14 districts; starting a research, training and documentation facility for early detection and early intervention in cases of developmental delay, to reduce neurodevelopmental disabilities among children; founding a comprehensive care and rehabilitation facility for neurodevelopmental disorders for 3-8 year olds with ASD, ADHD and LD; starting a State centre for rare diseases and birth defects, and organising fellowship courses and certificate courses.

**Indian Institute of Diabetes.** The Indian Institute of Diabetes (IID) at Thiruvananthapuram is an autonomous institution under the Government of Kerala. It is the only institution under the Government offering services exclusively for Diabetes mellitus and its complications. IID, made operational in 2001, has its main centre at Pulayanarkotta in Thiruvananthapuram city and a sub-centre on the Public Health Laboratory campus in Thiruvananthapuram. New initiatives to be undertaken during the 14th Five-Year Plan period are prevention and management of NCDs and addressing the gap in human resource needs.

**Kerala University of Health Sciences (KUHS).** The Kerala University of Health Sciences was established under the Kerala University of Health Sciences Act, 2010 with the aim of ensuring proper and systematic instructions, teaching, training and research in modern medicine, homeopathy and Indian systems of medicine and allied health sciences in Kerala. The key initiatives to be undertaken during the 14th Five-Year Plan period by KUHS include the establishment of a centre for health studies. prevention of trauma due to falls and accidents; development of clinical practices guidelines for the management of diabetes and hypertension in primary and secondary care settings; provision of support for home-based care of elder people with dementia and other disabling health problems; establishment of an institute of sports medicine and exercise physiology; prevention and management of lifestyle diseases; mortality reduction experience in Kerala in the context of the sustainable development goals and towards strategies for further mortality reduction.



Other targets include cardiovascular disease prevention and health promotion through evidence-based interventions; implementation research strategy (preparation of a user-friendly toolkit for cardiovascular risk reduction targeting school children to be delivered in the family environment); start of a Master of Public Health (MPH) course under the School of Public Health, Thiruvananthapuram; development of infrastructure and capacity building in Information Technology in KUHS.

**Chemical Examiner's Laboratory Department.** Chemical Examiner's Laboratory is functioning under the administrative control of the Home Department. It caters to the needs of the Judiciary, Excise, Police and medico-legal experts directly and indirectly, and thus assists in the prosecution of criminal cases. It renders independent scientific service to the criminal justice administrative system. The department helps in checking the adulteration of liquor samples during festival season, issuing certificates after examining material objects involved in criminal cases, and provides expert opinion. New initiatives to be undertaken during the 14th Five-Year Plan period by the Chemical Examiner's Laboratory are modernisation of the department with latest scientific instruments to speed up analysis of samples and ensure a high degree of accuracy in reports, and upgradation of infrastructure facilities at the laboratories.

#### **Ayush.**

*Indian system of medicine.* The Department of Indian System of Medicine renders medical aid to people through a network of ayurveda, siddha, unani, visha, netra and naturopathy institutions. Specialty hospitals such as one mental hospital, panchakarma (1), nature cure (1), siddha (1), visha (3), sports ayurveda (1) and marma (1) function under this Department. At present there are 130 hospitals and 818 dispensaries under the Department, which includes Ayurveda (806), visha (4), siddha (6), nature cure (1) and unani (1). The key initiatives to be undertaken during the 14th Five-Year Plan period by the Indian System of Medicine Department include the introduction of a Hospital Information Management System; standardisation of facilities in hospitals; specialty facilities of Kayachikitsa (General Medicine) Balachikitsa (Paediatrics) Manasaroga chikitsa (Psychiatry and Psychology) Saalakyachikitsa (ENT and Eye), Salyachikitsa (Surgery including Orthopaedics), Vishachikitsa (Toxicology), Prasootitantra (Obstetrics and Gynaecology), Swasthavrutha (Preventive Medicine), Jarachikitsa (Geriatric care), Vrusha chikitsa (Reproductive medicine) and Panchakarma.

The centres of excellence in the sector are Kerala Institute of Sports Ayurveda Research (KISAR); Government Ayurveda Research Institute for Mental Health and Hygiene, Kottackal; Ayurveda Child and Adolescent Care Centre, Kozhikode; Neuro Rehabilitation Centre; Eye Disease Institute. The development of yoga and naturopathy, siddha and unani is a key target.

*Ayurveda medical education.* There are three Government Ayurveda colleges, situated at Thiruvananthapuram, Thrippunithura and Kannur, with combined bed strength of 1,361. International Research Institute (IRIA) Kalliad, Kannur District; Government Ayurveda College Hospital, Idukki District; Ayurveda Mental Hospital, Pariyaram, Kannur; Para Surgical, Ophthalmic Institute and Geriatric Care Centre, Poojappura, Thiruvananthapuram;

The key initiatives to be undertaken during the 14th Five-Year Plan period by the Ayurveda Medical Education Department include the construction of a new academic block for the Ayurveda College, Thrippunithura; an academic block at the Government Ayurveda Medical College, Pariyaram, Kannur; an academic block and an administrative block for the Ayurveda College, Thiruvananthapuram; commencement

of new postgraduate courses; efforts for NABH and NAAC accreditation; push for e-governance initiatives and setting up of a new Yoga and Naturopathy College.

*Directorate of Homoeopathy.* There are 669 homoeopathic dispensaries, 14 district hospitals, 17 taluk hospitals, two 10-bed hospitals and one hospital with a total bed strength of 1,000 under the Homeopathy Department in the State. In addition, the Kerala State Homoeopathic Cooperative Pharmacy (HOMCO), Alappuzha, a medicine manufacturing unit, is functioning under the Department. The following are the key initiatives to be undertaken during the 14th Five-Year Plan period by the Homoeopathy Department. SIMU (Strategic Information and Monitoring Unit), Sradha for stroke management, post-Covid management, sickle cell anaemia, village homoeo hospital, Kunnimony, Pravasimithra, New inpatient block in Kurichi, a training centre in Kurichi, child specialty centre in Kurichi, palliative care tertiary centre, diabetes clinic for adolescents, new dispensaries, a tribal hospital in Ernakulum, Uyarai in Kozhikode District, centre of excellence in geriatrics in Alappuzha, Vimukthi Homoeo Hospital in, Adoor. The formation of an Ethics Committee is also an aim.

*Homoeo medical education.* Homoeo medical education is imparted through Government homeopathic medical colleges at Thiruvananthapuram and Kozhikode. In terms of academic activities, the department concerned aims to increase undergraduate course seats from 63 to 100; start postgraduate courses in Homoeopathic Pharmacy, Paediatrics and Psychiatry and Community Medicine; introduce a three-year DPharm course instead of the one-year certificate course in Pharmacy; start PG courses in the aided homoeopathic medical colleges; and achieve NAAC accreditation for all homoeo colleges. Other targets include medicinal plant garden cultivation with the help of the State Medicinal Plant Board; building a separate academic block in the vacant space adjacent to the college for UG, PG, PhD study centres and starting a research centre at the Homoeopathic Medical College, Thiruvananthapuram.

Also sought are the construction of an academic block for pre-clinical studies; upgrade of the Department's research wing to a State Homoeopathy Institute for Interdisciplinary Research and Training (SHIIRT) to motivate research activity among teachers and students; setting up of hostel facilities for students of both the Government colleges; establishment of a career guidance cell; collaboration with various scientific institutions to enhance research activities; digitalisation and expansion with more seats of the Central Library; establishment of an institute of paramedics at Kurichi; earmarking playgrounds for students; establishment of a homoeopathy medicine manufacturing unit; and the establishment of Multipurpose Research Centre in Homoeopathy.

Key initiatives to be undertaken in the area of patient care are provision of e-service facility for patients; achievement of NABH accreditation for all collegiate hospitals; activities related to prophylactic medicine distribution; setting up of peripheral OPDs in tribal and coastal areas in special situations; more specialty clinics for geriatric care, sports medicine, non-communicable diseases, psychiatric disorders, autism, spectral disorders and so on; strengthening school health programmes; establishment of a mental health care centre; and the construction of four-storeyed hospital building.

Setting up of a Directorate of Homoeopathic Medical Education; energy conservation by setting up a solar plant and facilities for effective waste disposal are administrative initiatives to be undertaken during the 14th Five-Year Plan period.

#### **Major initiatives in the Annual Plan 2022-23**

The Annual Plan 2022-23 initiated steps to strengthen the Aardram Mission. Starting critical care units in all medical colleges is a major aim. Critical care caters to the patient who is very ill and is in an intensive care unit setting. Proper management of such patients under the guidance of critical care physicians will improve the chances of survival. ICUs manned by specialists in critical care medicine are essential especially in times of natural disasters and pandemics. Steps to strengthen the administrative machinery of the health service department were also initiated.

**Gender development in health.** The overall thrust in the 14th Five-Year Plan is on making the planning and budgeting process gender-sensitive, with at least 10 per cent of total outlay allocated for women-specific schemes, or schemes in which women's share is specified or identifiable based on gender disaggregated beneficiary data. The gender-specific schemes included in the health sector include the creation of maternity hospitals, maternity units, women and children hospitals (including Ayurveda and Modern Medicine), nursing schools, and family health centres. Other steps include training facilities, faculty improvement programmes, creation of an NRHM-RCH flexi-pool, augmenting facilities for women in the RCC, palliative care, mental health programmes and so on.

## **Chapter 13**

### **Social Inclusion**

#### **13.1 WELFARE OF SCHEDULED CASTES**

##### **Overview**

The people of the Scheduled Castes constitute one of the most marginalised and deprived communities in India's social order. In Kerala, the Scheduled Caste communities have lagged behind the rest of the population in areas of economic and social development. The constitutional mechanisms to protect their interests, and various welfare initiatives by the State, have improved their socio-economic conditions significantly when compared to their counterparts in other States. The State Government tries to improve the situation of the people of the Scheduled Castes through various Five-Year Plans by designing specific plans and programmes to address and mitigate different issues they confront in spheres of socio-economic development. The State ensures that a share of the total State Plan outlay that is higher than the share of the Scheduled Caste population is allocated for their welfare and development.

According to Census 2011, the Scheduled Caste population of Kerala is 30.39 lakh persons in 53 communities constituting 9.10 per cent of the total population of the State. They live in 26,342 habitats/colonies (KILA Survey 2011). Communities such as Vedar, Nayadi, Kalladi and Arundhathiar/Chakkiliar are identified as the vulnerable communities among Scheduled Castes. The people of these specific Scheduled Castes form 3.65 per cent of the total Scheduled Caste population in the State (Scheduled Caste Survey Report, 2008).

The 14th Five-Year Plan will focus on the overall development of the people of the Scheduled Communities, safeguarding their rights by generating employment opportunities, providing land, house and other amenities, improving settlements, improving education, especially higher education and technical education, providing healthcare assistance, and so on.

##### **13th Five-Year Plan**

The main thrust areas of the 13th Plan included the provision of land, house, best educational facilities at all levels, modern employment, filling up places reserved for the Scheduled Castes and Scheduled Tribes, and ensuring food security.

The share of funds allocated by the Government of Kerala from the State Plan outlay for the Scheduled Caste Sub Plan (SCSP) exceeded the share of Scheduled Castes in the population. In every Annual Plan of the 13th Five-Year Plan, 9.81 per cent of the total State Plan outlay was allocated for the SCSP. This indicates that the State is committed to equitable access of the marginalised strata of the society in public resources, thereby ensuring their welfare and development. Total resources under SCSP are allocated to the Scheduled Caste Development Department (SCDD) and the Local Governments. During the 13th Five-Year Plan, 54.91 per cent of the total SCSP funds were allocated for Plans implemented by the Scheduled Caste Development Department and 45.08 per cent was allocated for the Local Governments.

The utilisation pattern of the funds allocated to the Scheduled Caste Development Department and Local Governments is presented in Table 13.1. During the 13th Five-Year Plan, 75.80 per cent of the funds allocated to the SCDD was utilised and the Local Governments utilised 79.11 per cent of the fund allocated to them.

Table 13.1 *Total State Plan outlay, SCSP outlay and SCDD and LSGI outlay and expenditure of SCSP in 13th plan, Kerala, in Rs crore*

Year	Total State Plan Outlay	Total SCSP Outlay	Scheduled Caste Development Department (SCDD)			Local Self Government Institutions (LSGIs)		
			Outlay	Expenditure	Percentage of expenditure	Outlay	Expenditure	Percentage of expenditure
2017-18	26,500	2,599.65	1,427.6	1,275.27	89.32	1,172.05	936.6	79.91
2018-19	29,150	2,859.62	1,570.36	1,167.4	74.33	1,289.26	1,070.07	82.99
2019-20	30,610	3,002.84	1649	754.87	45.78	1,353.84	735.39	54.31
2020-21	27,610	2,708.54	1,487.39	1,313.38	88.3	1,221.15	1,125.87	92.19
2021-22	27,610	2,708.54	1,487.39	1,267.07	85.18	1,221.15	1,082.75	88.66
Total	1,41,480	13,879.19	7,621.74	5,777.99	75.8	6,257.45	4,950.68	79.11

Source: Economic Review Vol 2, Various Years, Government of Kerala

### Achievements of major schemes during 13th Five-Year Plan

**Housing development programmes.** About 46 per cent of the SCSP funds allocated to the department was utilised for housing development schemes. Under the scheme, 'House to Houseless and Completion of Partially Constructed Houses', 7,744 houses were constructed from 2017-18 to 2018-19 (as on March 2022). From 2017-18, new houses are constructed through the LIFE Mission. During Phase I, II and III of the LIFE Mission, Rs 523 crore was handed over to the LIFE Mission and the construction of 32,888 houses out of the targeted number of 50,551 was completed. All of 20,239 persons benefited under the scheme 'Land to Landless Families for Construction of Houses'. Under the scheme, 'the Construction of Study Rooms – *Padanamuri*', 19,961 students from SC communities benefited, creating a better ambience and facility for them to sit down and study in their homes.

**Educational development programmes.** Progress in education is a prime concern of the people of the Scheduled Castes. During the 13th Five-Year Plan, SCDD utilised 27.28 per cent of the SCSP funds to implement Educational Development Programmes. In pre-matric education, 18,45,449 students received lump sum grants, 50,184 students received stipend and 10,91,572 students got primary and secondary educational aid. In post-matric education, 2,843 students benefited from the scheme, 'Initial Expenses to those Admitted to Engineering/Medical Courses'. Stethoscopes were distributed to 1,490 students, and 8,130 students received laptops for their education. 167 students received financial assistance for study abroad. 13,480 students studying outside the State got financial assistance. The Ayyankali Talent Search Scholarship and Vision-2013 (Medical and Engineering Entrance Coaching) benefited 26,880 and 2,575 students respectively.

Educational institutions under the SCDD such as the Palakkad Medical College, Model residential schools, nursery schools, and the Centre for Research and Education for Social Transformation (CREST), have contributed significantly to their educational development.

**Socio-economic development programmes.** The SCDD earmarked 21.14 per cent of the SCSP funds for the social development schemes, 3 per cent for skill development and 2.28 per cent for healthcare. The *Valsalyanidhi* scheme that provides insurance-linked social security for the SC girl child, benefited 14,259 children. 5,043 persons got assistance for training and employment and 5,040 benefited under the Foreign Employment Assistance scheme. 1,325 people received subsidy for self-employment. The healthcare scheme, meant to improve the health status of the SC population, benefited 76,700 persons. Altogether, 45,163 girls from the SC communities received assistance under the scheme, 'Financial Assistance for Marriage of SC Girls'.

**Critical gaps**

1. Many residential areas of Scheduled Castes are low-lying. This makes them vulnerable to floods even in a normal monsoon season. Besides, these areas need urgent improvements in basic amenities such as safe drinking water, link roads, house repair, and drainage facilities.
2. High income-poverty ratio among the people of Scheduled Castes when compared to other social categories (other than Scheduled Tribes).
3. Landlessness is an issue among the people of the Scheduled Castes, in terms of both land for housing and agriculture.
4. Access to employment opportunities is meagre for the educated work-seekers in the public and private sectors.
5. The number of students from the Scheduled Castes continuing in higher education is less compared to their secondary and higher secondary enrolment. Poor performance in higher education and professional courses, including a high rate of dropouts, is noticed.
6. Information about development programmes is not reaching the community to an adequate-level.

**14th Five-Year Plan****Approach of the 14th Five-Year Plan in Scheduled Castes development**

The 14th Five-Year Plan will continue to strengthen its support for schemes that safeguard the constitutional rights of the people of the Scheduled Castes and to fulfil the duty of the State in this regard. As the 14th Plan aims at employment generation in all spheres of productive employment and in services, special efforts will be made to ensure equal participation of the people of the SCs in every sector of employment and income growth. The Plan will support all the programmes to increase access of the people of the Scheduled Castes to every-level and stream of higher education and promote the entry of Scheduled Caste youth into every sector of specialised skill development. Many residential areas where a majority of households belong to the Scheduled Castes are low-lying and these areas are in special and urgent need of improvements in basic amenities with respect to safe drinking water, link roads, electrification, home improvement, and drainage. To address these issues, the 14th Five-Year Plan will continue projects under the Ambedkar Village Development Scheme. The Plan will continue to support the economic development of the particularly vulnerable sections among the Scheduled Castes. It will try to end the digital divide between children and youth of the Scheduled Castes and the rest of population.

**Objectives of the 14th Five-Year Plan**

1. Uplift of the people of the Scheduled Castes to bring them to the mainstream by providing adequate infrastructure facilities including land, housing and allied amenities, and so on, and by the effective implementation of development schemes.
2. Kerala aims to build a knowledge society and a modern, high-employment, productive economy. The people of the Scheduled Castes should be equipped in every manner to be active participants in that process.
3. Improvement of standards of living by providing sustainable livelihood measures through access to the best forms of skill development, employment opportunities and diverse income-generation activities.
4. Promotion of entrepreneurship development among the people of the Scheduled Castes.
5. Enhancement of the quality of life by imparting better education to the younger generation, thereby preparing them for the changes taking place in the society and the economy.
6. Developing Model Residential Schools as centres of excellence.

7. Special attention to the development issues of the particularly vulnerable sections among the Scheduled Castes, such as Vedan, Nayadi, Kalladi, Arundhatiyar and Chakliyar.

**Key initiatives proposed in the 14th Five-Year Plan**

1. An important goal of the 14th Plan is to generate more employment. So, efforts will be made to devise and implement various livelihood schemes for the people of the Scheduled Castes. A share of the corpus fund for SCSP should be allocated to take up livelihood projects.
2. Efficient implementation of schemes such as 'Empowerment Societies for Scheduled Caste Youth' to promote entrepreneurship development.
3. Priority for the people of the Scheduled Castes in the distribution of land through the LIFE Mission as landlessness is very high among them. This aspect should be considered even in the distribution of land obtained through the *Manasodithiri Mannu* campaign.
4. A strategy for the completion of houses constructed under the LIFE Mission.
5. Priority for higher education and schemes to reduce the number of dropouts in every stage of education.
6. Providing mentorship to Scheduled Caste students in schools including Model Residential Schools, and those pursuing higher education.
7. Ensuring that adequate hostel facilities are available to Scheduled Caste children and that they get priority in hostel admissions. Post-matric hostels should be constructed on various university campuses with Central and State assistance.
8. Ensuring the skilling and placement of educated students of the Scheduled Caste communities. Skilling in areas with high employment potential is essential.
9. Revamping of courses offered in Industrial Training Institutes under the Scheduled Castes Development Department.
10. Helping job-seekers from the Scheduled Castes to get placements abroad.
11. Linking MRS with ASAP to impart soft skills for Scheduled Caste students.
12. Revamping the Centre for Research and Education for Social Transformation (CREST).
13. A common agency to coordinate skill training programmes for people of the Scheduled Castes.
14. Micro-plans for the most vulnerable communities among the Scheduled Castes by considering the specificities of their socio-economic situation.
15. Micro-plans for the people of the Scheduled Castes identified in the Extreme Poverty Survey.
16. Expansion of Kudumbasree to every Scheduled Caste household and transforming the households into production units.
17. Empowerment programmes for people's representatives by the Kerala Institute of Local Administration (KILA) and the Kerala Institute for Research Training and Development Studies of Scheduled Castes and Scheduled Tribes (KIRTADS) to make them aware of the development programmes implemented for Scheduled Caste communities.
18. Bringing about transparency in the implementation of projects.
19. A scheme called 'Empowerment Societies for Scheduled Caste Youth' was started in 2022-23 to aid young aspirant-entrepreneurs belonging to the Scheduled Castes to start modern ventures by providing guidance, training, financial assistance and managerial handholding support. The intention is to equip and channel Scheduled Caste youth with a degree or diploma to be both entrepreneurs and employers. It is expected to help them establish production units in civil engineering, information technology, healthcare and allied sectors, hiring services, tourism, marketing, agriculture, education, banking and so on.

The 14th Five-Year Plan will try to address obstacles faced by the people of the Scheduled Castes in different spheres. While addressing the basic developmental needs of the community, it will help them to enter the next stage of development by devising plans and schemes that reflect their aspirations and needs.

### 13.2 WELFARE OF SCHEDULED TRIBES

#### Overview

Scheduled Tribes are ethnic groups of historically disadvantaged people in our nation and State. According to the Scheduled Tribe Department (2018 survey), the total population of the Scheduled Tribes in the State is 4.89 lakh, which constitutes 1.45 per cent of the State's population, and the total number of families come to 1.48 lakh, living in 6,578 settlements. There are 37 Scheduled Tribe communities in the State. Of these, five communities are identified as Particularly Vulnerable Tribal Groups, namely Kadar, Kurumba, Kattunaikan, Koraga and Cholanaikan. Eight communities including Aranadan, Wayanad Kadar, Kudiya (Melakudi), Maha Malasar, Palliyan, Thachanadan Moopan, Malapanickar and Malai Pandaram have been classified as minority communities. Eight communities such as Adiyan, Eravallan, Hill Pulaya, Irula, Malasar, Malayan, Mudugar and Paniyan are marginalised communities that need special care along with Particularly Vulnerable Tribal Groups (PVTGs) have been facing manifold issues such as lack of land and housing, lack of modern amenities, health and nutrition issues, educational backwardness, loss of cultural traits including dialect, and so on. However, the programmes of the State Government, especially the activities undertaken during the 13th Five-Year Plan, have helped reduce the hardships of the tribal people to a great extent.

The 14th Five-Year Plan envisages that the disadvantaged people among the tribals shall be empowered to overcome various socio-economic challenges, to attain higher productivity with improved skills and asset base, and utilise resources to full potential and gainful access to services. It also emphasises the implementation of income-generating programmes and land/agriculture-based programmes that will have a direct and positive impact on the tribal communities.

#### 13th Five-Year Plan

The overall thrust in the sector during 13th Plan was to end the scourge of social disparity between people of the Scheduled Tribes and other sections of the population. The planning process worked to protect the rights of the people of the Scheduled Tribes, and to expand the socio-economic achievements of people of the Scheduled Tribes in the State.

During the 13th Plan, Rs 4,006.25 crore was earmarked as Tribal Sub Plan flow from the State Plan provision of Rs 1,41,480 crore. The outlay and expenditure of State Plan schemes of the Scheduled Tribes Development Department and Local Governments during the 13th Five-Year Plan are in Table 13.2.

Table 13.2 STSP total outlay, STSP as percentage of total State Plan, budgeted outlay and expenditure of LSG and of and expenditure of Tribal Sub Plan in the 13th Five-Year Plan, Kerala, in Rs crore

Year	Total Outlay	Percentage allocation of STSP to State Plan	LSG		Department	
			Budgeted Outlay	Expenditure	Budgeted Outlay	Expenditure
2017-18	751.08	2.83	176.00	135.76	575.08	533.75
2018-19	826.19	2.83	193.60	151.29	632.59	502.13
2019-20	866.26	2.83	202.99	110.55	663.27	428.46
2020-21	781.36	2.83	183.10	167.06	598.26	400.59
2021-22	781.36	2.83	183.10	164.27	598.26	556.63
Total	4,006.25	2.83	938.79	684.08	3,067.46	2,421.56

Source: Scheduled Tribes Development Department, Government of Kerala



### **Achievements of major schemes during the 13th Five-Year Plan**

**Comprehensive socio-economic survey.** The Scheduled Tribes Development Department conducted a comprehensive socio-economic survey in 2018 covering all aspects of the Scheduled Tribe population in Kerala. Its results should meet the data requirements of future Plan formulations.

#### **Land and housing.**

1. To address the issue of landlessness, the Department has distributed 4,264.94 acres of land to 5,229 landless Scheduled Tribe families.
2. Through the LIFE Mission, 16,377 houses were sanctioned (Phase I-12,054, Phase II-3,545, Phase III-778), and 14,532 houses were completed. Besides, out of 6,709 houses sanctioned by the Department, 2,350 were completed.

#### **Education.**

1. Under schools and scholarship schemes, 4,52,415 students got pre-matric scholarship and 98,041 students got post-matric scholarship.
2. During the 13th Five-Year Plan period, four pre-matric hostels, two post-matric hostels and one Model Residential School (MRS) in Pookkode were constructed. Using KIIFB funds, one MRS, one ITI in Nadukani, one post-matric hostel and seven pre-matric hostels have been constructed.
3. Through the *Gothrasaradhi* scheme, transportation was provided to children living in remote settlements to attend school. More than 17,000 children are benefiting every year.
4. Altogether 250 *Samoohya Padanamuris* were started by the Scheduled Tribes Department during the 13th Five-Year Plan, which created better facilities and ambience for education in the Scheduled Tribe settlements with provision for Internet and tuition facilities also.
5. To solve their language issues and ensure education to tribal children, the *Gothrabandhu* scheme was introduced, under which educated tribal youth with proper educational qualifications were selected and trained to function as teacher/mentor in primary schools. During the 13th Five-Year Plan, 241 mentor-teachers were appointed in Wayanad, 26 in Attapady, and 20 in other tribal-concentration areas.
6. To promote literacy and adult education among the Scheduled Tribes, a special literacy programme was conducted through the State Literacy Mission.

#### **Health and social security.**

1. Under the *Janani Janma Raksha* scheme, 49,836 pregnant women received assistance, and 3,588 patients were assisted under the scheme for assistance to sickle-cell anaemia patients. During the 13th Plan period, 1,55,728 Scheduled Tribe persons benefited under the comprehensive tribal health care programme.
2. Sixteen mobile medical units were operated in 14 districts by the Department, taking healthcare to remote tribal settlements. Around 1,39,000 persons availed themselves of treatment through medical camps conducted through the mobile medical units every year.

#### **Agriculture, livelihood, food security and nutrition.**

1. A new scheme, 'Agriculture Income Initiative for Scheduled Tribes', was introduced for revamping the agriculture sector in the tribal areas.
2. To ensure food security in Attapady, significant production of millets, pulses, oilseeds and vegetables was ensured through the millet village scheme, and 3,307 farmers from 165 hamlets benefited. Under a special scheme to achieve nutrition sufficiency through an Agro-ecology programme, 1,392 farmers from 34 hamlets were given assistance.

3. Sustainable agricultural interventions under the *Haritharashmi* project were in Wayanad and Idukki Districts.
4. By using Rs 50.10 crore earmarked for the National Rural Livelihood Mission (NRLM) by the State Government, a community kitchen programme, traditional livelihood systems, joint liability groups and micro-entrepreneurship initiatives are run by the Kudumbasree Mission for the benefit of people of the Scheduled Tribes.

**Employment, income generation, skill development and habitat development.**

1. MGNREGA-Kerala Tribal Plus and a revolving fund were initiated by the Government to ensure up to 200 days of work and timely payment of wages to members of Scheduled Tribe families.
2. In a special drive, 100 tribal youth were employed in the Police, Excise and Forest Departments.
3. A Skill Development Centre/Centre for Excellence for Scheduled Tribe students was established at Mannanthala in 2017-18, where 125 Scheduled Tribe students were trained. Sixty-eight of them secured placements in various institutions.
4. Eight Gaddhika (a tribal arts and crafts fair conducted twice every year) festivals were conducted, generating a sales turnover of more than Rs 4 crore and benefiting over 3,200 tribal artisans/artists/entrepreneurs. Over four lakh people visited the fairs.
5. Under the Ambedkar Settlement Development Scheme, 94 new colonies were selected for infrastructure development, and works in 49 colonies have been completed.
6. The P K Kalan Family Welfare Scheme was introduced and micro-plans were prepared for the comprehensive development of tribals living outside Scheduled Tribe colonies.

**General schemes.**

1. The activities of KIRTADS have helped the tribal people improve their self-esteem during the Plan period. A batch of tribal people visited the northeastern States, traditional tribal festivals have been supported, several tribal festivals, life-cycle rituals, and tangible and intangible cultural aspects have been documented. Training has been given to tribal youth in audio-visual documentation. Workshops on traditional dance forms have been conducted.
2. Evaluation studies of the Department during the period, especially those on the implementation of the Forest Rights Act and the Tribal Resettlement and Development Mission (TRDM), helped in reviewing and strengthening many on-going tribal development initiatives of the State Government.

**Critical gaps to be addressed**

1. In spite of the welfare measures initiated and the constitutional protections given, the tribal community still faces social backwardness, unemployment, economic vulnerability, poor health and low educational standards.
2. There is lack of handholding support to the tribal people from administrative departments. A focussed intervention is required to fill critical gaps that exist in development sectors, through coordinated efforts.
3. Apart from the livelihood sector, in the healthcare sector interventions are required to address the specific health issues of the tribal people. A majority of tribal settlements are in inaccessible and interior forest areas, and there is a lack of health centres near the habitats.

**14th Five-Year Plan**

**Approach of 14th Five-Year Plan**

The 14th Plan will continue to strengthen its support for schemes that safeguard the constitutional rights of the people of the STs and to fulfil the duties of the State in this regard. The 14th Plan is to be a period of employment generation, and special attention is being given to promoting the entry of ST youth into every

sector of specialised skill development. The Plan will support programmes to increase the access of people of the STs to every-level and stream of higher education and to end the digital divide between children and youth of the STs and the rest of population. During the 14th Five-Year Plan, emphasis is given to providing land and promoting modern agriculture and allied practices among Scheduled Tribes as a means to promote agriculture development in Kerala. As the 14th Plan aims at employment generation in all spheres of employment, special efforts will be made to ensure equal participation of the people of STs in every sector of employment and income growth. Special focus will be given to solving the problems of delivery of preventive and curative health services to Scheduled Tribes, particularly those living in remote settlements.

#### **Major goals of the 14th Five-Year Plan**

1. Holistic development of tribal people.
2. Land and housing issues of tribes shall be addressed.
3. A micro-plan will be prepared and implemented for socially and economically challenged communities such as Particularly Vulnerable Tribal groups (PVTGs), Adiya, Paniya, Aranadan, Malapandaram and Hill Pulaya.
4. Livelihood programmes shall be promoted through various schemes.
5. Pre-school education of tribal children will be strengthened.
6. Quality education will be ensured to all tribal children. The drop-out issue in higher education will be addressed.
7. Ensure effective implementation of FRA.
8. Skill and entrepreneurship development programmes have to be enhanced in tribal areas. small-scale, and cottage and local industries promoted among tribespeople.
9. A scientific development plan has to be prepared for areas rehabilitated under the Tribal Rehabilitation Development Mission (TRDM).
10. Value-addition, processing and marketing of tribal products have to be ensured.
11. Kudumbasree activities are to be strengthened in tribal areas by expanding the microcredit system.
12. Empowerment of Scheduled Tribe cooperative societies by providing skill training and capacity-building to undertake developmental activities.

#### **Key initiatives proposed in the 14th Five-Year plan**

1. Development package for Adiya, Paniya, Hill Pulaya, Aranadan, Malamandaram and other marginalised communities.
2. Issues in Edamalakkudy related to road, electricity, drinking water, Internet connectivity, livelihood, and so on shall be addressed urgently.
3. Individual and settlement-based micro-planning for settlement development for the marginalised and vulnerable communities.
4. Providing pre-primary education facility to all tribal settlements.
5. Issues in higher education will be resolved.
6. Special schemes focussing on the comprehensive development of Attapady tribal area are to be devised.
7. Introduction of 'One family, One job' policy in tribal areas.
8. Nutritional Rehabilitation Centres in tribal concentration districts.
9. Transparency in scheme implementation through IT-enabled services.
10. Training with a set of defined targets, enhancement of employability and guaranteed placement.
11. All tribal job-seekers enrolled under MGNREGS are to be given guaranteed employment.
12. Social auditing of flagship programmes.
13. Ensure crop protection and measures to reduce man-animal conflicts.

### **New initiatives already started in Annual Plan 2022-23**

**Edamalakkudy comprehensive development package.** Edamalakkudy, the only tribal Grama Panchayat in the State, faces multiple development issues. Providing basic necessities such as better housing, drinking water, electricity, roads, education and health facilities is not an easy task with conventional development models. To address these issues in Edamalakkudy, a new package has been introduced in the 2022-23 Annual Plan with an allocation of Rs 15 crore.

**Kerala Tribal Plus of MGNREGA.** To provide additional employment for members of tribal families, a scheme has been introduced under the MGNREGS by the State Government. Under this, 100 days of employment in addition to the 100 days provided for under MGNREGS is granted to tribal families. For this, Rs 35 crore has been provided in the 2022-23 Annual Plan.

### **13.3 WELFARE OF OTHER BACKWARD CLASSES**

#### **Overview**

Article 15(4) and 16(4) of the Constitution ensure special attention and reservation for the backward classes in education and jobs. In Kerala, around 65 per cent of the population belongs to Other Backward Classes; 84 communities are included in the OBC list and 83 in the Socially and Educationally Backward Classes (SEBC) list. The largest groups among the OBCs in Kerala are Ezhava and Muslim. Other backward communities with sizable populations are Viswakarma, Latin Catholic, Scheduled Castes Converted to Christians, Hindu Nadar, SIUC Nadar, and Dheevara.

Many of the OBCs are engaged in specific traditional occupations, such as pottery making, fishing, weaving, washing, oil-pressing and hair-cutting. The most vulnerable among them are Thottiyar, Tholkollan, Kunduvadiyan, Chavalakkaran, Scheduled Castes converted to Christians, traditional pottery-making communities, traditional fishing communities and traditional hair-cutting communities.

The most vulnerable communities among OBCs are facing unemployment, low access to higher education, limited economic opportunities and poor credit facilities. To overcome these socio-economic problems, special community-based planning is required. The development strategy will focus on inclusive and sustainable social development of the backward classes, particularly the most vulnerable among them.

#### **13th Five-Year Plan**

The OBC Development Department implemented various educational schemes such as provision of scholarships to pre-matric and post-matric students, employment generation schemes, skill training and assistance to people involved in traditional occupations. The Employability Enhancement Programme and Career in Automobile Industry through Public-Private Partnership were implemented to improve the employability of youth among the backward classes. The Department had initiated many schemes to uplift traditional working-class communities, especially the most vulnerable groups, through focussed interventions and programmes. The total outlay for the welfare of OBCs during the 13th Five-Year Plan was Rs 432.46 crore and the expenditure was Rs 731.19 crore. The year-wise details are in Table 13.3.

Table 13.3 *Budgeted outlay and expenditure of the OBC Development Department, in Annual Plans of 13th Five-Year Plan, Kerala, in Rs crore and per cent*

Annual Plan	Budgeted Outlay (Rs crore)	Expenditure (Rs crore)	Expenditure (per cent)
2017-18	82.4	162.52	197
2018-19	92.9	269.37	289
2019-20	92.4	82.68	89
2020-21	82.38	77.1	93
2021-22	82.38	139.5	169
Total	432.46	731.17	169

Note: Expenditures of 2017-18, 2018-19 and 2021-22 include additional authorisations

Source: Backward Classes Development Department, Government of Kerala

#### **Achievements during the 13th Five-Year Plan**

During the 13th Five-Year Plan, 731.19 crore was spent by the Department to provide assistance to 23,49,815 beneficiaries through schemes. The Kerala State Backward Classes Development Corporation disbursed Rs 2,727.21 crore and assisted 2,77,359 families during the 13th Plan period.

The Backward Classes Development Department provided numerous educational scholarships to OBCs, including overseas scholarships, to study in major foreign universities. The Department has provided financial assistance to traditional working-class communities to purchase tool kits for improving the quality of their work. Financial assistance was given to students for coaching in the civil services examination, UGC/NET/JRF/GATE/MAT and other competitive examinations, in reputed institutions.

#### **14th Five-Year Plan**

The 14th Five-Year Plan is to be a period of employment generation to OBC youth in all spheres. The Plan envisages employment growth in salaried and wage employment sectors as well as by means of entrepreneurship and self-employment. The 14th Five-Year Plan will support all programmes to increase the access of OBC students to every-level and stream of higher education. The scope of the knowledge economy will be utilised fully for the skill development and employment generation of OBCs.

Vocational communities following hereditary occupations are the most vulnerable communities among OBCs, and the 14th Plan envisages the social and economic uplift of those communities. Micro-plan needs to be prepared for the most vulnerable communities among OBCs. Their livelihood activities have to be modernised by providing financial and technical support and by integrating their activities with the schemes of Kudumbasree and the Industries Department.

#### **Objectives of the 14th Five-Year Plan**

1. To improve the socio-economic conditions of backward communities in the State through developmental programmes.
2. Professional and educational advancement of all OBCs in the State.
3. Resolving the livelihood issues of the most vulnerable groups among OBCs.
4. Preparation of micro-plans for the uplift of traditional vocational communities, especially the most vulnerable groups (Thottian, Tholkollan, Kunduvadiyan, Chavalakkaran, Kumbaran, Perumkollan) among OBCs.
5. Enhancing employability of OBC youth through appropriate skilling and placement by exploring the scope of the Kerala Knowledge Economy Mission.
6. Providing assistance to youth pursuing professional education.
7. Modernisation and mechanisation of pottery manufacturing and marketing activities by providing financial and technical support to the pottery-making communities.
8. Implementation of schemes to support OBC street vendors through Kerala State Backward Classes Development Corporation Ltd.

**Key initiatives in the 14th Five-Year Plan**

1. Providing scholarships to OBC and OEC students to pursue higher education.
2. Training and placement schemes for educated OBC youth in the fields of Logistics, Nanotechnology, Automobile Engineering, Hotel Management, Catering Technology and so on in cooperation with prominent skill-partners.
3. Special programmes for skill upgradation of rural artisans among backward communities by providing financial and technical assistance.
4. Expanding the scope of overseas scholarships and provision of more foreign study loans through the Backward Classes Development Corporation.
5. Skilling and semi-skilling of women through better convergence and coordination with Kudumbasree.
6. Aiming to provide more subsidised loans through the Kerala State Backward Classes Development Corporation for employment-creation.
7. Aiming to provide more assistance to women beneficiaries by providing Micro Credit Loan Schemes through KSBCDC.
8. Subsidy-linked loan schemes will be started to assist returned emigrants to start self-employment ventures in consultation with NORKA.

**New initiatives already started in Annual Plan 2022-23**

1. *Infrastructure development of Kumbhara colonies.* The scheme envisages the comprehensive development of Kumbhara colonies thickly inhabited by traditional pottery making communities, by developing infrastructure.
2. *Special scholarship for OBC girl students who have lost a parent or both parents.* The scheme aims to assist female students from Other Backward Classes studying in medical/medical allied courses who have lost a parent or both, by providing financial assistance to education.

**13.4 WELFARE OF MINORITIES****Overview**

In Kerala, 45 per cent (26.56 per cent Muslims, 18.38 per cent Christians, 0.014 per cent Buddhists, 0.013 per cent Jains, 0.011 per cent Sikhs and Parsis) of the total population are minorities. All these minority communities are entitled to minority rights as envisaged in Article 29 and 30 of the Constitution. Among them, Muslims, Latin Catholics, scheduled castes Converted Christians and neo-Buddhists are included in the OBC bracket in Kerala. The Minority Welfare Department of Kerala prepares and implements projects for minorities, focussing on education, health, housing, water supply, employment and so on, and with the clear intention to remediate identified development gaps. The Madrassa Teachers Welfare Fund, the State Minorities Development Finance Corporation and the State Commission for Minorities are the other stake-holding agencies that subsequently came into existence in the realm of minority welfare.

The 14th Five-Year Plan aims to address the socio-economic problems of minorities by means of educational assistance, skill development and entrepreneurship, employment generation and human resource development.

**13th Five-Year Plan**

During the 13th Five-Year Plan, Rs 307.32 crore was earmarked for the welfare of minority communities. The expenditure incurred by the Minority Welfare Department was Rs 248.65 crore. The details are given in Table 13.4.

Table 13.4 *Budgeted outlay and expenditure for the Welfare of Minorities, in Annual Plans of the 13th Five-Year Plan, Kerala, in Rs crore and per cent*

Year	Budgeted Outlay (Rs crore)	Expenditure (Rs crore)	Expenditure (per cent)
2017-18	82.5	76.89	93
2018-19	90.75	71.24	78
2019-20	48.75	22.26	46
2020-21	42.66	22.29	52
2021-22	42.66	55.97	131
Total	307.32	248.65	81

Source: Minorities Welfare Department, Government of Kerala

#### **Achievements during the 13th Five-Year Plan**

1. During the 13th Plan, 97 projects were approved for an amount of Rs 216.55 crore under the Pradhan Mantri Jan Vikas Karyakram (PMJVK).
2. The Water supply in Minority Concentrated Areas scheme was implemented, which benefited 40,000 families.
3. Altogether, 2,553 houses were constructed for divorcees/widows and abandoned women inform the minority communities during the 13th Five-Year Plan period. Renovation of 1,538 houses was completed under the scheme.
4. Department has been providing free coaching for students of minority communities for PSC/UPSC/Staff Selection Commission/Railway Recruitment Board/Banking sector competitive examinations through coaching centres across the State. A total of 37,470 students were given coaching during the Five-Year Plan period, and among them 2,837 students got permanent employment in State and Central Governments.
5. During the 13th Five-Year Plan period (2017-2022), the Minority Development Finance Corporation has disbursed loans amounting to Rs 102 crore to 2,800 beneficiaries from the minority communities. KSMDFC has launched a scheme called *Sumithram* to provide marriage assistance, loans for treatment of illnesses including COVID-19, and for self-employment, in 2021-22.

#### **14th Five-Year Plan**

The 14th Five-Year Plan is to be a period of employment-generation for minority youths in all spheres of employment. The Plan envisages employment enhancement in salaried and wage employment as well as by means of entrepreneurship and self-employment. The 14th Five-Year Plan will support all programmes to increase the access of students of the minority communities to every-level and stream of higher education. The scope of the knowledge economy would be utilised for skill development and employment generation among minorities.

The main focus of the 14th Plan will be on the implementation of livelihood programmes for minorities as a majority of the Gulf returnees are from the minority communities. It is aimed to expand scholarship schemes, including overseas scholarships, to more beneficiaries to promote higher education.

#### **Objectives of the 14th Five-Year Plan**

1. To improve the socio-economic conditions of minorities through affirmative action to ensure inclusive growth.
2. To ensure equitable share to minorities in the realms of education, employment and economic activities.
3. Promotion of higher education among minority youth.
4. Increasing the employability of minority youth through appropriate skilling.
5. To generate better means of livelihood for marginalised minorities and bring them to the mainstream.

### Key initiatives in the 14th Five-Year Plan

1. Inadequacy of education infrastructure in minority concentrated areas will be addressed through the scheme, Pradhan Mantri Jan Vikas Karyakram (PMJVK). The scope of the scheme will be fully utilised for the construction of school and hostel buildings and development of other infrastructure in minority concentrated areas.
2. Career-building support for young professionals from the minority communities.
3. Scheme for supporting the revival and rejuvenation of COVID-19 affected small and marginal business enterprises of minorities.
4. Financial assistance to groups of minority youths to start multi-purpose job clubs.
5. Merit scholarships for talented minority students who gets admission to professional courses in IITs, IIMs, IISc and IIMSc and so on.
6. Hostel fee support scheme for minority students from villages who pursue higher education in towns and urban centres.
7. Implementing self-employment schemes to support returned emigrants from Gulf countries.
8. Implementing overseas scholarships for minority youths and promotion of foreign placement by integrating with ODEPC.

### 13.5 WELFARE OF FORWARD COMMUNITIES

#### Overview

Forward communities of Kerala include 168 communities, of which 19 are Christians, which are out of the ambit of any form of caste-based reservation. The Government of Kerala constituted the Kerala State Welfare Corporation for Forward Communities Ltd. on November 8, 2012 with the aim of promoting comprehensive development and welfare of economically backward sections among forward communities by improving their educational status, living conditions and all round development.

#### 13th Five-Year Plan

During the 13th Five-Year Plan an amount of Rs 186.48 crore was earmarked for the welfare of forward communities. The expenditure incurred by the Kerala State Welfare Corporation for forward communities is Rs 137.02 crore.

Table 13.5 *Budgeted outlay and expenditure for the welfare of forward communities in Annual Plans of the 13th Five-Year Plan, Kerala, in Rs crore and per cent*

Annual Plan (Year)	Budgeted Outlay (Rs crore)	Expenditure (Rs crore)	Expenditure (per cent)
2017-18	30	28.05	93
2018-19	42	26.06	62
2019-20	42	31.8	78
2020-21	36.24	30.19	83
2021-22	36.24	20.92	58
Total	186.48	137.02	73

Source: Economic Review Vol 2, Various Years, Government of Kerala

The Corporation undertakes various activities which include merit scholarships, coaching assistance, term loan assistance, skill and entrepreneurship development programmes, renovation of dilapidated Agraharas and marriage assistance.

#### Major achievements during 13th Five-Year Plan



1. Implementation of farming project and mini cafe project under the scheme for skill and entrepreneurial activities. The Corporation provided assistance to stakeholders to set up dairy farming, poultry farming and goat farming units.
2. The Thoosanila Mini Cafe Project was launched for the uplift of women. A total of 17 Samunnathi Thoosanila mini cafés were started by women's joint liability groups.
3. An amount of Rs 663 lakh has been disbursed under the *Mangalya Samunnathi*, marriage assistance scheme for women.

#### **14th Five-Year Plan**

During the 14th Five-Year Plan emphasis is given for the implementation of livelihood programmes for the target groups. The Plan envisages employment enhancement of economically weaker sections among forward communities. The 14th Plan will support programmes to increase the access of students of economically weaker sections among forward communities to every-level and stream of higher education, including foreign studies. The scope of the knowledge economy will be utilised for skill development and employment generation of economically weaker sections among forward communities. New schemes have to be introduced to create employment opportunities for the educated youth of economically weaker sections among forward communities.

#### **Key initiatives in the 14th Five-Year Plan**

1. Providing overseas scholarships and coaching assistance for students.
2. Capital subsidy for entrepreneurship programmes.
3. Capital subsidy for farming activities.
4. *Self-employment scheme*. Assistance to mini-markets on wheels.
5. Capital assistance for purchasing electric autorickshaws for women.

## Chapter 14

### Social Security and Welfare

Social security is a fundamental human right and a potent tool to combat discrimination and poverty and promote social inclusion. It aims to provide support at every stage of life for everyone, with particular attention to the most marginalised. Social welfare programmes involve a broad and varied range of Government programmes, implemented through various departments, intended to improve the quality of life for all segments of society, especially the less fortunate. The Kerala model of development stands for the principles of Equity and Justice in the developmental process. It has succeeded in accomplishing societal well-being on a par with developed nations in many of the quality of life indices. This has been made possible through a number of public interventions in policy and welfare programmes for the differently abled, destitute, socially and economically marginalised, geriatric and bedridden persons, and by addressing gender disparities. The State's interventions are spread across health, nutrition, palliative care, education, training, employment, livelihood development and other sectors.

#### Overview of 13th Five-Year Plan

The approach of the 13th Five-Year Plan was to enhance the quality of life of the most needy and vulnerable in society, especially persons with disabilities, senior citizens, social deviants, destitutes and other vulnerable sections through meaningful interventions. The 13th Five-Year Plan faced serious shortfalls in financial outlays for Plan schemes. However, the State Government made sure that there was a continuous escalation in Plan allocations to schemes for the welfare of persons with disabilities and senior citizens. Schemes were initiated for gender minorities and destitutes. The financial performance of the departments and agencies during 13th Five-Year Plan period is in the following table. The total expenditure of the sector is more than the total allocation, which points to the importance given by the Government to the vulnerable sections of the society.

Table 14.1 Financial Performance of departments and agencies during 13th Plan Period

Department/Agency	Annual Plan 2017-18		Annual Plan 2018-19		Annual Plan 2019-20		Annual Plan 2020-21		Annual Plan 2021-22	
	Outlay	Expenditure	Outlay	Expenditure	Outlay	Expenditure	Outlay	Expenditure	Outlay	Expenditure
Social Justice Directorate	70.95	2,605.59 (6372.42%)	60.65	39.32 (64.83%)	61.10	33.35 (54.58%)	54.40	44.17 (81.20%)	54.60	35.25 (64.56%)
Kerala Social Security Mission	166.60	112.80 (67.71%)	167.85	210.52 (125.42%)	171.80	113.91 (66.30%)	157.80	246.73 (156.36%)	160.46	222.43 (138.62%)
Directorate of Sainik Welfare	0.15	0.13 (88.47%)	0.17	0.15 (87.41%)	0.90	0.42 (46.73%)	0.90	0.53 (58.82%)	0.80	0.53 (65.73%)
Prisons Department	18.50	6.65 (35.94%)	21.00	8.32 (39.62%)	22.55	6.01 (26.66%)	18.50	27.77 (150.20%)	19.50	24.29 (124.56%)
Kerala State Physically Handicapped Persons Welfare Corporation	9.00	4.40 (48.89%)	11.70	7.14 (61.06%)	12.87	3.14 (24.40%)	13.00	10.89 (83.77%)	13.00	5.80 (44.60%)
National Institute for Speech and Hearing	11.20	7.21 (64.38%)	12.30	7.56 (61.46%)	13.32	7.78 (58.39%)	17.00	12.08 (71.08%)	17.00	12.00 (70.60%)
State Commissionerate for Persons with Disabilities	1.20	0.28 (23.74%)	1.80	0.76 (42.18%)	2.00	1.10 (55.05%)	2.20	1.15 (52.10%)	2.20	1.07 (48.46%)
<b>TOTAL</b>	<b>277.60</b>	<b>2,737.06 (985.97%)</b>	<b>275.47</b>	<b>273.78 (99.39%)</b>	<b>284.54</b>	<b>165.71 (58.24%)</b>	<b>263.80</b>	<b>343.34 (130.15%)</b>	<b>267.56</b>	<b>301.38 (112.63%)</b>

Source: Budget documents, Planspace, Government of Kerala

#### 14.1 PERSONS WITH DISABILITIES

One of the milestones of the sector was the enactment of the Rights of Persons with Disabilities Act, 2016 to give effect to the optional protocol of the United Nations Convention on the Rights of Persons with Disabilities (PwDs). It upholds a rights-based approach to their needs. Following the enactment of the RPWD Act, 2016, the State Government introduced new schemes for gap-filling, and mainstreaming of persons with disabilities into society, such as Barrier Free Kerala project, Individual Care Plan, Niramaya health insurance and Anuyathra,. The Government also supported the efforts of NGOs in providing quality care and support to PwDs. Reservation of 4 per cent of vacancies for PwDs in State Government service and identification of suitable posts for such reservation was another landmark in this sector.

The Anuyatra programme took up a spectrum of activities during the 13th Plan period from prevention and early intervention of disabilities to providing assistive devices, rehabilitation and empowering the differently abled. Some of the major initiatives under Anuyatra involve the setting up of District Early Intervention Centres, neonatal screening, verbal therapy, Kathoram, a hearing disability management programme, cochlear implant surgeries, special anganwadis, mobile intervention units, and special early intervention-cum-disability management protocols in tribal areas. The launch of the Autism Rehabilitation and Research Centre at the National Institute of Physical Medicine and Rehabilitation (NIPMR), and the empowerment of differently abled children and parents are two other steps.

Government policy seeks to give effect to all legislation that designs, protects, and promotes the rights of persons with disabilities. The 14th Five-Year Plan Approach Paper of the State Planning Board postulates that the Five-Year Plan will support all efforts to maintain Kerala's position as a disabled-friendly State. As part of this effort, the Plan will support schemes that contribute to making Kerala barrier-free in public places and offices. The State continues to invest in the production and provision of assistive technologies and services to persons with disabilities and to support the leading public institutions in the field. As Kerala embarks on new programmes of skilling for modern employment, Plan schemes will seek to incorporate the rights and needs of persons with disabilities into these schemes.

As one of the most vulnerable sections of society, PwDs face serious challenges in accessing health care, education, employment and transport services, and they often require a comprehensive approach to enable them to fully participate in society. However, different Government agencies attend to various issues of PwDs, and some of these programmes do not get the desired output for want of interdepartmental convergence. The 14th Five-Year Plan advocates new systems to make the State more inclusive for PwDs. These include refurbishing prevention initiatives, early screening, early intervention, special anganwadis, Buds schools, model child rehabilitation centres and special schools, along with inclusive education. The Plan will introduce newer vocational training streams, sheltered workshops; community-based rehabilitation and assisted living home projects. Apart from attending to physical inaccessibility issues, the programmes will address barriers in communication, information and access to financial support, stigma and attitudinal barriers that act against the well-being of PwDs.

#### **14.2 ELDERLY CARE**

The demographic trend shows that Kerala is passing through the most critical stage of demographic transition as a result of notable achievements made by the State in variables of fertility and mortality. One of the important consequences of the demographic transition is aging. The prospect of aging and the accelerated growth of the elder population became a pertinent issue across the world and it required a better understanding of the implications and possibilities posed by aging. Isolation and marginalisation of the elderly have to be avoided by engaging them in the community through social events and helping them maintain a

sense of identity and self-worth. This will also help harness the wealth of knowledge and experience they have, which is essential for societal development. The Department of Social Justice formulated the scheme *Sayamprabha* to set up day-care and recreational centres for the elderly, and revamped such centres under LSGDs during the 13th Plan period.

A person's mobility naturally declines with age, making it more difficult to perform daily tasks. Increased support is needed to enable older people to lead independent lives through products and programmes that focus on safety, fitness and mobility. The Kerala Social Security Mission implemented the *Vayomithram* programme to serve the aged with periodic check-ups and treatment services to keep them active. An ambulance with a medical team and supplies visits select spots like anganwadis periodically. They make use of the palliative services of Local Governments to reach out to the bedridden.

The safety and rights of the elderly are safeguarded through the effective implementation of the Maintenance and Welfare of Parents and Senior Citizens Act, 2007. Emergency response and support to the elderly were extended through *Vayoraksha*, and *Vayokshema* call centres during the COVID-19 pandemic. The Government has instituted an award for Local Governments and NGOs for their work in promoting elder support programmes.

There has been a significant increase in the elder population in India over the past 50 years. Senior citizens constitute a higher proportion of the population in Kerala than in any other part of India. The report, "Elderly in India 2021", released by the Ministry of Statistics and Programme Implementation (MoSPI), Government of India, projects a substantial increase in the population of senior citizens in Kerala from 41.93 lakh in 2011 to 58.53 lakh in 2021, and the number is expected to reach 76.53 lakh in 2031. The policy of the 14th Five-Year Plan is to empower senior citizens and help them lead healthy, secure and productive lives. It will build upon rights legislation and policy in the field. The Government of Kerala will continue to provide income support and economic security to low-income senior citizens by means of welfare pensions. The Plan will continue to fund healthcare and palliative and home care facilities that focus on the care of senior citizens. Community-based support programmes that are implemented in collaboration with Local Governments will be strengthened.

The elderly are becoming an increasingly vulnerable population due to the many problems that they face in a fast-changing society. These include declining psycho-social and emotional support from family and society, health issues, increasing elder abuse, accessibility issues, digital divide, poor employment opportunities, insufficient social security benefits and loneliness. The State is very particular about the protection of the rights of the elderly and the effective implementation of the MWPSA Act, 2007. This includes strengthening of Maintenance Tribunals, improving the quality and reach of community-level services including doorstep delivery of services and daycare facilities in collaboration with Local Governments, Kudumbasree units and NGOs. However, the State Government stands for a change in the outlook of society and elder people towards aging as 'Active Aging'. The policy framework of the World Health Organisation in 2002 defined active ageing as "the process of optimising opportunities for health, participation and security in order to enhance quality of life as people age". This calls for collaborative efforts by the Social Justice Department as the nodal department for activities for elders, and other departments and agencies actively involved in the care of the elderly, including Local Governments, NGOs and local communities.

The Department of Social Justice will focus on creating a comprehensive database on the elderly population, the absence of which is now a bottleneck in framing policies and programmes for the welfare of the elderly. In

care homes run by the Government, the focus will be on improving the facility and mode of operation. A standard operating procedure (SOP) will be formulated for the registration, operation and monitoring of elder care homes, especially those operated by different agencies. The scope of community-level care and support shall be better explored. During the Plan period, necessary trained human resources will be developed for geriatric care. Awareness generation activities will be conducted for the community; and skilling and reskilling will be stressed upon.

#### **14.3 TRANSGENDER PEOPLE**

Kerala is the first State in India to establish a Policy in 2015 for the Transgender (TG) community. Subsequently the State has launched programmes for TGs under the umbrella scheme *Mazhavillu* to mainstream the population. These include financial assistance for vocational training, sex re-assignment surgery (SRS) and post-SRS surgery, marriage assistance, scholarship, pension, and insurance. The Government issued ID cards to TGs; opened a TG cell, a crisis management centre and a 24x7 Hhlpline. The Government promoted NGOs and CBOs to conduct activities such as skill development and rehabilitation programmes for TGs. Institutional interventions like sensitisation programmes and workshops for the public, family members of TGs, teachers and Government functionaries were undertaken to change the attitude and approach of people to TGs. Shelter homes and short-stay homes were established. Loans for self-employment, TG *Kalolsavam* and other activities were undertaken to aid mainstreaming.

Under the aegis of the Kerala State Transgender Policy, the *Mazhavillu* scheme has empowered many Transgender individuals in interpersonal, educational and socio-economic aspects and laid a foundation for prospective initiatives. Although the schemes executed during the 13th Plan period are largely successful, the Department has experienced major challenges that include the limited reach of the programme among beneficiaries, gaps in addressing their health concerns, unemployment, lack of shelters and so on. The basic drawback in implementation is the dearth of information and statistics on TGs and their problems. The Government would focus on awareness-building and sensitisation among the public so that transgender persons would come out of the cupboard. The Plan will continue to support measures to ensure the access of transgenders to the educational, employment, healthcare, skill training, credit, and livelihood schemes of different departments.

The TG people face health and psychological problems related to sex reassignment surgery and post-SRS endurance. Absence of adequate healthcare solutions for SRS is a matter of concern and the Government is committed to setting up adequate facilities and services in the Government sector. The problems of TGs, such as unemployment and lack of vocational training, limited exposure to self-employment avenues and housing issues also will be attended to.

#### **14.4 SOCIAL DEFENCE**

The welfare and rehabilitation of prisoners, socially deviant persons and those put on probation by the legal system, especially among juvenile and youth offenders, is an important area that requires social attention. The Department of Prisons and Correctional Services has expended Rs 24.29 crore for the modernisation of jails and welfare of prisoners during the 13th Five-Year Plan. The traditional concepts of crime and punishment have changed dramatically in recent times. The focus has shifted from the crime to the criminal. Probation has got more importance and the system provides individualised treatment for offenders to give them a chance to reform. The Government initiated the *Nervazhi* project to strengthen the probation system, focussing on preventive interventions and victim support along with awareness generation. Necessary training is being provided to officials of the Judiciary, Prisons, and Police for better implementation of probation services.

*Thanalidam*, a probation home, has been started. New projects were initiated for drug abuse prevention among probationers, and as a part of adopting successful innovative probation practices of other countries and States, a study has been conducted through the Sree Sankaracharya University of Sanskrit and the Centre for Management Development, Thiruvananthapuram.

The prevalence and persistence of problems of crime and deviance have been a matter of social concern in the State. When these problems cross the threshold of social tolerance, interventionist mechanisms by governmental and non-governmental organisations, agencies and institutions in the form of prevention, control, reformation, rehabilitation and reintegration, are desired. The probation and aftercare schemes are aimed to create this environment in Kerala society. The programmes will seek to identify and train volunteers to promote public participation in areas of social defence and provide encouragement and incentives to probationers. The involvement of NGOs will be promoted for this. More schemes to assist victims will be introduced in this Five-Year Plan. A new transit home project will be initiated for sheltering foreigners under detention. To address the increasing incidence of drug-related crimes, a comprehensive preventive treatment and rehabilitation interventions will be planned for the all-round recovery of drug-abusers. Sufficient number of shelters for homeless probationers, ex-convicts, remand prisoners and so on will be taken up in 14th Five-Year Plan. Separate probation homes for women will be established. The State will continue the modernisation of jails and schemes for the welfare of prisoners.

The Government has made remarkable interventions in the matter of Endosulfan victims, children from poor families with lethal diseases (*Thalolam* scheme), children who have lost a parent or both parents and face pathetic health conditions (*Snehapoorvam*), children affected by juvenile diabetes (*Mittayi*), Cancer Suraksha, and in ensuring care for most eligible patients through *Aswasakiranam* caregivers sponsoring scheme. The Government also initiated 'We Care Programme', akin to a crowd funding concept, to address philanthropic cases.

#### **Major initiatives proposed by department and agencies for 14th Five-Year Plan**

##### **Social Justice Department.**

1. Focus on rights-based institutional services as mandated in the RPWD Act 2016
2. Fixing minimum standards for all institutions working for PwDs
3. Comprehensive projects for institution-based services for vocational training and employment for PwDs above 18 years of age
4. Develop a digital database of physically and mentally challenged persons
5. The setting up of more Government-run homes for the rehabilitation of intellectually challenged adults, and Government-run community-assisted living project.
6. Government-run homes for senior citizens will be upgraded as model homes
7. Formulating protocols for NGO-run and privately owned senior citizen homes with mandated supervision by the Social Justice Department
8. Starting at least one *Sayamaprabha* home in a block to provide medical services, recreation, therapy interventions and vocational activities to senior citizen
9. Ensuring the availability of trained geriatric care providers to attend to the needs of the elderly in care facilities and communities
10. Start care homes in each district for transgender people under the monitoring and supervision of the District Panchayat

11. Providing care homes for transgender people with crisis-intervention facilities, rehabilitation, SRS after care services and other therapeutic services
12. *Thanalidam* Probation Home will be opened for women as well
13. Start transit centres for foreigners continuing in the State for want of visa clearance
14. Making public offices, parks, roads and so on barrier-free and accessible to PwDs
15. A five-year action plan will be developed and implemented to meet the statutory requirements on accessibility
16. Accessibility of services will be ensured to PwDs
17. Convert one or two selected Local Governments in each District as a “Model Barrier free LSG”. The model design will be developed by the Department with professional support

**Kerala State Handicapped Persons’ Welfare Corporation.**

1. *Shubhayathra*. Distribution of free aids and appliances such as high-tech limbs, electronic wheelchairs and laptop/smartphones with voice-enhanced software, and other equipment for specific needs
2. Subsidy for motorised scooters with additional side-wheels to promote physical mobility of persons with locomotors disability
3. *Aashwasam* bank loan subsidy to disabled people who have availed bank loans under self-employment schemes
4. Help for self-help groups of handicapped persons to undertake micro-projects
5. Financial assistance (subsidy) for disabled lottery agents
6. Financial assistance for self-employment to those who have no security to offer to obtain a loan
7. Write off outstanding loans, with interest and penal interest, of deceased loanees,
8. Waive interest and penal interest of defaulters under One Time Settlement (OTS) mode, and subsidy for NHFDC loans
9. Hasthadanam proficiency award for differentially abled students
10. Fixed deposit scheme for differently abled children
11. Oppam Old Age Home at Parassala for physically challenged men/women living with no social support
12. The Kaithangu self-employment loan scheme for purchasing autorickshaws/cars for those who have no security to offer to obtain a loan
13. Job fairs and capacity-building programmes for persons with disabilities
14. State Resource Centre to provide professional support
15. Home loans under NHFDC loan scheme
16. Upgradation of manufacturing unit of assistive devices for PwDs in Kottayam

**National Institute of Physical Medicine and Rehabilitation (NIPMR).**

1. Establishment of advanced rehabilitation facilities
2. Establishment of optometry unit
3. Dental hygienist training facility for the differently abled
4. Sports physiotherapy centre
5. Geriatric rehabilitation unit
6. Advanced brain injury rehabilitation unit
7. Assistive technology network
8. 4D milling machine unit to provide assistive solutions for the differently abled, with a network for nodal centres across the State
9. Assistive technology innovation hub with fabrication lab
10. Genetic unit for disability prevention

11. Establishment of advanced rehabilitation facility with 250 beds
12. Improving academic facilities
13. Construction of students' hostel
14. Construction of separate academic blocks
15. Digital classrooms with a unified virtual classroom network
16. Starting academic programmes including Bachelor of Prosthetics and Orthotics affiliated to KUHS and RCI
17. B. Ed special education
18. Bachelor of Physiotherapy
19. Bachelor of Audiology and Speech Language Pathology
20. Fellowship in Developmental Paediatrics and Neonatal Care
21. PG Diploma in rehabilitative nursing
22. Certificate courses for doctors, nurses and rehab professionals
23. Establishing satellite centres of NIPMR in districts with the support of local bodies

**Kerala Social Security Mission (KSSM).**

1. *Aswasakiranam*, a scheme for providing caregiving services to patients, with assistance paid monthly
2. *Vayomithram*, a joint initiative with LSGDs, to provide free healthcare to elders
3. Caregivers Project, a pilot programme for supplying care-providers to the neediest of institutions such as elder homes and Asha Bhavans
4. Cancer *Sureksha* scheme for children, bearing the entire cost of treatment, including the cost of hospital investigations, through funds provided by the Mission
5. *Thalolam* scheme for initial assistance of Rs 50,000 to eligible patients, and additional assistance on the basis of evaluation
6. *Sruthitharagam* project to provide cochlear implants to children selected by regional and State-level technical committees for the hearing-impaired
7. *Snehasanthwanam*, a relief measure for Endosulfan victims
8. Rehabilitation of unwed mothers and their children under the *Snehasparsham* scheme provides financial assistance of Rs 2,000 a month
9. *Prathyasha* scheme provides marriage assistance to girls from poor families
10. Hunger Free City seeks to provide free food, at least once a day, to patient-attendants in major hospitals in need of food
11. *Samaswasam* scheme provides financial assistance for care and protection to the weaker sections
12. *Thalolam* scheme provides free treatment to children below 18 with life-threatening diseases
13. *Snehapoorvam* scheme provides financial assistance to those children who have lost both parents or either of them and the remaining parent is not in a position to look after the child due to financial constraints
14. Social support scheme for children with juvenile diabetes (*Mittayi*), a comprehensive social security programme for children and adolescents with Type-1 diabetes

**National Institute for Speech and Hearing (NISH).**

1. Rehabilitating deaf and hard of hearing persons and providing higher education to the hearing-impaired. NISH conducts courses for hearing-impaired students, evaluation and detection of hearing loss, early intervention and rehabilitation of individuals with communication and other disabilities. The activities include;
2. Hearing and speech language disorders programme
3. Early intervention programme



4. Neuro development sciences programme
5. Psychology, medical and allied services
6. Academic programme
7. Higher education foundation programme
8. Information Technology
9. Setting up a research centre to upgrade NISH as a centre of excellence.
10. Entrepreneurship and Incubation cells

**State Commissionerate for Disabilities.**

1. Research and development for rehabilitation
2. Printing and publication of hand books, brochures, booklets
3. Awareness programmes for the public through print and electronic media
4. Conduct inspections at various institutions for persons with disabilities
5. Conduct *adalaths* and sittings for the disabled
6. Legal aid and legal advice to persons with disabilities
7. Cultural and sports activities for disabled persons
8. Awards for literary works of disabled persons

**Prisons Department.**

1. Modernisation of prisons with the construction of jail buildings, improving administration, digital systems and safety
2. Reformation and rehabilitation of prisoners through vocational training programmes and other welfare activities

**Sainik Welfare Department.**

1. Welfare and rehabilitation of ex-servicemen and their dependents
2. Training for ex-servicemen/widows/dependants for re-employment and self-employment
3. Supporting the efforts of Kexcon, like Neethi Medicals

## Chapter 15

### Women and Child Development

Nowadays, Governments and development agencies fix top priority to gender issues in development planning and policy. Gender equity in terms of access and allocation of resources as well as opportunities for social and economic progress is a relevant worldwide issue that has a fundamental link to sustainable development. It calls for strategic action to address the persistent and growing burden of poverty among women and gender minorities, inequalities and inadequacies in access to education, healthcare, productive activities and resources, sharing of power and decision-making, at all levels; and vulnerability to violence. The Working Group on Gender and Development, constituted by the State Planning Board in connection with the 14th Five-Year Plan formulation has observed that the pandemic has had a catastrophic effect on the whole of humanity, it has had a specific impact on gender relations at all levels and widening gender inequalities globally; domestic and care work have intensified for women while job losses have been greater for them; job recovery was much lower than for men; and housewives have been increasingly exposed to domestic violence from their partners and spouses during the lockdown. The home tends to become the workplace, adding another dimension to the work scenario and affecting gender relations at home.

Kerala, over the years, has seen several interventions that have ensured the enhancement of participation of women in social, political and public affairs. Gender aware planning at the local-level in the context of decentralised planning since 1996 has adopted a number of measures. The Local Self-Government Institutions set apart 10 per cent of the Plan grant-in-aid to prepare projects that directly benefit women. Another measure was the setting up of Kudumbasree, a community organisation of Neighbourhood Groups (NHGs) of women in 1998 as part of the State Poverty Eradication Mission, which played a major role in mobilising women and facilitating livelihood opportunities for them. Some other key interventions undertaken are setting up of a separate Department of Women and Child Development in 2017 and Gender Budgeting as a methodology to integrate a gender perspective into the Budget, initiated in the 11th Five-Year Plan.

#### 15.1 WOMEN AND EMPLOYMENT

##### A Review of 13th Five-Year Plan

The Gender Budget is an important feature of Planning in the State, and raising the proportion of schemes that come within the gender Budget to almost 20 per cent of the Plan Budget is a remarkable feature of the general Budget in Kerala. The share of the Gender Budget increased from 11.5 per cent in 2017-18 to 20.9 per cent in 2022-23. Kerala has been more sensitive to gender equality in terms of human resource development as reflected in the much lower gender gap in basic capabilities, such as education and health, its favourable sex ratio of 1,084 women per 1,000 men (Census 2011), and several other indices. Periodic Labour Force Survey (PLFS) data indicate that work participation rates among women in Kerala rose during the 13th Five-Year Plan period.

It is a global phenomenon that women live longer than men, and in Kerala life expectancy for women, as per the population projections for 2021-25, is 79.15 years as against 73.49 years for men. The increase in life expectancy coupled with favourable sex ratio can be the main attribute of the jump in the widowed population in Kerala. It is in this context that the Government of Kerala envisaged a scheme called *Mangalya* to encourage widow remarriage by providing financial incentive for the widows/divorced to remarry. In addition, the Government extends one-time financial assistance of Rs 30,000 for self-employment through the scheme *Sahayabastham*, educational assistance for their children enrolled in professional courses through

the scheme *Padavukal*, and monthly financial assistance of Rs 1,000 to close relatives of destitute widows through the scheme *Abhayakiranam*.

Violence committed by someone in the victim's domestic circle is a matter of concern. As per the NFHS 5th Round release, ever-married women in the age group of 18-49 who have ever experienced spousal violence is 9.9 per cent in Kerala, and young women in age group 18-29 who experienced sexual violence by age 18 is 1.8 per cent. *Rakshadooth* is an innovative approach of the WCD Department that encourages victims to report such cases with the help of the Postal Department; which builds confidence in victims and assures them necessary Government intervention. Besides, the Department initiated a State-wide campaign against Dowry and Domestic Violence, namely *Kanal*, during the period.

A popular campaign to get rid of the menace of dowry was initiated by the department in 2019-2020 and it formulated a five-year long action plan for awareness-creation and empowerment. For the effective implementation of dowry prohibition, the Kerala Dowry Prohibition Act 2004 was amended and officers were designated for dowry prohibition activities. A district advisory board was constituted and a portal opened for dowry complaints, besides other measures. Marital/pre-marital counselling to prevent domestic violence and dowry, *Kathorth*, an online consultation programme to take heed of the grievances of women through the website and help them solve problems, were other measures. Counselling legal aid and police assistance were also extended, during the 13th Five-Year Plan Period.

The Government has constituted *Aswasanidhi*, which is a corpus fund of rs 3crore to provide interim relief to victims of sex crimes, domestic violence, acid attacks and heinous gender-based violence, over and above any other statutory provisions for them. Besides, the Government started One Stop Centres in all the districts for victims of violence – in private and public spaces, within the family, community and at the workplace. The One Stop Centres provide 24-hour specialised service including medical assistance, aid in lodging an FIR/NCR/DIR, psycho-social support and counselling, legal aid, shelter and referral services.

Other popular initiatives of the Department during the 13th Five-Year Plan were the scheme *Ponvakk* and an after care home *Thejomaya*. The former stands for eradication of child marriage from the Kerala society by community participation by incentivising the informants. Thejomaya will help ease the process of transition of inmates of Women and Children Homes to the society after completing studies.

Enabling women's access to economic empowerment and opportunities, education, employment and self-employment of women is significant. The Women's Development Corporation mainly focussed on providing financial support to women entrepreneurs to start new ventures to gain economic independence within the family. The Corporation through loan schemes and State Plan schemes handhold deprived and less fortunate women aspirants and implemented vocational training programmes, project assistance and financial assistance to start self-enterprises. Providing marketing and technical assistance to small-scale women entrepreneurs to develop their production and marketing skills, strengthening the employability of women through skilling, and conducting awareness programmes at the school and college levels to change the outlook of girls, are some of the activities that the WDC took up in order to empower women economically. The corporation runs self-employment loan programmes, EDP/awareness/vocational training programmes and exhibitions, and runs finishing schools (REACH) at Thiruvananthapuram and Kannur.

The Employment Department is another player in this field, which implements a self-employment scheme for low-income women who are unemployed widows, deserted/divorced/unmarried, unwed mothers, differently

abled, and wives of bed-ridden persons, under the project Saranya. The scheme provides interest-free loans and 50 per cent subsidy.

In later years, the Women's Development Corporation also took on the responsibility of creating and implementing projects to facilitate the overall development of women in society. Activities for gender equality and upholding women's rights, prevention of violence against women and girls, running working women's hostels, short-stay facilities for women, *Vanamithra* skill development centres for tribal women, *Bodhyam* gender-sensitisation training sessions for police personnel, and women's cells in colleges. It operates Mithra, a 181 helpline.

#### **Perspective of 14th Five-Year Plan on Women and Employment**

Gender has been defined as a socially constructed category that involves expectations and responsibilities that are not biologically determined. The Gender and Development approach focusses on these socially constructed differences between men and women, and the need to challenge existing gender roles and relations. The 14th Five-Year Plan focuses on gender-specific aspects of social and economic development, especially those of women and gender minorities, and ensures equal opportunities and work participation, a safe, secure and thriving environment for all.

The Approach Paper for the 14th Five-Year Plan, prepared and published by the State Planning Board, reiterates the Government's commitments to continue the efforts to address issues of wages, safety, occupational health and insurance for women belonging to occupational groups such as domestic workers, fish workers and migrant workers. Specific efforts will be made to empower women belonging to the Scheduled Castes and Scheduled Tribes. The Five-Year Plan will support policies and schemes to ensure safer public spaces, improve and enhance public transport facilities, ensure safer workplaces, and strengthen mechanisms to combat violence against women.

Women in Kerala are in general more educated than those in the rest of the country. However, their overall unemployment rate is much higher than in the rest of the country. Therefore, the challenge of encouraging women's work in the State is primarily one of enabling opportunities for a highly educated workforce. A number of social factors contribute to the relatively low levels of participation of females in the labour force in Kerala. These include social restrictions, unfavourable social and familial norms, stigma around entry into the wage labour market, and various forms of discrimination against women at the workplace.

The 14th Five-Year Plan will encourage and strengthen women's involvement in the agricultural sector, agro-processing and marketing by developing indigenous technology and marketable products. Women in the traditional handicrafts sector such as coir, handloom, and handicrafts will be promoted through clustering methodology to enhance technology, economies of scale and marketing linkages; and geo-tagging various products. The strength and faculties of women will be explored more in running restaurants to prepare traditional low-carb food varieties, engaging in adventure tourism areas to attract women tourists, starting small and medium-scale women-led enterprises, and so on. Employment and skill gaps will be reduced through interventions and by developing self-learning through self-paced online learning platforms for upskilling and reskilling with courses in demand in industry. Soft skills, women-specific issues, labour rights and occupational health management will be made part of skill training programmes.

The 14th Five-Year Plan will support efforts to create more employment opportunities for women in all sectors. This will involve improving programmes for skilling, creating better working conditions, ensuring

higher minimum wages, and creating safe workspaces for women. The Kerala State Women's Development Corporation in the next four years proposes to channel Rs 600 crore from different national corporations to disburse self-employment loans to weaker sections of society. For the general category of women beneficiaries, the Corporation targets a credit disbursement of Rs 50 crore and a physical target of 1,600 women in the next four years. Loans adding up to Rs 5 crore for 150 transgenders will be disbursed under the Plan schemes of the Social Justice Department.

A critical gap has been identified in the availability of proper mentoring and consultancy services for budding entrepreneurs. Therefore, a project consultancy wing will be started in the Women Development Corporation for business incubation, project development, concurrent research and developing an e-commerce platform for women entrepreneurs and aspirants. This is envisaged as a self-sustaining model.

Recognising the value of unpaid domestic labour and care work done by women in homes is a significant step towards engendering development and rethinking women's participation in production. The Plan will support measures to reduce the burden of household drudgery on women and encourage consultations on women's work with gender planning experts at the national and international levels.

A specific problem of women's health in Kerala is a persistently high incidence of anaemia; in spite of a number of interventions by the Government. This phenomenon has to be studied in detail and reoriented by means of interventions and programmes to eliminate anaemia among girls and women in Kerala.

Law enforcement and access to justice are significant factors in curbing gender-based violence and ensuring equality in all sectors. This will be reinforced over the period of the Plan. The success of the legislation also depends upon dissemination of knowledge among the target groups and the general public. The Government will attend to this as well.

This Plan will initiate a scheme to provide independent houses to women who leave institutional care after attaining 18 years of age and engage in income-earning activities or attain skills to pursue their livelihood. This will be worked out under the Thandeyidam scheme with the help of the Housing Board and appropriate dwelling units will be identified in available housing complexes.

The Safe Stay programme that makes available safe and affordable accommodation for women in hostels and economy hotels will be extended to 100 prominent towns in a full-fledged manner in these years. The finishing course will be extended by introducing more self-financing/income generation courses and setting up satellite training centres of REACH in other districts to ensure better outreach and placement opportunities for the students. The Corporation is already associating with the Centre for Management Development (CMD) and Overseas Development and Employment Promotion Consultants Ltd. (ODEPC) for conducting Advanced Skill Enhancement Programme in Nursing (ASEPN) for Graduate/GNM nurses seeking careers abroad. The programme will be continued during the next Five-Year Plan period. English Proficiency training for international language tests (IELTS/TOEFL and so on), foreign language training, skill enhancement training as well as IT and soft skills training to help candidates in paramedical courses to secure overseas placement will also be continued.

The 14th Five-Year Plan will continue to support other institutions that play an important part in gender empowerment in Kerala. These include the Kerala State Women's Development Corporation, Kerala Women's Commission, Gender Park, Kudumbasree, and Local Governments, which formulate women

component plans. Local Governments implement a range of special-sector programmes, starting from the 9th Five-Year Plan period. These include programmes designed to serve the special needs of women, children and transgender persons.

One of the bottlenecks facing gender development initiatives in the State is the lack of gender-disaggregated data across sectors. Specific sectoral data is a requirement for overall planning and policy formulation. The Plan will support the generation of more gender-disaggregated data across different sectors of the economy and develop capabilities in gender-sensitive assessment techniques; together with supporting efforts to initiate a gender-sensitive audit of Plan schemes.

### **15.2 CHILD WELFARE**

Child welfare is concerned with the physical, social, and psychological well-being of children, particularly children suffering from the effects of poverty or lacking normal parental care and supervision. It is a continuum of services designed to ensure that children are safe and that families receive the support they need to care for their children. United Nations Convention on the Rights of the Child 1989 recognises that mankind owes to the child the best that it has to give, declare and accept it as their duty beyond and above all considerations of race, nationality or creed.

The child care programmes support and coordinate services to prevent child abuse, receive and investigate reports of possible abuse and neglect, help families which need protection and care for their children, assess the needs, strengths and resources of the child and ensure the well-being of children with families, relatives or foster families. This includes ensuring children's access to healthcare and education, developing their personality, growing up in a happy environment, with information of their own rights.

### **13th Five-Year Plan on Child Development – A Review**

The early years of human life are most important for growth and development for all, including children with special needs owing to disabilities. The skills that emerge in the age group of 3 to 6 are the prerequisites for subsequent success in life.

Pre-school education is the first stage of organised education given to children aged 3 to 6 years. It aims to promote access to universal, equitable, joyful, inclusive and contextualised learning opportunities to ensure the holistic development of children. It also aims at maximising individual potential by building a solid foundation for lifelong learning through play and development practices. This involves developing healthy attitudes, good values, critical thinking skills, collaboration, communication, creativity, technology, literacy, and socio-emotional development. Anganwadis are the primary settings of the Government promoting pre-school education in the State. There are also nursery schools, kindergartens, Montessori schools and pre-primary wings in public and private schools.

The Women and Child Development (WCD) Department owns and operates 33,115 anganwadi centres, of which 8,313 are operating in rented buildings. The Department has put in efforts during the 13th Five-Year Plan period to find land and construct buildings for the anganwadis under State and Central schemes. The Department designed six types of plans and estimates for the construction of anganwadi buildings on the basis of land availability and initiated construction of Smart Anganwadis with sufficient space for class rooms, dining hall, kitchen, store room, creative zone, indoor and outdoor play area. The first of these has been constructed in Thiruvananthapuram District and another of 155 smart anganwadi centres has been approved.

COVID-19 threw down an unprecedented challenge before the WCD regarding pre-school education during periods of public restrictions and lockdowns. The Department responded to this situation by organising a team of anganwadi workers and officers, and developed content to be broadcast on 30 themes that aimed at nurturing the five major areas of child development, namely language, physical, cognitive, social and emotional, and creativity and enjoyment. The videos were broadcast under the label *Kilikonchal* on the Victors TV channel and also put out as podcasts on the YouTube site of the Department. The Department developed theme-based pre-school activity posters and distributed them to children. Another achievement in educational content development during this period was the development of pre-school teaching material in the mother tongue of Paniyas, a major tribe in Wayanad District.

Supplementary nutrition is one of the fundamentals of the Integrated Child Development Scheme of the Government of India and now it involves fortification of food provided through anganwadis to address the micronutrient malnutrition gap in children in a sustained manner. The WCD, in collaboration with the World Food Programme (WFP) has initiated fortification of rice served as hot cooked meals to children of 3 to 6 years in anganwadis. The scheme has been piloted in Taliparamba in Kannur District, in which raw rice supplied from the Food Corporation of India depot is blended with fortified rice kernels and supplied. In addition to this, a micronutrient fortification of Amrutham Nutrimix, which is given as “Take Home Ration” to the children in the age group of 6 months to 3 years was started in Wayanad District and later extended to all other districts.

Recognising the criticality of 1,000 days from a woman’s pregnancy (270 days) to her child’s second birthday (730 days), the Government launched a 1,000- days programme. This includes regular medical camps for pregnant and lactating women, supply of therapeutic food, and awareness classes for reducing the child mortality rate. The project, initiated in Attapady on a pilot basis, has been extended to 10 other ICDS sites in the coastal and hilly areas in 2018-19 and later to another 17 in the coastal and hilly areas.

The Department initiated nutrition clinics to improve the health of women, children and adolescents through nutritional counselling, guidance, referrals and other social support with the help of a nutritionist. The project aims to look at an individuals’ overall dietary health and to identify the risk of malnutrition in the initial stages and intervene before the person gets malnourished. Nutrition Clinics have been set up in 152 Blocks and six Corporations.

As per the National Family Health Survey-5 (NFHS-5) report, anaemia among women and children in Kerala shows an increase as compared to NFHS-4, in spite of the implementation of various schemes for nutrition supplementation. The situation warrants better integration of health and nutrition platforms at the community-level and awareness-creation among the public; and the department has started a year-long awareness campaign, Campaign 12. The Department along with the University of Agriculture has developed *Thenamrithu* nutrition bars for malnourished children and distributed them to 5,832 severely underweight children to make up for possible malnutrition due to wage loss of the parents and the economic crisis due to COVID-19.

The Government constituted a Juvenile Justice Fund, *Balanidhi*, in January 2018 under Section 105 of the Juvenile Justice Act (JJ Act) to ensure better care and protection of children who come under the purview of the JJ Act. The Government initiated a project named *Saranabalyam*, to ensure that the State is free from child labour, child begging, trafficking, and children in street situations. The project is intended to develop

clear and consistent procedures to identify, rescue, protect, and rehabilitate/repatriate children under such conditions, as well as initiate investigation and prosecution against offenders.

The term child labour is often defined as work that deprives children of their childhood, their potential and their dignity, and that is harmful to physical and mental development. Besides the legislation, the Government has initiated a scheme to incentivise informants of such cases to the authorities to uproot the evil from the society.

The Government partners with private childcare agencies, community organisations and other public bodies to ensure that families receive the services they need to care for and protect their children. *Kaval Plus* is a community-based programme for rehabilitation and reintegration of children in need of care and protection through a psycho-social approach. The programme aims at identifying children who are at high risk of coming into conflict with law and preventing their entry into unlawful activities, by providing holistic care and protection to the child and his/her family. An arm of this project focusses specifically on interventions in and rehabilitation of Pocso survivors. The support mechanism developed under the project will take care of all the psycho-social, educational, and legal support needed for a child. Social workers will be handling 50 children at a time and the process will continue until they are mainstreamed or have secured a livelihood option.

The Government started an aftercare programme helping young adults to adjust to society after a life of institutionalisation. The primary focus of the programme is capacity-building and outreach initiatives, which started as a pilot programme in four homes in Kozhikode and was eventually expanded to all the Government homes in the State.

The project Our Responsibility to Children (ORC) is a planned community intervention implemented in schools. It aims to connect with children and young people between the ages of 12 and 18 years and to create a multi-collaborative platform for Government agencies and professional agencies, parents and teachers to equip youth with appropriate know-how to face the challenges of the world they live in. The project is operational in 348 schools across the State.

Scenes in many of the specialised adoption agencies and child care institutions show that children with special needs do not get adopted and continue under the long-term care of these agencies. Considering the best interest of these children, the Government has decided to start a home for special needs children with the help of an NGO. The initial process has been started for selecting the NGO. The Department has also developed a website for child care institutions with the help of Unicef, to facilitate continuous reporting of the children admitted.

Taking into account the demand for parenting counselling, Parenting Clinics have been started to guide parents on better parenting with the objective to prevent violence against children and increase awareness among parents and the general public on child rights. The campaign, *Karuthal Sparsham*, based on Responsible Parenting, was launched in 2019 to enable parents to fulfil their parenting responsibilities and support children facing behavioural and emotional issues. Outreach camps have been initiated in all the Panchayats on a rotational basis on Saturdays. A suicide prevention programme, named *Ninavu*, a suicide prevention cell, studies, research, and training are some of other initiatives the Government has taken in 13th Five-Year Plan period.



### **Perspective of 14th Five-Year Plan on Child Development**

Among the Indian States, Kerala ranks high in indices such as health, education and human development. Kerala has the lowest infant mortality rate (IMR) and death rate for children below five years. Kerala is the only State with a single-digit Infant Mortality Rate of 6, which is similar to the Infant Mortality Rate of OECD (Organisation for Economic Cooperation and Development) countries, while the all-India infant figure is 30. The under-five mortality rate in Kerala is 10; the corresponding figure for India is 36. Similarly, life expectancy at birth in Kerala is 75.3 which is higher than the all India-level figure of 69.4. Kerala achieved the UN Sustainable Development Goal of reducing the maternal mortality rate (MMR) to less than 30 per 1,00,000 live births in 2019, one year ahead of the schedule (*Special Bulletin on MMR 2017-19*). Again, the MMR in Kerala is 30, the lowest in India; and the corresponding figure for India is 103. In school education, Kerala has achieved universal enrolment and has the lowest dropout rate in India.

The 14th Five-Year Plan will consolidate the efforts to continue the progress the State has made during the previous Plan periods and further enhance the quality, quantum and reach of the programmes. The Plan will support diverse and coordinated efforts to improve the quality of life of children by improving opportunities for their physical, cultural, and intellectual development.

The Government is well aware of the importance of early childhood education and will continue to support pre-school education in fulfilling the emotional, social, and personal growth of children, including those with special needs. The Government is also committed to improving the quality of child care and early childhood education through modernising the infrastructure of anganwadis and improving the quality of play and learning materials available there. Anganwadi centres will be re-positioned as vibrant centres for health, nutrition and early learning. The service delivery of the anganwadi centres will be improved with state-of-the-art infrastructure and amenities. Programmes will be framed to end all types of divide among different sections of children, including the digital divide. The pedagogy, infrastructural facilities and academic facilities will be improved for high quality residential education for the Scheduled Castes and Scheduled Tribes.

The Plan will also support improving nutritional schemes in anganwadis. As per NFHS-5 data on the nutritional status of children, it is seen that the percentage of children who are stunted has increased to 23.4 and that of underweight children has risen to 19.7 per cent. To overcome these deficiencies and to achieve the Sustainable Development Goal of “No Hunger”, egg and milk will be added in the anganwadi menu for supply twice in a week.

Children are exposed to many problems such as separation from caregivers, sexual abuse and exploitation, early marriage, justice-related issues, child labour, trafficking, exposure to AIDS and disabilities and inability to meet basic needs. Lowering the level of these problems is critical to complete prevention of violence, and strengthening families. This calls for providing the right kind of information at the right time to children, parents and all other stakeholders. The WCD will develop a comprehensive mobile app for parents as well as children to access multifarious information related to child protection and child rights. Apart from awareness and information, the application will take care of the reporting services as well.

The Department will take up a number of other initiatives in tune with the changing demands of the day. Standardised norms and regulations will be developed for the registration and operation of childcare institutions like day-care centres, pre-schools, and kindergartens. A model anganwadi-cum-crèche will be developed in this Plan period to keep anganwadis open from 7 am to 7 pm to look after children of working

mothers. Two anganwadis together or one anganwadi with a crèche will be clubbed so that the working hours may be extended without additional human resource deployment and expenditure. The Government will continue the financial assistance of Rs 3 lakh as fixed deposit and monthly assistance of Rs 2,000 to children who are orphaned by COVID-19; and this will continue till they turn 18. The Five-Year Plan will continue to support schemes that address the health care and special needs of children with physical and intellectual disabilities, strengthen the implementation of the Pocso Act and improve awareness about its provisions.

The 1,000-days programme will be continued with emphasis on regular medical camps for pregnant and lactating women, supply of therapeutic food and awareness classes. The Scheme now being implemented in 28 ICDS projects in Kerala will be extended to 14 more ICDS projects so that at least one project will fall in a given district.

The child will be provided with the means, both physical and emotional, necessary for normal development. Food, care, protection and support will be given to needy children prone to poverty, sickness, delinquency and orphanhood. The child should grow up as a responsible citizen in the knowledge that his talents should be spent in the service of his fellow beings. Key initiatives of the Department and Agencies proposed for 14th Five-Year Plan are below.

#### **Department of Women and Child Development**

1. Inclusion of eggs and milk in anganwadi menu twice a week Setting up homes for victims of Pocso cases and violence
2. The Department will deposit Rs 3 lakh in the names of children who lost both parents in COVID-19, and give Rs 2,000- as monthly assistance till they reach 18 years.
3. A scheme for providing independent houses to women who leave institutional care after attaining 18 years of age and engage in income-earning activities or gain skills to pursue their livelihood will be worked out under the scheme *Thandeyidam* in collaboration with the Housing Board
4. A mobile application on child protection will be developed for parents, children and child protection functionaries to help report cases and follow up the action taken
5. Registration and regulations of crèches/day care centres/pre-schools/kindergartens will be mandated with the Department in order to improve the quality of service and coordinate the activities of institutions
6. Clubbing select anganwadis with a crèche or another anganwadi to extend the functioning time from 7 am to 7 pm, without additional financial liability.
7. The first 1,000 days programme now being implemented in 28 ICDS centres in Kerala will be extended to 14 more ICDS centres, ensuring at least one in a district.

#### **Women's Development Corporation**

1. Continuing the self-employment programmes and loan schemes supported by national finance corporations for women in various categories, and the self-employment loan scheme for transgenders with no collateral support up to Rs 5 lakh with a repayment period of five years and moratorium of one year
2. Safe and affordable accommodation for travelling women will be ensured by making available rooms in hostels and economy hotels across the State
3. REACH Finishing School will be expanded, skilling and placement programme in health targets 1,250 nurses, skill enhancement programme for paramedical professionals for English proficiency targets 250 nurses.

4. *Bodhyam* gender sensitisation programme is targeted to reach 50,000 police personnel and 10,000 other public servants
5. Women's Corporation will seek Government of India assistance to set up working women's hostels-cum-short stay homes (Vanitha Mithra Kendras) in all the 14 districts of Kerala
6. A project consultancy wing will be started to support 500 women entrepreneurs and women's cells functioning in 97 colleges will be extended to 250 colleges during the Plan period

#### Women's Commission

1. Hamlet/Settlement/Colony-level associations will be set up in tribal areas to involve in Plan formulation and monitoring
2. Grievances cell for home nurses and home maids; complaints cell for teachers in unaided schools; helpline for migrant women workers; and support groups for women victims and survivors will be established
3. Digital literacy to women above 45 years of age; virtual chat bot counsellor and family counselling centre will be implemented
4. Women protection laws will be reviewed and Sexual Harassment of Women at Workplace Act 2013 amended

#### Gender Park

1. Based on the Sustainable Development Goals of the United Nations, a Gender Data Hub will be set up on the Kozhikode campus.
2. IIGD will conduct Women in Sustainable Entrepreneurship Fellowship Programme (WiSE)
3. Capacity Development, Gender Research and Development, Gender Awareness through social media platforms will be taken up
4. Construction/maintenance works of the first phase of the Gender Park campus, expansion work of the Heritage Museum, Gender Library and Documentation Centre will be taken up during the 14th Five-Year Plan
5. Organisation of International Conference on Gender Equality (ICGE) will be continued in the 14th Plan

Table 15.1 Financial Performance of departments in 13th Five-Year Plan, in Rs crore

Departments/Agencies	Annual Plan 2017-18		Annual Plan 2018-19		Annual Plan 2019-20		Annual Plan 2020-21		Annual Plan 2021-22	
	Outlay	Expenditure	Outlay	Expenditure	Outlay	Expenditure	Outlay	Expenditure	Outlay	Expenditure
Women and Child Directorate	14,22	6,709.81	19,67	8,999.97	19,63	7,313.42	17,466	12,380.05	18,049.54	12,020.92
	2	(47.18)	4	(45.75)	4	(37.25)		(70.88)		(66.60)
Kerala State Women's Development Corporation	1,085	1,044.75	2,800	463.50	3,000	82.80	2,511	1,357.24	2,511	1,619.79
		(96.29)		(16.55)		(2.76)	(1,357.24)			(64.51)
Kerala Women's Commission	334	179.38	540	215.28	540	270.62	540	302.36	540	450.97
		(53.71)		(39.87)		(50.11)		(55.99)		(83.51)
Kerala State Commission for Protection of Child Rights	125	129.35	150	54.72	150	129.59	250	96.79	250	142.76
		(103.48)		(36.48)		(86.39)		(38.72)		(57.10)
High Court (Pocso courts)							840	385.49	665	622.28
								(45.89)		(93.58)
Nutrition	22,48	18,974.44	20,12	14,639.88	21,87	25,449.26	20,143	24,408.80	20,53	19,259.86
	6	(84.38)	5	(72.74)	5	(116.34)		(121.18)	2	(93.80)
TOTAL	38,25	27,037.73	43,28	24,373.35	45,19	33,245.69	41,750	38,930.73	42,547.5	34,116.58
	2	(70.68)	9	(56.30)	9	(73.55)		(93.25)		(80.18)

Source: Department of Women and Child Development



## **Chapter 16**

### **Public Distribution System**

#### **Overview**

The origins of public distribution of foodgrain in Kerala can be traced back to the period of the Second World War. Later, the State Government introduced an informal system of distribution of rice at subsidised rates to the lower income group in 1957, and the system continued till 1964. Following the enactment of the Essential Commodities Act, 1955, by the Government of India, the Public Distribution System (PDS) formally came into existence on July 1, 1965, and it has since grown into a universal rationing system across India. Kerala marked pioneering achievements in the implementation of a Universal Rationing System and now has one of the most effective and best-run public distribution systems in India. Based on policy changes made by the Government of India, the State introduced a Targeted Distribution System in 1997. Timely lifting of commodities allocated from the Central pool, ensuring their distribution through ration shops, and making sure that this occurs on time and effectively, is a major responsibility of the PDS. The successful implementation of the National Food Security Act (NFSA) 2013 in the State in 2016, under the guidelines of the Government of India, along with measures to strengthen the enforcement and monitoring mechanism, have ensured more transparency and accountability in the PDS, which has a chain of more than 14,000 ration shops. As per the latest statistics, there are 91.43 lakh ration card-holders in the State.

The Department of Food and Civil Supplies discharges the important responsibilities of ensuring the availability of essential commodities through the network of PDS outlets, enforcing market discipline, promoting consumer awareness and protecting their interests. The Department has made a major contribution to the State achieving the Sustainable Development Goals by establishing an unparalleled Universal Public Distribution System network spanning every nook and corner of the State. The other agencies under the sector are Kerala State Civil Supplies Corporation Ltd. (Supplyco) and the Council for Food Research and Development (CFRD). Supplyco is designated as the nodal agency for the implementation of NFSA 2013 in the State. In connection with this, Supplyco has been entrusted with the implementation of projects such as construction of intermediate godowns, revamping its outlet network and market intervention operations to control open market prices. CFRD is registered as charitable society with the objective of promoting indigenous food items of Kerala and maintaining competitive quality in the international market.

#### **13th Five-Year Plan**

The overall thrust of the sector during 13th Plan was to ensure a hunger-free Kerala by 2030. In order to ensure the food and nutrition security of the people, timely implementation of NFSA-related activities, coverage of a larger share of beneficiaries than envisaged by the original NFSA design, and the implementation of end-to-end computerisation of the PDS network to streamline food supply and distribution and facilitate the identification of duplicate ration cards are envisaged.

In the 13th Five-Year Plan, Rs 366.25 crore was provided as Plan assistance, and out of this Rs 198.80 crore was expended (year-wise outlay and expenditure in the Table 16.1).

Table 16.1 Budgeted outlay and expenditure in 13th Plan, Kerala, in Rs lakh

Year	Budgeted Outlay (Rs lakh)	Expenditure (Rs lakh)	Expenditure (per cent)
2017-18	12,571	9,062.29	72.09
2018-19	6,644	2,939.19	44.24
2019-20	4,998	2,040.87	40.83
2020-21	6,000	3,176.78	52.95
2021-22	6,412	2,661.17	41.5
Total	36,625	19,880.3	54.28

Source: Department of Civil Supplies and Consumer Affairs

### Key achievements in the 13th Plan period

The key achievements during the 13th Five-Year Plan are summarised below:

**Modernisation and digitalisation of ration shops.** Renovated and automated ration shops in a unified pattern, implemented e-ration card project and issued ration cards in the size of ATM cards, introduced the 'One Nation One Ration Card' for easy access to ration from anywhere. e-PoS machines were installed in all the fair price shops (FPS) in the State and the enforcement mechanism was strengthened to ensure supply of foodgrain in the right quantity and quality. The entitlement of persons each month is communicated to them through short messaging service (SMS).

**Doorstep delivery of ration to tribal/coastal destitute living in forest/tribal/coastal/remote areas and for people affected by natural calamities.** Door delivery of foodgrain at fair price shops and mobile fair price shops is arranged in hilly areas, where the Anthyodaya Anna Yojana (AAY) beneficiaries live. Introduced mobile ration shops in the tribal pockets of eight Districts, namely, Thiruvananthapuram, Pathanamthitta, Idukki, Ernakulam, Thrissur, Palakkad, Malappuram and Wayanad.

**Ensuring universal coverage.** Ration cards issued to almost all sections of people and families, even beyond the scope of the NFSA, to ensure universal coverage. The details of eligible households are made available in the public domain.

**GPS tracking of vehicles carrying foodgrain.** The tracking of vehicles carrying foodgrain for the Targeted Public Distribution System is being implemented as part of efficient service delivery.

**Establishment of grievance redress mechanism and consumer awareness programmes.** A separate call-centre has been started at the Civil Supplies Commissionerate for lodging grievances online. There are also grievance redress officers functioning in each district. The Additional District Magistrate in each district is designated as the District Grievance Redressal Officer as per Section 15 of the Act. Awareness programmes through print and electronic media are conducted.

**Social audit project.** All the activities of the PDS are open to social audit as per Section 28 of the Act. As part of this, a pilot project was implemented in the Thiruvananthapuram city rationing office (north) area.

**Establishment of a State Food Commission.** The State Food Commission's activities started in 2019. District-level awareness programmes were conducted.

**Council for Food Research and Development (CFRD).** Establishment of laboratories at the College of Indigenous Food Technology, holding training programmes, setting up a conference hall, library and reading room for

CFT-K, establishment of chilled storage and vegetable and fruits dehydration unit at Elanji, Ernakulam, establishment of school of business management, construction of hostels for women at **CFT-K**, and the renovation of the Food Quality Monitoring Laboratory, are the important activities undertaken.

**Assistance for implementation of the National Food Security Act (NFSA).** End-to-end computerisation, digitalisation and Aadhaar seeding of ration cards, grievance redress portal, managing SMS costs and software charges, procuring biometric devices and e-POS machines, supply chain management from the Food Corporation of India-end to the ARD-level, GPS and CCTV installation, computerisation of Taluk and District Supply Offices, ICT (Information and Communications Technology) infrastructure and connectivity, capacity building/workshop/training on NFSA, social audit, IEC activities, conduct of the national seminar on food security, workshops, seminars, adalats, implementation of e-office system, construction of intermediary godowns and so on, are the major activities.

**Hunger-Free Kerala.** Kudumbasree units and other voluntary/non-governmental organisations cook and distribute lunch at reduced rates through Subhiksha hotels as part of the Hunger-Free campaign.

**Revamping of Supplyco outlets.** 241 outlets were revamped. The other aspects of the programme involve the Depot Management system, Outlet Management system, Software Development and Modernisation of Internet Connectivity, Web-based Centralised Software Solutions, mechanisation of tea blending operations, and so on.

**Infrastructure initiatives.** Construction of the Kochi City Rationing Office, District Supply Office, Malappuram, Taluk Supply Offices, revamping of 235 Supplyco outlets, construction of two godowns at Valiyathura in Thiruvananthapuram District and near the Kollam Junction railway station have been completed, and work on two godowns at Thiruvalla and one at Kochi are progressing under Supplyco.

**PDS and COVID-19 response.** Kerala witnessed an unusual situation in the food sector, for the first time after its formation in 1956, due to the COVID-19 pandemic outbreak in January 2020. By using the infrastructure and the deep-rooted network of the PDS, the State was able to overcome the crisis generated by the outbreak and the lockdown imposed by the Central and State Governments to control the spread. Fully automated fair price shops with e-POS machines, online allocation systems, effective supply chain management, well categorised beneficiary data and smart grievance redress systems helped the State to successfully implement activities in response to the COVID-19 emergencies. In April 2020, all families under Non-Priority Subsidy (NPS) and Non-Priority Non-Subsidy (NPNS) were given 15 kg of rice free of cost. Subsequently, a kit with 17 essential articles costing Rs 972 each was provided to 87.9 lakh families in the State free of cost. In addition, free ration to the tune of Rs 300 crore was distributed to all categories such as Anthyodaya Anna Yojana (AAY), Priority House Holders (PHH), NPS, NPNS, and so on. Onam food kits were provided to ration card-holders, which included 11 grocery items. A total of 83,71,176 families benefited. Also, 10 kg of rice/card was given in August at Rs 15a kg to non-priority sections. Each migrant or guest worker was given 5 kg of rice or 4 kg of atta free of cost. In addition, 26,26,110 students up to the primary-level who are covered under the mid-day-meal scheme were given provisions and a rice kit.

### **Critical gaps**

**Lack of scientifically designed taluk-level intermediate godowns.** Under NFSA rules, there should be one scientifically run godown in each taluk. But most of the NFSA godowns are in rented premises, functioning

with unscientific storage facility. Intermediate godowns with scientific storage facility and CCTV surveillance is proposed for adequate storage of foodgrain and to avoid storage loss due to moisture, prolonged storage, varying climatic conditions, bleeding/spillage of grain from gunny bags, bird/rodent infestation in storage complexes, sliding down/deterioration of stocks, and fungus/insect infestation.

**Lack of adequate storage space for fair price shops.** NFSA 2013 mandates that each fair price shops should have at least 300 sq feet storage space for food stocks for two months. But 64 per cent of fair price shops have below 300 sq feet of storage space. Therefore, in order to enhance storage space in every fair price shop, an interest-free loan may be provided to shop owners as per norms. The Government will bear the interest portion of the loan.

**Implementation of the Hunger-Free Kerala project across the State.** The Hunger-Free Kerala Project is a State Government initiative under the 13th Five-Year Plan in keeping with the UN Sustainable Development Goals for 2030. Different districts in Kerala have followed different methods of implementing the project. The Government plans to implement the project in a uniform pattern across all the districts.

**Diversification of the food basket in the PDS.** The State gives importance to diversifying the basket of food items for public distribution schemes. It is important that the number of beneficiaries and the reach of the PDS be utilised to increase nutrition standards. It is desirable to add more grains such as coarse grain in addition to rice and wheat.

**Lack of awareness among beneficiaries for optimisation of the supply chain.** More awareness must be created to beneficiaries on their entitlement. The Civil Supplies Department has been widely publicising through various channels the grievances redress system that is available. Beneficiaries can approach it for the resolution of any problems. Radio, television, print media and social media are being used to create awareness among beneficiaries. Measures are being taken to create awareness among migrants to avail of their entitlement in their local language.

## **14th Five-Year Plan**

### **Approach of the 14th Five-Year Plan**

The PDS in Kerala is the bulwark of food security in the State. During the 13th Five-Year Plan period, at times of natural disaster and pandemic it was a food security lifeline to the people. The 14th Five-Year Plan will extend support to different aspects of the growth and development of the PDS in Kerala. These include the extension of its network of ration shops and fair price shops, particularly in Scheduled Tribe residential settlements; modernisation and digitisation of the distribution network; building modern warehousing facilities and strengthening the grievance redress mechanism in the continuing drive to ensure a hunger-free Kerala.

### **Objective of the 14th Five-Year Plan**

The main objectives of the department in the 14th Plan is to realise the vision of a hunger-free Kerala by 2030, to strengthen the PDS through the implementation of NFSA 2013 and improve nutritional outcomes among the beneficiaries by providing access to and ensuring the right quality of foodstuff in the right quantity and at affordable prices.



### **Key initiatives proposed in the 14th Plan**

**Modernisation and digitalisation of the distribution network.** Through this programme, the establishment of GPS tracking control rooms and container model offices on FCI godown premises, assistance for the implementation of NFSA-IT independence, ICT infrastructure and IEC components, infrastructure for the Civil Supplies Department including a multi-office commissionerate, are proposed.

**Infrastructure development.** Building new and modern warehouses with facilities, construction of scientifically designed taluk-level intermediate godowns, and providing adequate storage space in all fair price shops in the State.

**Extension of ration shop network to remote areas, particularly in tribal settlements.** Schemes for door-step delivery of rations to tribal/coastal areas, poor living in forest/tribal/coastal/remote areas and people affected by natural calamities will be given a push. Anytime-anywhere ration shops, model fair price shops in all local body areas, and smart ration cards are other projects.

**Grievance redress mechanism.** Strengthening the grievance redress mechanism through better consumer awareness programmes, social audit, functioning of State Food Commission, establishment DGRO offices, are in focus.

**Hunger-Free Kerala.** Assistance through the Annapurna food security scheme for the aged and destitute, the Hunger Free Kerala/Subhiksha projects, grading restaurants, provision stores and super markets, scheme for direct procurement of farm products and their sale through fair price shops coming under the PDS are among other initiatives.

**Strengthening the Council for Food Research and Development.** Construction of an administrative block, staff quarters, revamping of the college of food technology, establishment of chilled storage and vegetable and fruit dehydration unit at Elanji, Ernakulam, establishment of a school of food business management, purchase and upgradation of equipment in the Food Quality Monitoring Laboratory (Gas chromatography mass spectrometry system for the detection of pesticide residues or contamination at lower concentration-level) are the various plans.

**Supplyco.** Assistance to Supplyco for revamping its outlets, vehicle tracking system using GPS, CCTV coverage, e-PoS machines, construction of intermediate godowns/taluk-level godowns, mechanisation tea-blending, value-added products, modernisation of the Supplyco head office. In order to address storage losses due to moisture and other issues related to prolonged storage, options for the construction/hiring of scientific storage units is proposed in the Five-Year Plan. ERP solutions with data analytics, named Supplyco Integrated System (SIS), is proposed for day-to-day operations to make intermediate management more efficient, economical and effective.

**K-store.** Upgrade ration shops on the lines of the K-store concept. The fair price shops will become mini-Maveli Stores providing essential foodgrain and other commodities at a regulated price.



## **Chapter 17**

### **Labour, Employment, and Skill Development**

Work is a part of everyone's life and is crucial to one's dignity, well-being and development as a human being. As stated in the Annual Report of the Ministry of Labour and Employment 2021-22, Government of India, economic development means not only creation of jobs but also working conditions in which one can work with freedom, safety and dignity.

As per the International Labour Organisation's decent work agenda, "decent work sums up the aspirations of people in their working lives. It involves opportunities for work that is productive and delivers a fair income, security in the workplace and social protection for families, better prospects for personal development and social integration, freedom for people to express their concerns, organise and participate in the decisions that affect their lives and equality of opportunity and treatment for all women and men."

Kerala is known for its achievements in the sphere of social development that includes a rapid and high-level mobilisation and organisation of workers regardless of location and sector. Kerala has genuine concern for and commitment to the protection of the interests and welfare of labourers. The State Labour Department ensures the welfare of the working people through the enforcement of laws, settlement of industrial disputes and administration of various welfare measures.

The departments/institutions coming under Labour and Labour Welfare sector are Labour Commissionerate, Department of Industrial Training, National Employment Services (Kerala), Kerala Institute of Labour and Employment (KILE), Factories and Boilers Department, Non-Resident Keralites Affairs (NORKA) Department and Fire and Rescue Services Department.

As per the India Wage Report prepared by the ILO (2018), the States with consistently highest casual wages in both rural and urban areas are Kerala, Jammu and Kashmir, Punjab and Haryana.

The per day average wage/salary earnings of casual labour workers (both rural and urban) (in Current Weekly Status) in Kerala are evidently higher than the all India average.

In Kerala, Labour Force Participation Rate (LFPR) (Rural+Urban) for all ages increased gradually during the 13th Five-Year Plan period. The LFPR was 36.6 per cent in 2017-18 and 39.5 per cent in 2018-19; it rose to 40.5 in 2019-20 and 41.8 in 2020-21.

Despite the fact that female LFPR in Kerala is higher than the all India-level, there still exists a gender gap. According to Periodic Labour Force Survey 2020-21, the LFPR (for all ages Rural+Urban) was 27.5 per cent compared to 57.8 per cent for males.

Female Worker Population Ratio (at all ages, Rural+Urban) in Kerala is also gradually increasing. It was 16.4 per cent in 2017-18, 20.4 in 2018-19, 22.4 in 2019-20 and 23.3 in 2020-21.

The Government of Kerala aims to create a labour-friendly atmosphere. It intends to create job opportunities based on productivity, develop skills, and ensure gender equality, minimum wages and health protection, thereby creating a better workplace atmosphere. The Government aims at the overall well-being of labourers

of all sectors by ensuring them wage protection and financial security. The socio-economic security of the unorganised sector including self-employed groups is given priority.

The Labour Department plays a key role in implementing labour welfare activities. There were 28 Labour Welfare Boards in the State (Labour Commissionerate). At present there are 16 Welfare Fund Boards functioning under the Labour Department, and welfare amenities are provided to the respective sector of labour. The rest of the boards are functioning under departments such as Agriculture and Industry.

Although workers from all parts of India migrate for employment, migrants from Kerala have certain comparative advantages. Being from a State with a strong educational tradition, they have special skills. They are adaptable to technically sophisticated and changing work environments, and have shown themselves capable of mastering new technologies.

A major share of Kerala's labour force has migrated to other countries. But since 2018 (in the 13th Five-Year Plan period), a reverse trend is seen in migration, especially in Gulf migration. As predicted in 2013, the Kerala Migration Survey (KMS) shows a decline in emigration. The total number of emigrants in 2013 was 24 lakh and it dropped to 21 lakh in 2018. This was a decrease of around 12 per cent from 2013 to 2018.

### Skill Development

Skill development is crucial from the perspective of both employability and sustained economic growth based on high productivity. It is essential to enhance the employability of new entrants into the workforce: it equips them with the right skills. Similarly, regular up-skilling and re-skilling are required to maintain the employability levels of those already in the labour force. Skill development is critical for achieving faster, sustainable and inclusive growth and for providing decent employment opportunities to Kerala's young population.

As per Census 2011, Kerala is the most literate State in the country, with literacy recorded at 94 per cent, compared to the India average of 74. The male literacy rate was reported to be 96.1 per cent and female literacy rate was recorded at 92.1 per cent. However, there is a huge gap in Kerala in terms of skills suitable for the internal and international labour markets.

Table 17.1 *Department/agency-wise budgeted outlay and expenditure for labour welfare programmes in the 13th Plan, in Rs crore*

Department	2017-18		2018-19		2019-20		2020-21		2021-22	
	Outlay	Exp.	Outlay	Exp.	Outlay	Exp.	Outlay	Exp.	Outlay	Exp.
Labour Commissionerate	369.33	324.93	401.51	393.04	401.51	119.82	98.39	92.73	99.39	108.92
Industrial Training Department	121.20	133.94	132.01	87.33	123.98	57.49	99.95	64.19	97.95	5.06
National Employment Services	28.10	28.03	29.90	22.04	29.90	16.84	30.53	29.42	31.53	6.03
Kerala Institute of Labour and Employment	2.80	2.80	3.00	3.12	2.50	1.92	2.00	2.00	2.00	1.00
Factories and Boilers Department	6.25	2.80	6.25	2.35	4.82	0.76	4.25	3.13	4.25	0.05
Fire and Rescue Services Department	45.12	29.96	70.00	32.09	75.00	31.56	69.50	38.65	69.50	17.69
Total	572.80	522.46	642.67	539.99	637.71	228.41	304.62	230.14	304.62	138.78

Note: \*Expenditure includes supplementary demands for grants

Source: Budget documents, Planspace, Government of Kerala

Department-wise outlay and expenditure are shown in the Table 17.1. During the last two Annual Plans of the 13th Five-Year Plan, the outlay for the Labour Commissionerate has decreased. The department's outlay

has been reduced owing to the inclusion of the Comprehensive Health Insurance Scheme (CHIS and CHIS PLUS) and the Rashtriya Swasthya Bima Yojana as part of the Karunya Arogya Suraksha Padhathi (KASP).

#### **Achievements during 13th Five-Year Plan**

During the last Five-Year Plan, departments under the Labour and Labour Welfare sector carried out many activities to improve socio-economic conditions and build up a positive employer-employee relationship.

The Labour Commissionerate participated in many activities to improve the social conditions and the economic well-being of labourers, especially those in the unorganised sectors and guest workers. The department has given financial support to workers in the traditional sectors such as coir, khadi, handloom, bamboo, fisheries/fish processing and beedi. During the 13th Five-Year Plan Period, more than Rs 316 crore was disbursed under this scheme. The department has been carrying out many activities for the social security of guest workers and to improve their living conditions through schemes such as Aawaz, awareness programmes and the Apna Ghar housing scheme.

As a result of the Labour Department's intervention, no guest worker was deprived of food, drinking water and other essential amenities during the pandemic. The State set the best example by providing food to the workers through community kitchens managed by Kudumbasree. Kerala provided them decent accommodation and healthcare, and met their needs during the lockdown period.

When many of the guest workers desired to go home, the Government proactively arranged transport facility to enable them to reach their respective home destinations.

In the wake of the COVID-19 pandemic, the Labour Department had started helpline/call centres in all districts, along with the Labour Commissionerate Call Centre, working 24x7 to address the grievance of the guest workers.

In the wake of the COVID-19 pandemic, the Government sanctioned Rs 357.38 crore as first-step financial assistance for the members of all the Welfare Fund Boards under the Labour Department. Of this, Rs 187.22 crore was disbursed among 18,49,785 beneficiaries. Rs 210.32 crore was sanctioned as second-step assistance, which is being disbursed.

The Department of Factories and Boilers is a technical enforcement agency to ensure the safety, health and welfare of workers employed in factories and the general public living in the vicinity of factories by implementing laws. The department has established a well-equipped Occupational Safety and Health Training Institute (OTI)-cum-office complex at Kakkanad in Kochi to organise and conduct training, seminars and conclaves. Moreover, an MoU is being signed to implement a dream project, namely the Remote Sensing Enabled Online Chemical Emergency Response System (ROCERS), in the industrial belt of Ernakulam to give geospatial alert messages to MAH (Major Accident Hazard) category factories, and the project is nearing completion.

Departments such as Industrial Training and National Employment Services (Kerala) have made excellent interventions to improve entrepreneurship and skill development among the youth. During the 13th Five-Year Plan period, 57 trainees were selected and sent for training programmes in Singapore as part of a technical exchange programme. Seventeen ITIs are declared as ITIs with green campus, *Naipunya Karmasena* was set up in 78 ITIs on a permanent basis and land was acquired for 11 ITIs (at Kuttikkol, Padiyoor,

Naripetta, Perambra, Pannyanoor, Vellamunda, Perumatti, Vamanapuram, Nenmara, Pinarayi and Chadayamangalam).

Skill development is a critical component to increase the efficiency and quality of the labour force for improved productivity and economic growth.

The Kerala Academy for Skills Excellence (KASE) was set up in 2012 to promote investment in the skill development sector and make Kerala a Global Skills Destination. It is a Government company formed to act as the apex entity to initiate, regulate and coordinate focussed skill development programmes for different industrial domains.

For institutional strengthening at the national, State and district levels, the Kerala Academy for Skills Excellence (KASE) was designated as the State Skill Development Mission (SSDM) in 2016. As the Skill Development Mission of the Government of Kerala, KASE is entrusted with the convergence of skilling activities of the State.

Another major department under the Labour and Labour Welfare sector is the Fire and Rescue Services Department. During the last Five-Year Plan (2017-2022) Rs 183 crore was spent for the modernisation of the Fire and Rescue Services. The Department procured sophisticated equipment to face disasters and for all types of firefighting and rescue operations. The Fire and Rescue Services played a tremendous role in the 2018 floods rescue operations and the COVID wave I and II. This was possible due to the modernisation of the force and the formation of a Civil Defence force.

#### **Critical gaps in the sector**

1. Shramik Bandhu facilitation centres for guest workers, especially in the thickly populated areas, are needed; only then can the department ensure registration of guest workers.
2. Re-skilling is needed to train employees in new capabilities to equip them for a different position within the organisation or to acquire employment outside the organisation or industry in case of loss of employment due to lack of relevant skills in changing environments.
3. Attention has not been given to the issue of gig-workers. Special schemes for them are to be framed in the present context.

#### **Approach of the 14th Five-Year Plan**

The Government of Kerala is committed to the welfare of the working class. Kerala has a long tradition of protection of labour rights and trade union activity. The active role of trade unions and representatives of the working people in politics ensure that legitimate claims to rights are enacted as laws and policies of the State.

The Government of Kerala is committed to a series of changes with respect to the wages and working conditions of a wide section of workers, including the large workforce in the informal sector. It is committed to bridging the wage gap between men and women workers. It has expressed its intention to improve conditions of employment and wages in a range of service activities, including workers in non-banking financial companies and the retail sector, including supermarkets and shopping malls. Another aspect of Government policy is to enact legislation that defines and protects the rights of domestic workers, who are predominantly women, particularly with respect to remuneration, social security, and conditions of work. It has expressed its intention to strengthen and reorganise labour welfare boards in the State.

The Government will seek to protect workers from the adverse effects of the amendments to labour laws proposed by the Central Government. During the 14th Five-Year Plan, more measures will be taken for the welfare of migrant workers.

Kerala aims to build a modern, high-employment, productive economy during the 14th Five-Year Plan period.

During the 14th Five-Year Plan, the Government aims to create employment that increases income from new employment opportunities, particularly for the youth, in agriculture, industry, and service sectors such as information technology and tourism. Kerala has high rates of youth unemployment. The creation of modern employment for Kerala's youth will be the priority of the Government.

Skilling is crucial to modern employment, and Kerala has the potential to be India's skilled-labour hub. The State's skilled professional workers have been the preferred choice of employers in India and other parts of the world.

The Government recognises that skill training and development play a crucial role in promoting economic growth. A relative abundance of educated and skilled workers, a long history of entrepreneurship, and exposure to the wider world are strengths. The 14th Five-Year Plan will encourage building links between vocational learning in higher secondary schools and skill upgradation in the economy.

The "Future of Work" debates and discussions of the "knowledge society" point to the fast-changing nature of work as a result of the development of information and communications technology. Some of the areas in which Kerala has made a start in this respect are robotics, machine learning, artificial intelligence, and 3D printing. The COVID-19 pandemic and the evolving situation have added new dimensions to the Future of Work. While disruptions in some sectors are evident, new opportunities and requirements are emerging in significant areas. The most modern skill training and development need to be made available to prepare Kerala's youth for opportunities in skilled employment in these sectors.

Skill training programmes should also be used as instruments of empowerment and social change. They should include, for instance, specialised training in emerging areas for women, and young men and women of the Scheduled Tribes and Scheduled Castes.

The international experiences on successful employment policies and strategies indicate the role of the state in developing an integrated skill development policy framework and systems. Such a system recognises the linkages between education – higher secondary and tertiary – and industry and employers' needs. The 14th Five-Year Plan is committed to supporting the different efforts that contribute to the skilling and upskilling of the vast human resources of the State.

#### **Key initiatives proposed in the 14th Five-Year Plan**

1. Study/research on problems faced by gig-workers will be conducted and special schemes for them formulated to address the issues
2. Establishment of a Labour Museum
3. 15 second-grade ITIs will be upgraded to first-grade. Land acquisition for 26 ITIs in various districts will be done
4. The Department is planning to establish production centres in major it is, in addition to those that exist in nine ITIs

5. New Centres of Excellence (CoEs) will be set up across Kerala in sectors such as Entrepreneurship, Banking and Finance, Tourism and Hospitality, Beauty and Wellness, Rubber, Printing, Logistics, Ayurveda, Sports Management, Life Science and Health Care.
6. Kaushal Kendras will be set up in all districts to act as rural skill hubs
7. Kerala State Institute of Design (KSID) to be upgraded as the finest such institute in the country
8. A skills secretariat and a CoE complex for effective skill convergence are planned
9. World Skill Lyceum is envisaged as the think tank of the Skill Secretariat
10. Scheme to be implemented to issue a 'smart cards' to all candidates who register in employment exchanges; enhancement of online software and mobile application
11. KILE will be upgraded to be a CoE and a national-level labour institute
12. Executive certification programmes will be conducted in Labour Laws and Management (CPLM)
13. The factory inspection enforcement system will be strengthened through the Factories and Boilers Department and AI-enabled technology implemented to bridge the residual risks from unsafe acts and unsafe conditions

#### **New initiatives started in Annual Plan 2022-23**

There are two schemes that have already been started in financial year 2022-23. These are the Kerala Athidhi Mobile Application scheme by the Labour Commissionerate, and the upgradation of KILE to the level of a national institute. Initial infrastructure development for the Institute of Labour Studies and Management has been started by KILE.



## **Chapter 18**

### **Non Resident Keralites Affairs**

“Migrants are those whose last usual place of residence is different from the present place of enumeration. Usual place of residence is the place (village/town) where the person stayed continuously for a period of 6 months or more or intends to stay for 6 months or more” (Migration in India 2020-21, Periodic Labour Force Survey).

Non-resident Keralites have contributed significantly to the socio-economic development of the State. Migration can be used as a tool or key to eradicate poverty. The economic opportunities that exist in foreign countries are the strong driving forces of migration. Around the world, 258 million people, or 3.4 per cent of the global population, live outside their country of birth. The international migrant population is now triple its 1970-level. Work is the main motivator. Migrant workers comprise two-thirds of all international migrants, and they mostly move to high-income countries (World Migration Report 2018).

The Kerala Migration Survey 2013 (KMS) shows a decline in emigration. The total number of emigrants in 2013 was 24 lakh, and it fell to 21 lakh in 2018. This recorded a decrease of around 12 per cent between 2013 and 2018.

KMS 2018 has confirmed the trend that was observed in the last round – that emigration from Kerala is falling, and return migration is on the rise.

According to the Reserve Bank of India’s Survey on India’s Inward Remittances (2018), Kerala receives 19 per cent of the entire country’s total remittances. The direct means by which remittances flow to the State are through NRI deposits in commercial banks and money transferred through authorised foreign exchange dealers.

The Department of Non Resident Keralite’s Affairs (NORKA) is coordinating the programmes and activities of *pravasis* through agencies such as Norka Roots, the Norka Welfare Board, the Norka Cell New Delhi, the Commission for Non-Resident Indians (hailing from Kerala) and Overseas Keralites Investment and Holding Limited.

#### **NORKA Roots**

NORKA Roots is an agency working under the NORKA Department since 2002 to ensure the welfare of non-resident Keralites (NRKs) and to serve as a single kiosk for all information pertaining to them. The agency was earlier known as the Non Resident Keralites Welfare Agency (NORKWA)

#### **Kerala Non-Resident Keralites’ Welfare Board**

Kerala Non Resident Keralites’ Welfare Board is a statutory board of the Government of Kerala constituted under the Non Resident Keralites’ Welfare Act, 2008 for the purpose of working for the welfare of NRKs.

#### **13th Five-Year Plan**

During the 13th Plan period (2017-2022) Rs 452.76 crore was earmarked as Plan fund to implement various schemes and projects of the NORKA Department, and the expenditure recorded during the period was Rs 322.27 crore. The outlay and expenditure during the 13th Plan period is shown in the Table 18.1.

Table 18.1 Outlay and expenditure of NORKA in 13th Five-Year Plan, in Rs lakh

Year	Budgeted Outlay	Expenditure	Expenditure (in %)
2017-18	6,080.00	3,668.62	60.34
2018-19	8,000.00	5,197.79	64.97
2019-20	8,100.00	5,241.00	64.70
2020-21	9,048.00	14,423.34	159.41
2021-22	14,048.00	3,696.61	26.31
Total	45,276.00	32,227.36	71.00

Note: \* Expenditure includes supplementary demands for grants

Source: NORKA

From the Table 18.1 it is evident that from the very beginning of the 13th Plan the Government of Kerala has given emphasis to the sector. In the first financial year of the 13th Five-Year Plan itself, the Government doubled the outlay of NORKA over the previous year (2016-17, Rs 28crore). After that, the Government has consistently increased the outlay for Non Resident Keralites year on year, and in the last year it reached Rs 140.48 crore.

### 13th Five-Year Plan – summary of achievements

During the last Five-Year Plan, the department carried out many activities in crisis management mode .Norka Roots started registration facilities for NRKs during the pandemic and formed a Covid response cell. For evacuation from different countries it organised rescue operations by issuing no objection certificates to chartered flights even as it arranged train accommodation for those from other States to go home.

In order to assist NRKs who are financially poor and also for the transportation of the mortal remains of NRKs, ambulance support was provided at the airports. Norka Roots worked in association with the Indian Medical Association (IMA) for this. Around 650 services were made possible.

A number of Malayalees have been languishing in the prisons of foreign countries, especially in the GCC, in some cases for minor or petty offences, often not realising that offences were being committed. Ignorance of the law of the land and language problems are the major reasons for some of them ending up in prisons. Under a scheme to provide assistance to such people, 11 legal consultants were appointed in six GCC countries. Some 110 applications were received seeking aid, and around 100 cases were handed over to the legal consultants for necessary action.

The Non-Resident Keralites Welfare Board provides pensions, family pension, invalid pension and financial assistance to dependants of deceased members, financial assistance for medical treatment, assistance for marriage and maternity needs, and educational assistance.

As of now, there are more than 20,000 pensioners. Similarly, the number of members eligible for welfare schemes is increasing. The expenditure incurred towards pension and other welfare schemes during the last four years is given in the Table 18.2.

Table 18.2 Expenditure incurred towards pension and other welfare schemes

Year	Pension (amount in Rs)	Other Welfare Schemes (amount in Rs)	Total (Rs in crore)
2016-17	3,62,60,744	81,85,390	4.44
2017-18	10,71,85,039	98,64,285	11.70
2018-19	24,27,04,929	1,60,35,653	25.87
2019-20	38,66,22,339	2,47,63,852	41.13

Source: Norka Pravasi Welfare Board

In addition, an amount of Rs 7 crore was granted towards special assistance in the pandemic situation. Under a newly introduced deposit-linked monthly income scheme, eligible NRKs can deposit amounts ranging from Rs 3 lakh to Rs 51 lakh. The funds collected are transferred to KIIFB for various development activities in the State. The monthly dividend is given to the depositor or his spouse (upon the demise of the depositor). The dividend is paid out of funds received from KIIFB and the Government's contribution. A dividend of 10 per cent is guaranteed for the deposits. In cases where the spouse of the depositor passes away, the original deposit along with the dividend for the first three years will be returned to the legal heir/nominee of the depositor. The scheme is intended to tap NRK funds for the development activities of the State and for providing long-term monthly income to members of the *pravasi* community. As on October 28, 2021, Rs 270 crore was collected and transferred to KIIFB from 2,940 deposits under the scheme.

#### **Special assistance in the context of COVID-19**

The Government of Kerala has announced following financial assistance to the NRKs:

1. Rs 10,000 is given as financial assistance to members of the Pravasi Welfare Board who are hit by the Corona virus. For non-members, the same amount will be released from Norka Roots under the Santhwana scheme. Rs 1 crore has been released to Norka Roots for this. As on September 18, 2020, twenty applications had been received.
2. Rs 5,000 is given to those who returned to Kerala from January 1, 2020 and could not return to resume work due to the lockdown imposed by the Government of India. In this regard, an amount of Rs 57.5 crore was sanctioned; more than 1.75 lakh applications were under process. About 78,000 applications were approved and Rs 39 crore was released to eligible persons.

#### **Critical gap**

The department does not have an accurate count of Keralites in other States and other countries. This is a major constraint. Meanwhile, the district-level activities of NORKA Roots need to be strengthened.

#### **Major existing programmes**

The following are the important schemes/projects of the NORKA department for NRKs:

Table 18.3 Existing major programmes

Name of the Programme	Objective/Activities
Santhwana	Santhwana is a distress relief fund to extend financial assistance to NRK returnees. Assistance is available for death, medical treatment, purchase of artificial limbs or crutches, and marriage.
NORKA Department Project for Returned Emigrants (NDPREM)	As part of rehabilitation of returned migrants, the Government has formulated a NORKA Department Project for Returned Emigrants (NDPREM) to provide sustainable livelihood means by promoting self-employment ventures. Under the scheme, capital subsidy of 15% would be sanctioned for projects with a capital outlay up to Rs 20 lakh per applicant. There is provision for
Rehabilitation, Reintegration and coordination of NRKs	This is a new component designed to rehabilitate, re-integrate and coordinate NRKs into a new and successful life and the following are the rehabilitation proposals envisaged. a) Under Pravasi Bhadratha, PEARL, interest-free loans up to Rs 2 lakh for low-profile category of NRK returnees through Kudumbasree. b) Under Pravasi Bhadratha, MICRO, oft loans through Cooperative banks and other financial institutions including nationalised banks/scheduled banks of up to Rs 5 lakh with 25% capital subsidy up to Rs 1 lakh and 3% interest subvention's) Pravasi Bhadratha, – MEGA, through KSIDC, involving loans from Rs 25 lakh to Rs 2 crore for MSME enterprises at a reduced interest rate of 5%
Skill Upgradation and Re-Integration Training for NRKs	Skill up gradation and reintegration training programme that aims to upgrade the skills of young Keralites and reskill returnee migrants to meet challenges in the overseas employment market.
Assistance to Pravasi Samghams	Sanghams are like leading platforms for the wellbeing of NRKs, both remaining as emigrants and returned after serving in foreign countries. The objective of these organisations is the development of financial, social, economic and cultural affairs of the NRKs. As Sanghams have more field-level network, their assistance will help empower the returnee migrants economically and socially.
NRK Welfare Fund	As per the Non Resident Keralites Welfare Fund Act of 2008, the Kerala NRKs Welfare Fund Board was constituted in 2010 to implement various welfare schemes for Non-Resident Keralites.
Pravasi Dividend Scheme through NRK Welfare Board	The Pravasi Dividend Scheme aims to ensure the welfare of NRKs and e returnees and garner resources for infrastructure development of the State.
Loka Kerala Sabha	The Government of Kerala constituted Loka Kerala Sabha (LKS) as a common platform for Keralites living across the globe. It is envisaged as a platform for the cultural, socio-political and economic integration of these myriad Keralas with the home Kerala. The Government of Kerala believes that the knowledge and experiences of the non-resident Keralites, their capacity as global citizens, can be an asset for the development of the State.

Source: NORKA Department

## 14th Five-Year Plan

### Approach

Migrants are a part of Kerala's social life. They participate actively in multiple spheres of Kerala's economy, society and culture. New technologies have further strengthened the ties between non-residents and the State. Inward remittances constitute a significant part of the Gross State Domestic Product, and are a crucial factor in Kerala's economic growth. Incomes from remittances have deepened the market and created demand for a range of material and cultural goods produced in Kerala.

The present Government of Kerala is one in which the diaspora has a new-level of confidence. Its willingness to work and cooperate with the Government has been manifested through many events in the 13th Five-Year Plan period. During the 13th Plan period, the creation of a unique forum, the Loka Kerala Sabha, gave the members of the diaspora an opportunity to participate in debates and social processes in the State and discuss problems and issues of migrants and migration. The 14th Five-Year Plan will continue to support this institution.

The Plan will continue to support all programmes of the Government that seek to encourage the overseas population of Kerala to save, invest, and participate in the economic development of Kerala. The Plan will encourage utilising the talents of skilled workers, professionals, scientists, social scientists, and other experts to contribute to Kerala's development efforts. The task of identifying areas in which they can contribute must be taken up urgently.

During the pandemic, more than 15 lakh migrants, mainly from the GCC countries, returned to Kerala. The economic condition of return migrants is a matter of utmost concern to the Government of Kerala, which will strive to create opportunities for investment, upskilling and reskilling for return migrants, to create opportunities for employment, and to ensure that they have access to different kinds of social assistance available to a resident of Kerala. Efforts will also be made to assist those who intend to return to employment abroad. The activities of the Kerala Pravasi Welfare Board will be scaled up.

The Plan will support the portfolio of legal, administrative, and economic measures proposed by the Government of Kerala to protect the interests and wellbeing of migrants.

Currently, the numbers regarding non-resident Keralites come from the periodic Kerala Migration Surveys. While these studies fill a major gap in the data on migrants from the State, administrators and scholars stress the need for a comprehensive source of serial data in the field. In the 13th Five-Year Plan period, the Government of Kerala established a web portal in order to capture the number of NRKs in different parts of India and the world. The online database also provides the number of return migrants to the State. The database is intended to provide a real-time assessment of the number of NRKs and help the Government in formulating policies for their welfare and support.

#### **Key initiatives proposed in the 14th Five-Year Plan**

Along with various schemes for the betterment of NRKs and for improving the quality of migration during the 13th Five-Year Plan, many new schemes are envisaged in the 14th Five-Year Plan also.

The foremost thrust has to be given for the strengthening of Norka Roots, as it represents around 3 million NRKs living abroad, another 5 million returnees and some 5 million Keralites living in other States of India.

Another key initiative is a soft loan scheme for financially backward overseas job-seekers in association with leading banks and financial institutions and giving subsidy in line with the present self-employment scheme for returnees.

Welfare and investment schemes meant for Overseas Citizen of India card-holders are another proposal by NORKA Roots. There are about 6 million OCI card holders, of whom at least one million will be Keralites. This is a group from which there is potential to channel investments to Kerala. During the 14th Five-Year Plan, this segment needs to be addressed separately, designing schemes and services for it.

Another scheme mentioned by the department relates to a comprehensive health insurance scheme for NRK returnees. NRKs typically return to the home country/State between 45 and 60 years of age, and that is when majority of them start having health issues. Once they reach Kerala many of them do not have an income of their own and start depending on their children. Hence it is essential to have a comprehensive health package for them in line with the Central Government Health Scheme (CGHS).

Similarly, during the 14th Five-Year Plan, it is proposed to start various welfare schemes for Keralites living outside Kerala but within India). Language training centres for NRKs are also planned on public-private partnership basis.

**New initiatives already started in Annual Plan 2022-23**

The setting up of a company, the Overseas Keralites Investment and Holding Limited (OKIH), has been initiated in the Annual Plan 2022-23. It was formed in response to the recommendations of the First Loka Kerala Sabha session held in January 2018. It is a 100 per cent Government-owned company. Its first venture is the Rest Stop Project that involves setting up of food courts, stores, petrol stations, vehicles maintenance centres and clinics near State Highway and National Highway routes, to international standards. The recommendations of the second Loka Kerala Sabha held on January 2020 are being incorporated in the Plan.

## Chapter 19

### Art, Culture, and Sports

#### 19.1 ART AND CULTURE

##### Overview

Progressive and democratic societies have always placed art and culture on a high pedestal. As in the case of all human endeavour, the development of art is inextricably related to its historical and cultural setting. It is regarded that art contributes to social advancement. In India this assumes greater importance given the multicultural setting and the fact that its programmes largely depend on the propensity to sustain diversity. It is a country with an amazingly rich tradition of art and culture.

Kerala is also renowned as a place of diverse art forms and festivals. It has a long history of evolving different kinds of art forms and propagating them. Kerala's distinctive geographical features have historically contributed to its cultural diversity. The numerous facets of its culture, including visual arts, handicrafts, languages, history, festivals, martial arts, apparels and other aspects, show the magnitude of this diversity. Its culture has been shaped through long-term contact with cultures from across the world through trade and communication. Kerala's distinctively democratic, secular and progressive culture has added value to all these art forms by regarding them as media of emancipation and conduits for improving the quality of life. Kerala has acknowledged the importance of art and culture in the progress of the State and appreciated those who have made the contributions. The Government has supported the institutions in this sector severally and fostered artists and writers through various schemes and programmes.

##### 13th Five-Year Plan

During the period of the 12th Five-Year Plan (2012-17), for the sectors of art and culture an amount of Rs 388.22 crore was allotted as outlay. The expenditure for the period was Rs 321.56 crore and the percentage of expenditure to the outlay was 82.83. During the 13th Five-Year Plan period the outlay increased substantially to Rs 747.91 crore. The expenditure incurred was Rs 467.69 crore (62.53%). Owing to natural calamities and the COVID-19 pandemic, average expenditure as a percentage for the art and culture sector was limited to 62.53 in the 13th Plan. The details are in the Table 19.1.

Table 19.1 *Department-wise budgeted outlay and expenditure of art and culture sector in the 13th Five-Year Plan, in Rs crore*

Sl. No	Department	2017-18		2018-19		2019-20		2020-21		2021-22		Total	
		BO	E	BO	E	BO	E	BO	E	BO	E	BO	E & BO (in %)
1	Archaeology	24.00	14.93	25.25	15.14	23.50	9.28	16.40	12.88	17.50	8.87	106.65	61.11 (57.30)
2	Archives	4.65	3.93	5.10	3.50	7.70	1.95	16.30	8.79	15.75	7.40	49.5	25.57 (51.65)
3	Museum and Zoos	22.50	15.67	24.75	13.56	32.75	11.94	34.90	19.24	29.00	8.19	143.9	68.6 (47.67)
4	Kerala State Film Development Corporation	4.00	4.00	5.00	4.95	8.00	2.00	11.00	11.00	13.00	13.55	41	35.5 (86.58)
5	Kerala State Chalachitra Academy	5.65	5.65	7.75	4.65	11.00	11.00	11.00	8.25	11.00	10.95	46.4	40.50 (87.28)
6	Directorate of Culture	24.35	2.41	27.92	18.20	28.05	14.02	24.75	26.22	23.75	14.32	128.82	75.19 (58.36)
7	Other Institutions under the Cultural Affairs Department	38.67	35.20	42.93	22.51	43.28	22.31	40.34	36.22	44.59	27.35	209.81	143.59 (68.44)

8	Other Institutions under Higher Education Department (Music colleges, State Central Library, Library Council)	7.52	6.41	5.77	4.60	3.36	2.75	2.54	1.9	2.64	2.00	21.83	17.66 (80.90)
	TOTAL	131.34	88.20	144.47	87.11	157.64	75.25	157.23	124.50	157.23	92.63	747.91	467.69 (62.53)

Note: \* Expenditure includes Supplementary Demand for Grants

Source: Budget documents, Planspace, Government of Kerala

### 13th Five-Year Plan – major achievements

- During the 13th Five-Year Plan period, 1,000 young artists who qualified from recognised institutions or had expertise in different folklore arts, were supported every year through the 'Diamond Jubilee Fellowship Programme for 1000 Young Artists', implemented by the Directorate of Local Governments. Each artist was provided a monthly fellowship of Rs 15,000 (Rs 10,000 from the Directorate as fellowship, plus Rs 5,000 from the Local Self Government concerned)
- Initiated *Nattarangu*, a project to set up performance venues in rural areas and small towns where public spaces for cultural activities are scarce.
- Department of Culture in association with Bharat Bhavan conducted an online art show called *Mazhamizhi*, a multimedia mega digital streaming project to provide a platform for artists who lost their livelihood during the COVID-19 pandemic.
- During the 13th Five-Year Plan period, various types of COVID-19 relief activities/assistance were provided to artists.
- The signature film *Samam* is a cultural awareness initiative by the Department of Culture to respond creatively to the recent atrocities against women and children and to spread the idea of gender equality in all sectors. The *Samam* programme for women's equality aims at a variety of activities.
- Construction work of the A.K.G. Memorial Museum in Kannur has been started by Museums and Zoos Department.
- Construction of quarantine stations for animals in the Thiruvananthapuram Zoo and Interpretation Centre were started during the 13th Five-Year Plan period
- Directorate has initiated a project to start regional museums and heritage museums in various districts
- Phase I of a new art gallery in the name of Raja Ravi Varma started during the 13th Five-Year Plan period near the Sri Chitra Art Gallery, Thiruvananthapuram.
- MoU signed with the University of Kerala to set up an international archives and heritage centre at the Karyavattom Campus, Thiruvananthapuram; it will be executed through the Kerala Museum.
- MoU signed with the Kerala Museum to set up a collection of 10,000 *churunas* with about one crore palm leaf records, the largest collection of its kind in the world.
- Digitalisation of palm leaf records is progressing through the Kerala State Archives Department
- As part of a project for the exchange of shared cultural heritage, MoU signed between the Department and the Netherlands National Archives to exchange Kerala-related Dutch records to the Department and Dutch-related Kerala records to the Netherlands National Archives.
- A project for the documentation of numismatic collections held by the Archaeology Department has been initiated during the 13th Five-Year Plan period and 16 monuments have been taken over by the Department of Archaeology in the category of Protected Monuments
- The 25th edition of the International Film Festival of Kerala (IFFK) organised by the Kerala State Chalachitra Academy was held from February 10 to March 5, 2021. The festival attracted around 14,000 delegates from across the world.



16. Various implementing departments and cultural institutions have completed infrastructural development, upgradation and maintenance of institutions, and capacity-building for personnel of the institutions.

#### **Critical gaps in art and culture sector**

1. One of the most important gaps in the Art and Culture sector is the lack of accurate information of artists belonging to various categories. To provide the benefits of Government schemes to the needy, lack of information seems to be a major obstacle.
2. Digitalisation in the Department of Archives is progressing very slowly. Steps to speed up the process need to be included in the next Five-Year Plan.
3. Guiding and ticketing systems in museums under the Department of Archaeology need to be modernised with e-ticketing platforms/applications/other techniques.

#### **14th Five-Year Plan**

The 14th Five-Year Plan is committed to supporting progressive, democratic, plural and secular cultural values and institutions to create a vibrant ecosystem for all art forms in the State. It will support efforts to improve public cultural services.

Government will continue its support to cultural events in the State that are now internationally renowned events, like the Kochi-Muziris Biennale, International Film Festival of Kerala (IFFK), International Documentary and Short Film Festival of Kerala (IDSFFK) and International Theatre Festival of Kerala (ITFoK). These will be strengthened further.

The Plan will support training programmes to encourage creative talent in different cultural spheres, with the participation of leading figures in the arts and literature as mentors. It will support programmes to invite performing artists from different parts of India and the world to visit and perform in Kerala. It will also support programmes of cultural exchange and people-to-people contact between Kerala and other parts of the world. Integrated programmes of cultural development and tourism will be encouraged.

The livelihoods of artists and performing artists were greatly affected by the pandemic. The Plan will support schemes and facilities to protect their livelihoods and increase incomes. The Plan will encourage the promotion and development of Malayalam within the State and among the diaspora.

The library movement in Kerala has a rich heritage. The Plan will support programmes to introduce common software in libraries at all levels, to introduce an active system of inter-library loans, and to learn from best practices elsewhere in India and the world in acquiring and lending digital books. The State is committed to developing and encouraging the reading habit among different categories of people and participating children throughout the State.

The Plan will encourage efforts to preserve and conserve monuments, cultural artefacts, and archaeological sites and remains in the State. For museums, the Plan will continue to support infrastructure and efforts to improve visitors' experiences. During 14th Five-Year Plan period, the Government of Kerala aims to complete modernisation efforts in and reopen several important museums such as Raja Ravi Varma Art Gallery, Thiruvananthapuram; Pazhassi Raja Museum, Kozhikode; Sakthan Thampuran Palace Museum, Thrissur; Krishnapuram Palace Museum; and Napier Museum, Thiruvananthapuram. New museum projects to be undertaken during the 14th Five-Year Plan period are the Calicut City Museum, Kozhikode; Theyyam

Museum, Kannur; Handloom Museum, Kannur; Sreepadam Palace Heritage Museum, Thiruvananthapuram; and AKG Memorial Museum, Kannur.

The 14th Five-Year Plan will support efforts to use scientific techniques to conserve the rich archival wealth of the State. The Plan will encourage efforts to construct the International Archives and Heritage Centre and International Research Institute on the Kerala University Campus, Thiruvananthapuram. It will promote research and facilitate the exchange of ideas on archival studies and administration.

#### **Schemes proposed during the 14th Five-Year Plan**

**Directorate of Culture.** The Directorate of Culture under the State Government was formed to preserve and promote Kerala's unique culture. Over the years, this Department has taken up the mantle as the guardian of Kerala's cultural heritage. Programmes started during the 13th Five-Year Plan period such as the Diamond Jubilee fellowship, Rural Art Hub, Nattarangu and the construction of the culture complex that had given a boost to the cultural sector will be continued during the 14th Five-Year Plan period. Apart from these existing schemes, the 14th Five-Year Plan will set up *Abhaya Kendras* for artists, a *Samam* cultural initiative, *Mazhamizhi*, and a culture heritage village for the preservation of Kerala's cultural legacy.

**Kerala State Archaeology Department.** The main functions of this Department include the custody, care and management of records received in the Archives, acquiring documents of historical value, rendering technical advice and assistance on the management and preservation of records to various departments and institutions, publishing archival material, creating awareness about archival material among members of the public by organising exhibitions and seminars and pursuing historical research, besides providing to the Government such materials for the smooth conduct of administration.

The activities started during the 13th Five-Year Plan for the Department of Archaeology, such as excavations at the Feroke Fort, 2D and 3D mode documentation of monuments, comprehensive upgradation and documentation of the numismatic wing and other modernisation work will be continued. The new schemes and activities for the 14th Five-Year Plan period are: Conduct a comprehensive archaeological survey at Attapady in Palakkad District, documentation of artefacts obtained through excavation projects and make them available to students and researchers, maintain and protect megalithic monuments and protected monuments, improve infrastructure related to the museum's security and visitor care, and complete a scientific study ahead of the comprehensive conservation of the Padmanabhapuram Palace. The Plan will also support scientific conservation activities of forts, setting up of heritage museums in all districts, renovation of the Kunjali Marakkar memorial museum on the theme of Kerala's maritime heritage and developing mobile applications to guide tourists to museums and protected monuments. Museum outreach programmes will be conducted to create awareness about culture and heritage among various sections of the society. Other projects include modernisation of ticketing, protection and security systems, installation of e-office system, developing the department website, and practical training programmes for capacity building among department staff.

**Kerala State Archives Department.** The State Archives Department has started some important and prestigious projects initiated during the 13th Five-Year Plan period such as setting up the International Archives and

Research Centre Phase II, Archival Heritage Centres in all districts, and the completion of the digitalisation of archival records in the custody of the archives. Also under way is the digitalisation of the archives through community archives, digitalisation of paper and palm leaf records, setting up a palm leaf museum, record management-reference and media preparation. In addition to the existing schemes, capacity building and strengthening of the administration, online archival services and publication of archival records, scientific conservation of public records, a documentary on the Vaikom Satyagraha Smaraka Gandhi Museum, outreach programmes, initiatives for empowering women employees of the department and disaster management programmes are proposed for the period of the 14th Five-Year Plan.

**Museums and Zoos Department.** Department of Museums and Zoos is functioning under the administrative control of the Cultural Affairs Department. It has the Directorate, Museums, Galleries, Botanical Garden as well as the Zoological Park in Thiruvananthapuram city and two regional institutions, namely, the State Museum and Zoo in Thrissur and the Art Gallery and Krishna Menon Museum in Kozhikode under its purview.

Programmes started during the 13th Five-Year Plan period, such as the establishment of regional museums (Handloom Museum in Kannur, Heritage Museum in Wayanad) and the A.K.G Museum, and construction of a new building for the Sree Chitra Art Gallery (final stage) will be continued for the 14th Five-Year Plan period. The Museums and Zoos Department has proposed the following initiatives to ensure that the needs of elderly people and the differently abled would be met.

1. The Department will ensure that all the places are accessible to all ages and all abilities all the time and that everyone has access to the services available in the Zoo. The proposal includes setting up of exclusive pathways, tactile flooring, installing amenities in rest sheds, provision of e-wheel chairs and buggy carts with wheel chair access.
2. The Department has started an initiative to make the Thiruvananthapuram Zoo a people's zoo by promoting animal adoption, or virtual pet adoption. It is a novel way to support wildlife conservation. By adopting one's favourite animal, people will contribute towards feeding it for a particular period. They will be a part of the Zoo's effort in wildlife conservation, and documentation-listing of animals, reptiles, birds and so on in the zoo. Documentation includes both videography/photography and the branding of the Zoo. Creating an identity or character for the Zoo is important to generate awareness about its programmes. These will include the creation of a website, and putting material in digital media channels.
3. The Plan will continue to support the renovation and conservation of the Napier Museum building, the establishment of a Kerala State Museum, outreach programmes for the Department and other modernisation activities.

**Kerala State Chalachitra Academy.** The Kerala State Film Academy was set up in 1998, making Kerala the first State in the country to start one. The Academy was set up with the intent of it serving as an intermediary between the Government and the film industry, as well as to ensure that the trajectory of cinema, which is a major influence in the socio-cultural milieu of the new generation, would be guided in the right direction through timely interventions. Existing schemes initiated during the 13th Five-Year Plan period such as the launch of the International Film Festival Kerala, modernisation of the Centre for International Film Research and Archives (CIFRA), starting a Malayalam film museum, and the launch of an international documentary and short film festival will be continued with vigour and reach during the 14th Five-Year Plan period. The initiatives proposed for the 14th Five-Year Plan period by the Kerala State Chalachitra Academy are the following: launch of a National Film Festival, Children's Film Festival, Malayalam cinema museum at Kinfra

park, women empowerment projects/programmes, online courses in film studies, Malayalam film festivals in foreign countries, film study projects for tribes, touring talkies, a-regional centre, and discussions/summits and related programmes for the promotion of film tourism.

**Kerala State Film Development Corporation (KSFDC).** The Government has selected KSFDC to be a special purpose vehicle to implement four major projects with assistance from the Kerala Infrastructure Investment Fund Board (KIIFB). These projects are: construction of cultural complexes in all districts of Kerala under the Cultural Affairs Department, conversion of the Chithranjali studio in Thiruvananthapuram into a film city under KSFDC, construction of multipurpose film festival complex at Chithranjali studio for the Kerala State Chalachitra Academy, and construction of 100 theatres all over Kerala for KSFDC. Plan schemes initiated during the 13th Five-Year Plan such as women's cinema and SC/ST directors' cinema, a post-production centre in Kochi, purchase of outdoor equipment and rejuvenation of the OTT platform will be continued during the 14th Five-Year Plan. In addition, KSFDC proposes the following projects during the 14th Plan period: modernisation of Chithranjali studio, construction of new cinemas under KSFDC, digital archives, expansion of the film distribution wing, e-ticketing for all cinemas in Kerala, modernisation of cinemas, setting up of an Ottappalam film city, setting up of digital archives, Samam initiatives, starting an IT wing, constitution of a women's compliant cell in the film sector, promotion of film start-ups, training and workshops to support film field activities, setting up of a database management system.

### **Major Initiatives in the Annual Plan 2022-23**

#### **Museum and Zoos Department.**

*Kerala State Museum.* A wide range of views have come from all corners and levels on the concept of establishing a Kerala State Museum, with special emphasis on education, research and entertainment, in Thrissur, the cultural capital of Kerala.

#### **Directorate of Culture.**

*Construction of a Directorate of Culture complex.* This initiates a permanent venue for cultural activities. A well-equipped stage for performing cultural programmes, lounges and seating for the general public can also be set up in this five-storey building proposed for housing the Directorate of Culture and other institutions.

*Abhaya Kendra for Artists/Art Village.* This project proposes to provide sustainable livelihood for various artists and artisans who lead isolated lives, often without being cared for by anyone. These homestays will provide facilities for food, accommodation, and also art performances.

*Mazhamizhi New Media Art Programme.* This envisages extending support to artists who lost their livelihood means due to the COVID-19 pandemic and floods. It has been implemented by Bharat Bhavan. The project aims to provide digital platforms for the performance of folk art forms, performing artists, sculptors, handicraft artisans and so on.

*Samam Cultural Initiative for Gender Equality.* The novel idea of the *Samam* initiative is intended to support protests against atrocities against women and children. This scheme is implemented on behalf of the Department of Culture by allied cultural institutions such as Bharat Bhavan, Malayalam Mission, Kerala State Chalachithra Academy, KSFDC, and the State Institute of Languages through various campaign programmes.

Other organisations such as Youth Commission, National Service Scheme, Scouts and Guides are also actively taking part in the implementation of the scheme.

*Culture Heritage Village.* The scheme is proposed to be implemented in places with a rich cultural heritage and where people are engaged in the production of traditional craft items. It is intended to conserve and disseminate the heritage of Kerala to the next generation, and the development of infrastructure facilities in the heritage villages.

#### **Other cultural institutions in art and culture sector.**

*Kerala Sahitya Akademi.* Activities include holding literary conferences, seminars and, workshops, granting Akademi awards, fellowships and scholarships, and digital documentation. Expansion of the Akademi library and the Appan Thampuran Smarakam are planned.

*State Central Library.* Computerisation, purchase of books, journals, newspapers, library furniture and equipment, digitisation, promotional activities, construction of heritage model reference block, collection, coordination and distribution of valuable records, renovation of reading rooms, matching share of Central scheme, implementation of plans under the National Mission on Libraries India, and starting new branches.

*State Library Council.* Model village library, academic study centres, jail library service, children's home library service, hospital library service, hermitage library, library computerisation, construction of headquarters building. New components proposed are reference books and CDs for district and taluk libraries, historic books corner in libraries, film clubs in libraries.

*State Institute of Encyclopaedic Publications.* Publication of Sarva Vijnana Kosam volumes 18 to 20, Kerala Vijnana Kosam (online), Nava Sankethika Vidhya Vijnana Kosam, Law Encyclopaedia, encyclopaedia on health sciences, encyclopaedia on social reforms, encyclopaedia on earth sciences, digitisation and online publication of all volumes, revision of Sarva Vijnana Kosam volumes 11 to 15, activities to promote Malayalam language, steps to get ISBN/ISSN registration numbers, publication of academic journal, video podcasting, and so on.

*Kerala Lalithakala Akademi.* Workshops and camps on tribal art and culture of Kerala, inter-disciplinary interactive programmes, curated exhibitions, Raja Ravi Varma memorial cultural complex, modernisation and renovation activities at Kalagramam at Kakkanappara (Sreekandapuram, Kannur), publication of books, magazines, fellowships, awards, women empowerment programmes, Projects to develop the literary and cultural skills of children, transgenders ,promotion of tribal language and literature.

*State Institute of Languages.* Renovation of Sreekanthaswaram Padamanabha Pillai library, web portal, books festival, certificate courses, awards, literary festival, renovation and modernisation of press, buildings, translation cell, establishment of off-campus centres at Attapady and Wayanad.

*Guru Gopinath Nadana Gramam.* Upgradation of galleries, landscaping of *natana gramam* campus, construction of building for art training classes, construction of entry gate, construction of guest house, organising international dance festival. 3D gallery, establishment of digital library, renovation and modernisation, art education, workshops and seminars.

*Kerala Sangeetha Nataka Akademi.* Amateur drama festival, library development, museums, symposiums, *kalothsavams*, *Swathy sangeetholsavam*, professional drama competition, documentaries on great artists, establishment of international music festival, digital archives.

*Centre for Heritage Studies.* Royal heritage botanical garden, publications, heritage studies, preservation, seminars, workshops, training, beautification of Hill Palace museums and gardens, festivals, online library, infrastructure development, upgradation of academic courses.

*Kerala State Jawahar Balabhavan.* Construction of children's hostel building, conduct of *Balamela*, construction of clay modelling classroom, construction of art and culture museum and aero modelling, setting up of recording studio, students' theatre, modernisation of library, hostels.

*Vylopilli Samskrithi Bhavan.* Renovation of open air auditorium/Samskrithi cultural festival, research centre for art forms, modernisation of campus, other modernisation activities, conduct of workshops, renovation of Koothambalam, starting of Samskrithi channel, tribal art forms research and study, fellowships, food court and auditorium, digital documentation, heritage museum, awards, modernisation of open air stage.

*Vasthuvudya Gurukulam.* Promotional activities for traditional architecture and for mural paintings, translation, publication and library, seminars, promotion of sustainable construction, technical centres, construction/demolition waste reuse initiatives, starting of academic courses in built heritage.

*Bharat Bhavan. Mazhamizhi,* national translation camp, weekly drama and dance festival, cultural exchange programmes, national integration programmes, cultural map, national mime fest, international tribal festival, digital smart farming, digital library, multimedia mega-shows.

*Kerala Book Marketing Society.* Establishment of bookmark franchises, setting up of book-selling units at theatres, setting up a permanent sales outlet, renovation of the head office and branches, starting mobile bookstalls, books-on-wheels, international book festival, creating an online platform to sell books and publications.

*Malayalam Mission.* Training for teachers, establishment of study centres, annual examinations, preparation of text books and handbooks, study tours to Kerala, seminars, Massive Open Online Courses, guest workers Malayalam awareness centre, international Malayalam fest/summit, formation of chapters for the courses, short film workshops, seminars, Malayalam clubs, Asan's 150th birth anniversary, virtual language museum, literary circuit, translation programme, promotional activities for supporting foreign Keralite writers, students.

*Kumaran Asan National Institute of Culture.* The 150th birthday celebration of Kumaran Asan, production of documentary about Kumaran Asan, preparation of bibliography of Asan's works, completion of bronze statue of Kumaran Asan, completion of *Kavya silpam*, conducting various art, cultural, literary programmes and

symposiums, construction of stage, open air auditorium, open reading room and construction work for the national heritage museum, festivals, renovation and infrastructure development.

*Kerala Folklore Academy.* Organisation of tribal festival, establishment of school/college folklore clubs, organisation of cultural programmes, international folk fest, cultural programmes in collaboration with other institutions, workshops and seminars, Bharatholsavam, Malayali associations, folk research centre, awards, fellowships and stipends, publication of books.

*Kerala Kalamandalam.* Establishment of new campus, preparation of master plan, Vallathol memorial garden, new Kalari complex, development of Nila heritage campus, completion of South Indian Arts Museum, setting up sub-centres inside and outside Kerala, organising international dance-music festival, modernisation and renovation activities, setting up of display-and-sales units for Kathakali and Koodiyattam costumes and ornaments, construction of guest house, ladies' hostel, online study centre, culture and heritage centre, archives and recording studio, establishment of sub-centres of Kalamandalam, upgradation of library.

*Mahakavi Moyinkutty Vaidyar Mappila Kala Academy.* Development of museum, research library, theatre, photo gallery, publications, documentary, fellowship, museum, renovation of library, beautification of garden, awards, activities of the programme '*ishal paithrukam*', training programmes, modernisation and renovation of auditoriums.

*Kerala State Bala Sahitya Institute.* Publication of books in Braille script, setting up head office building, organisation of *balaprathibha sangamam*, Thali scholarship, workshops and seminars, establishment of library at home, expansion of library, book festival, digitalisation, publication of magazines, other activities to support student

*Margi.* Training in Kathakali, instruments and Koodiyattam for school children, art demonstration in select schools and colleges, repair and renovation of costumes of art forms in Margi, Sree Narayana International Study Centre, short-term courses, digital archives, seminars, workshops, certificate courses, promotional activities.

*Sree Narayana Guru International Study Centre.* Commencement of short-term courses, digital archives, seminars, workshops, certificate courses, promotional activities.

*Thunchan Memorial Trust and Research Centre.* Publication, digitalisation of books and library, cultural tourism, discussions, workshops, promotional activities of Malayalam language, modernisation of museum.

## **19.2 SPORTS AND YOUTH AFFAIRS**

### **Overview**

Sports and physical education are fundamental to the early development of children and youth, and the skills learned during play, physical education and sport contribute to the holistic development of young people. Sports contribute to the physical, mental and psychological health of people. It is obvious that in those nations where there is a healthy sports culture, people stay healthy and remain fit both physically and mentally. These result in a healthy work culture and people become hardworking, dedicated and disciplined, which in turn has a profound influence on the progress and development of any nation. India has rich

diversity. There are different sports activities that suit the environment of a particular culture and are promoted informally in that culture from generation to generation.

The talented youth from Kerala have been making waves in the national and international sporting arenas for nearly 50 years. While Kerala continues to be the powerhouse, driving India's progress in athletics, with talent identification and scientific training Kerala youth are establishing themselves in many other sporting events, as well. Though Kerala has a rich tradition of excelling at the national/international-level, in recent years many other States have made rapid progress, catching up with it. Therefore, it is time for the State to take proactive policy initiatives to take Kerala sports to the next-level.

The two major agencies in the State related to Sports are the Directorate of Sports and Youth Affairs and the Kerala State Sports Council. Several physical education and sports activities are also being initiated and conducted through the Directorate of General Education and the Directorate of Collegiate Education in Kerala.

#### **Directorate of Sports and Youth Affairs**

The Directorate of Sports and Youth Affairs (DSYA) was established in 1987. Its activities include promotion and development of sports and games in the State through the development of appropriate and quality infrastructure, imparting awareness among the public on the importance of sports, providing facilities for proper training and grooming of sportspersons to achieve international standards, and programmes related to youth welfare. DSYA takes up activities to bring in latest technologies and innovations in sports in order to provide the winning edge to the sportspersons of Kerala. True to the spirit of the philosophy 'Sports Kerala – Sports for life', ensuring the twin objective of 'Sports for Life and Excellence in Sports' as enshrined in the new Sports Policy of Kerala, the activities of the Directorate of Sports and Youth Affairs are diverse and multifarious.

#### **Kerala State Sports Council**

The Kerala State Sports Council was established in 1954 to promote sports in Kerala. At present, 31 District Sports Academies, 51 College Sports Academies and 23 School Sports Academies function under it. There are approximately 3,000 students selected each year under various sports disciplines. The Council has been providing financial assistance to 43 recognised sports associations for conducting State/National Championship events. The Sports Council has taken steps to purchase sports uniforms/track suits/sports goods/sports equipment for trainees of sports hostels and rural training centres. The Sports Council has implemented the Elite Scheme in disciplines such as Athletics, Volleyball and Basketball. At present, there are four centres functioning under the Elite Scheme in Thiruvananthapuram, Ernakulam, Thrissur, and Kannur Districts.

#### **Directorate of General Education**

The development of a sports culture is essential for moulding healthy schoolchildren. Directorate of General Education is undertaking activities such as State/district/sub-district games and other sport events.

#### **Directorate of Collegiate Education**

Sports and physical education in colleges have a major role in moulding the overall development of students. The following are the activities on priority basis.

1. Promote physical education among all students.
2. Conduct intra-college sports tournaments.



3. Provide best training to outstanding students.
4. Purchase and maintenance of sports goods and equipment.
5. Include physical education as a compulsory component in all colleges

In Kerala there is only one Physical Education College, under the Directorate of Collegiate Education, functioning in Kozhikode. It aims to impart high quality physical education to students, develop awareness of mental and physical fitness among physical education students, bring out the talent in them and cast future athletes.

### **Youth Affairs**

Government of India has identified youth based on the criteria of age and defined youth as a group in the age group of 13-35. The youth population of Kerala is distinct in many ways. As a most advanced State in terms of literacy and human development, the youth of Kerala have to be seen as partners for the overall growth of the State as well as the nation. The youth population in the State is heterogeneous in terms of religion, caste and socio-economic parameters. The immense resources of youth, if galvanised, can work as a major force of socio-economic change. It is therefore essential to create increasing opportunities for them to develop their personality and functional capacity and make them economically productive and socially responsible.

There are two agencies in the State related to Youth Affairs, the Kerala State Youth Welfare Board and the Kerala State Youth Commission.

### **Kerala State Youth Welfare Board**

The Kerala State Youth Welfare Board is an autonomous body registered under the Travancore-Cochin Literary, Scientific and Charitable Societies Registration Act 1955 and incorporated under the auspices of Government of Kerala in 1985. The main objective of the board is to coordinate welfare and development activities targeting the youth. The other aims and objectives are to take care of the welfare and development needs of the youth in Kerala in general and that of the Scheduled Caste and Scheduled Tribe youth in particular, foster their needs of physical, cultural, literary, scientific and vocational enrichment, and formulate and implement specific schemes and programmes for the empowerment of the youth. It functions as an apex agency for the coordination and implementation of all youth empowerment activities in the State. The Board provides assistance to youth clubs and organisations to conduct training programmes and self-employment initiatives for jobless youth.

### **Kerala State Youth Commission**

Kerala State Youth Commission is formed for the purpose of evolving and implementing programmes for educating and empowering the youth and to function as a protector of their rights. The youth of the country has immense potential and if channelled properly, this will bring excellent results in achieving the goal set for the welfare of the country. But the youth of the State is facing an immense problem. There is a need to create more opportunities for the youth to develop their personality and their functional capacity and also to preserve their legitimate rights, avoiding exploitation. The Youth Commission is a quasi-judicial institution started by means of an ordinance promulgated by the Government. Steps are being taken to replace the ordinance through an enactment in the legislature.

The functions of the commission are to work as a protector of youth affairs in the State, to educate them on the dignity of labour, to coordinate Government departments in providing better education and employment opportunities to the youth, to develop and harness the potential of the youth in order to attain total

empowerment and excellence, and to undertake promotional and educational research so as to suggest to the Government better ways of ensuring employment opportunities to the youth. The Commission is also required to advise the Government in the planning process for the socio-economic development of the youth, especially those who belong to the weaker sections and tribal sections, to help explore the scope and potential of the youth in all levels of activities so as to make them attain a high degree of accomplishment by developing their creativity and skills. The Commission needs to monitor occupational hazards faced by the youth in the unorganised sector, inquire into any complaints with respect to deprivation of rights of youth, recommend to the Government action to be taken in such instances and advise the Government on other matters as may be referred to it.

### 13th Five-Year Plan

The activities of the Directorate of Sports and Youth Affairs cover all areas pertaining to the promotion and development of sports and games. It is involved in assisting infrastructure development, imparting awareness among the public regarding the importance of sports and games, arranging facilities for providing proper training to sportspersons in the respective disciplines to participate in international sports events and for giving financial assistance to sports associations, needy sportspersons and so on.

During the 13th Five-Year Plan period an amount of Rs 668.68 crore was earmarked as Plan funds for Sports and Youth Affairs and the expenditure incurred against the outlay was Rs 485.80 crore. The financial performance is given in the Table 19.2.

Table 19.2 Financial performance of sports and youth affairs in the 13th Five-Year Plan, in Rs crore

Department/ Agency	2017-18		2018-19		2019-20		2020-21		2021-22		13th Plan	
	Outlay	Expenditure	Outlay	Expenditure	Outlay	Expenditure	Outlay	Expenditure	Outlay	Expenditure	Total Outlay	Total Expenditure
Directorate of Sports and Youth Affairs	59.32	78.07	70.00	85.62	71.65	21.37	61.65	37.62	84.36	49.51	346.98	272.20 (78.45%)
Assistance to Kerala State Sports Council	39.62	39.62	42.10	44.60	41.00	27.23	33.32	18.72	33.40	15.74	189.44	145.91 (77.02%)
Kerala State Youth Welfare Board	21.00	12.60	23.00	8.55	22.90	12.55	19.60	6.66	17.91	7.90	104.41	48.25 (46.22%)
Physical Education Colleges	1.10	0.63	1.20	1.15	1.20	0.41	1.05	0.52	1.05	0.74	5.60	3.45 (61.67%)
Assistance to DPI for conduct of sports in schools	0.40	2.93	1.06	0.32	1.46	1.10	2.05	0.78	3.50	0.00	8.47	5.13 (60.54%)
Assistance to Directorate of Collegiate Education	0.40	0.39	0.45	0.42	0.45	0.39	1.30	1.08	1.50	1.40	4.10	3.68 (89.68%)
Bharat Scouts and Guides grant-in-aid	0.80	0.80	1.00	1.00	1.00	0.50	0.90	0.67	0.90	0.73	4.60	3.70 (80.44%)
Kerala State Youth Commission	1.10	0.90	1.30	0.50	1.00	0.73	0.84	0.63	0.84	0.72	5.08	3.48 (68.50%)
<b>Total</b>	<b>123.74</b>	<b>135.93</b>	<b>140.11</b>	<b>142.16</b>	<b>140.66</b>	<b>64.28</b>	<b>120.71</b>	<b>66.68</b>	<b>143.46</b>	<b>76.75</b>	<b>668.68</b>	<b>485.80</b> <b>(72.65%)</b>

Note: \*Including additional authorisation

Source: Budget documents, Planspace, Government of Kerala

### Achievements

The Government of India has declared the G.V. Raja Sports School as the State Khelo India Centre for Excellence. Also, the Kannur Sports School and the Thrissur Sports Division have been selected as Khelo India District Centres.

Sports Life Fitness centres were inaugurated at Jimmy George Indoor Stadium, Thiruvananthapuram, Aquatic Complex, Pirappancode, V.K.N. Menon Indoor Stadium, Thrissur, Mundayad Indoor Stadium,

Kannur, Sreepadam Stadium, Attingal, Shooting Range, Vattiyoorkavu, V.K.K. Menon Indoor Stadium, Kozhikode and Hockey Stadium, Kollam.

Modernisation and upgradation of sports infrastructure including stadia, playgrounds, swimming pools and other sporting platforms were completed all over Kerala

Two Regional Sports Science Centres, one at Thrissur and the other at Kannur, have been established.

The Directorate of Sports and Youth Affairs is initiating the establishment of a high-performance facility applying sports science including capacity building in association with the Melbourne-based Victoria University. As part of the Sports Excellence through International Partnership Programme, a Master Trainer Training Programme was conducted for 20 master trainers in 2020-21 in collaboration with the University of Victoria.

The Kerala Shooting Academy was started on February 3, 2020 at Vattiyoorkavu Shooting Range in association with the National Rifle Association to mould world-class champions.

*Grassroots Training Programmes.* Kickoff (grassroots football training programme), Hoops (grassroots basketball training programme), and Sprint (grassroots athletic training) were started. In addition, steps have been taken to launch Judoka (grassroots judo training programme) and Punch (grassroots boxing training programme). The Play for Health project was implemented in schools.

Financial assistance was provided to athletes from the Sports Development Fund. Financial assistance was provided to schools, sports organisations and clubs for the purchase of sports equipment, the organisation of tournaments and coaching camps and renovation of playgrounds in Panchayats, schools and clubs. Beach Games, Marathon, International Sports Expo, National Football Championships and Women's Football Championship were conducted.

Two Sports Kerala Elite Residential Football Academies, at the G.V. Raja Sports School, Thiruvananthapuram and the Kannur Sports School, have started functioning.

Sports facilities such as 400-m synthetic track, artificial football field, synthetic basketball court, volleyball court, synthetic surface indoor stadium, turf hockey field, international standard judo mat, wrestling mat, boxing arena, high jump pit and so on were constructed/installed at the G.V. Raja Sports School. Indoor basketball court, indoor volleyball court, judo mat, wrestling mat, taekwondo mat, boxing arena, high jump pit and so on were created at the Kannur Sports School. Sports kits were provided to students every year. The students of the G.V Raja Sports School and the Kannur Sports School are insured under the National Insurance Company. High-tech classrooms and a library has been created for students.

**Kerala State Sports Council.** Kerala State Sports Council has introduced a scholarship scheme in memory of the late President of India, Dr. A.P.J. Abdul Kalam, with a vision to support outstanding sportspersons in Kerala. It has also introduced the annual G.V Raja Awards for outstanding sportspersons of the State. Elite Scheme has been implemented in various disciplines such as athletics, volleyball and basketball in order to nourish sports skills among young talented sportspersons and to make them capable of securing medals at the Asian Games, Commonwealth Games and Olympic Games levels. A prestigious project of the Department of Sports, Operation Olympia 2020-2024, was launched on May 28, 2017. Women's Football Academy has been established for the development of women's football in Kerala.

**Kerala State Youth Welfare Board.**

1. State-level folklore song competition called “Maninadam” was conducted on the death anniversary of Shri. Kala Bhavan Mani at Chalakudi in Thrissur District
2. State-level programme “Sevens Football” was conducted at Kozhikode
3. Short film documentary festival was conducted online. 100 films were screened and 24 short films were played. Nine films were selected for award.
4. Conducted Kalaripayattu training for women and conducted strengthening programme for trans-gender persons named “Marivillu”.
5. Mime Fests and Young Talent Fest were conducted
6. International dance and music Festival called ‘oneness’ was organised by the Board with the participation of artists from the State and other parts of India and other countries.

**Youth Commission.**

1. In 2020-21, a training camp was conducted for youth defence force in Kollam and the trained youth conducted 312 programmes. About 74,865 youth participated in these programmes.
2. *District seminars, symposiums and workshops.* National-level seminar in collaboration with Bharat Bhavan for online classical dance festival was conducted. Mohiniyattom, Bharathanatyam, Kuchippudi, Manipuri, Kathak, Odissi, Kerala natanam, Chow dance, Classical dance, Rabeendra dance, Vilasini natyam and Soobhi dance were some of the dance forms that were included in the festival.
3. The Commission presents the Youth Icon Award to honour young people who have excelled in the fields of art, culture, literature, sports, agriculture, social work and entrepreneurship.
4. The Commission started Youth Legal Support Centre to provide services to the economically and socially backward youth and those in need of legal assistance through the toll free number 7511100900.
5. *EMS memorial inter-university elocution competition and national youth day programme.* Every year on January 12, the birthday of Swami Vivekananda is celebrated as National Youth Day. On the occasion of National Youth Day, the winners of EMS Memorial Inter University Elocution Competition are applauded and prizes are distributed.

**Directorate of General Education.** In the National Meet 2019-20, Kerala students won 262 medals (43 gold, 146 silver and 73 bronze medals).

**Directorate of Collegiate Education.** Intra-college tournaments were conducted and sports goods and equipment were purchased for colleges. Trainings were provided to outstanding students of Physical Education College, Kozhikode.

**14th Five-Year Plan****Approach**

The 14th Five-Year Plan will encourage and promote a vibrant culture of sports in the State. New initiatives are envisaged in the spheres of infrastructure development, establishment of special training academies, and linking tourism and traditional sports.

The 14th Plan will support efforts to build sports complexes in all districts and sports facilities in all Panchayats and municipalities. The Plan will support schemes that encourage physical fitness and participation in sports of people of all ages with special attention to those with disabilities. It will support

programmes for early detection of sports talent and seek to upgrade the capacities of coaches and other sports personnel in line with international standards.

An important proposed area of effort in the 14th Five-Year Plan period is the development of highly specialised “elite academies” for training in select sporting events with private partnership. The proposed areas include football, badminton, basketball, tennis, volleyball, and athletics.

The Plan will support greater coordination between the Departments of Sports, General Education and Higher Education, and encourage collaboration with universities in the field of sports sciences. The main motto is to provide ‘sports for all/fitness for all’.

The Department of Sports and Youth Affairs has envisioned the following:

1. Excellence in sports at the international-level including in the Olympic Games
2. A fair, safe and strong sports sector free from corruption
3. A thriving sports and recreation industry with contemporary governance structures, world-leading research and innovation, strong economic investment and hosting of global events
4. A vibrant sports culture at the grassroots-level with strong physical literacy levels among the public and an active community sports base.

With this outlook, the Directorate of Sports and Youth Affairs initiated many innovative programmes and projects, aimed to “Catch ’em Young” and nurture youngsters with the potential to attain the highest international standards. A holistic approach that ensures the availability of state-of-the-art sports infrastructure and equipment, leveraging sports science, establishment of elite sports academies, implementation of physical education curriculum in all schools, facilitation of the growth of a sports economy and supporting entrepreneurs in this field, modern training inculcating international best practices and focus on the nutrition needs of sportspersons is envisaged in the 14th Five-Year Plan.

The Five-Year Plan, 2022-27, captures these initiatives of the Directorate of Sports and Youth Affairs to transform Kerala sports, elevating sportspersons to higher standards at the international-level and inculcating a vibrant sports culture at the grassroots community-level.

### **Key initiatives in the 14th Five-Year Plan**

#### **Sports.**

*Directorate of Sports and Youth Affairs.* Establishment of the G.V Raja Centre for Excellence at Menamkulam where a Kerala Institute of Sports should be established on the lines of the Australia Institute of Sports. This will be an elite centre for sports training, education, research and sports science.

The establishment of Sports Business Incubators in reputed colleges and institutes is envisaged in partnership with the Indian Institute of Management Kozhikode.

*Kayika Bhavan.* In order to achieve effective administration over the long term, and coordination and development of sports in the State, it is envisaged to construct a sports complex, Kayika Bhavan, in Thiruvananthapuram to accommodate the Directorate of Sports and Youth Affairs, the Sports Kerala Foundation and the Kerala State Sports Council.

*Establishment of high altitude training centre, Munnar.* Training in high altitudes can result in the maximum output from a sportsperson. For achieving the objective fully, the facilities of the High-Altitude Training Centre at Munnar have to be upgraded with modern infrastructure, equipment and sports tourism facilities.

The establishment of Elite Sports Kerala Academies is envisaged for Tennis, Basketball, Volleyball, Table Tennis, Badminton and Athletics by the Sports Kerala Foundation through Public-Private Partnership and Corporate Social Responsibility mode. Financial support will be provided to elite students to train in centres of excellence with private institutions and centres of excellence.

*Open gyms and multi-sport play space clusters.* This is a scheme to develop available grounds as play spaces ideal for multi-sport usage, including volleyball, basketball and tennis and other minor games, using modern synthetic surfaces with provision of roofing, if required. At present the multi-sport play spaces are distributed far and wide, which makes it difficult to put them to effective use. As a remedy, the cluster model is proposed. Rural Playgrounds: The target of “One Sports Facility/Playground in every Panchayat” for the development of sports infrastructure with the Sports Kerala Foundation as the implementing agency, will be initiated. Half the expenditure for the development of a playground will have to be met from MLA Development Fund or/and through Local Governments and PPP arrangements. School playgrounds will be included in the purview of this scheme in association with the General Education Department.

*Kerala State Sports Council.*

*Kayika Kshamatha Mission.* During the fag end of the financial year 2021-2022, administrative sanction has been accorded for the implementation of the Kerala Kayika Kshamatha (Physical Fitness) Mission project. The project will start in 2022-23. Physical fitness for all age groups is the main objective. This project will be implemented successfully with the cooperation of various departments during the next five years. The scheme is aimed to create a society with better mental and physical health. There will be a “Yoga for All” scheme from the school-level onwards. The programme will be introduced in all educational institutions during the 14th Five-Year Plan.

The Council will extend the ambit of the G.V Raja Awards for outstanding sportspersons of the State to more eligible people during the 14th Five-Year Plan. A holistic approach is planned for the computerisation of the Kerala State Sports Council and the District Sports Councils to improve the functioning of its offices and for their proper upkeep after analysing the functioning of the offices. It is aiming to impart state-of-the-art training to coaches to develop their technical skills and consequently to enable sportspersons to acquire new skills with the help of the services of notable foreign coaches.

The Kerala State Sports Council will conduct the Chief Minister’s Gold Cup Football Championship, ensuring the participation of international teams. This will help Kerala players to perform better in national sports events. It is intended to conduct the tournament every year (2022-2027).

*Sports Excellence Scheme.* Currently 61 day boarding centres are functioning under the Kerala State Sports Council. It is planning to include 10 more schools during the next five years.

*Volleyball Academy.* Kerala has the best volleyball tradition in the country. At present, only limited facilities are available for the development of women’s volleyball in the State. The Kerala State Sports Council has

decided to set up a Volleyball Academy with international standards in the current financial year. In addition, four more centres are expected to be made functional in the remaining years of the 14th Five-Year Plan. The project is being implemented by the Kerala State Sports Council in collaboration with the Government of Kerala and the Department of General Education during the 14th Five-Year Plan.

A Special academy will be set up by selecting athletes from the school and college academies, and the Elite and Operation Olympia schemes. Food, accommodation, training and other facilities will be provided at the national camps to mould them into international medal-seekers. The following disciplines can be selected for the national-level training centres: Athletics, Football, Volleyball, Basketball, Boxing, Judo, Wrestling and Swimming. The special academy will be of national standards and 15 to 20 players are to be selected from each sporting event. The project will be implemented by the Kerala State Sports Council during the 14th Five-Year Plan.

*Conduct of National and International Championships.* The Council desires to assist the State Sports Associations/National Federations in the conduct of various international competitions in the State, which the Council feels would go a long way in popularising particular disciplines in the State. This step will ensure that players and officials would be equipped with the state-of-the-art training/competition techniques, and sports administrators can also update their knowledge in the field. Kerala State Sports Council will ensure that the championships are properly and professionally managed every year during the next Five-Year Plan onwards.

A project to set up a sports museum on the premises of the Central Stadium, and a sports library to create inspiration and innovation among the generations on sports culture are planned for the 14th Plan. Collection of sports books and a digital library will help share information on eminent sports personalities. It will become an inspiration to the growing generation in our society.

Steps are also being taken to form sports councils at the Corporation, Municipality and Grama Panchayat levels. These will play a vital role in the development of sports at the grassroots-level.

Initial proposals for the construction of sports complexes for all sports disciplines with the capacity to accommodate at least 1,000 people, at Chingavanam in Kottayam District and Chadayamangalam in Kollam District are being considered. Setting up of Rowing Academies at Punnamada Lakel in Alapuzha and at Murukkumpuzha in Thiruvananthapuram District is also on the cards.

*General Education.* For the development of physical fitness among students, the General Education Department has envisaged a project, 'Fitness for Future', which is also a step to ensure academic excellence. A training programme for physical education teachers, elite sports and games clustering, fundamental physical literacy training for primary teachers, physical fitness challenge app, natural physical fitness parks in select schools, a mini-gymnasium and comprehensive physical fitness evaluation package, are the components of the proposal.

*Collegiate Education.* The major initiatives are the total physical programme for college students, and provision of overall support for students to develop them into national/international-level champions.

#### **Youth Affairs.**

*Kerala State Youth Welfare Board.* The State Youth Welfare Board during the 14th Five-Year Plan is giving emphasis to employment generation schemes like online delivery and skilling, besides starting other new ventures. There are various projects envisaged in collaboration with other departments, such as security services, and volunteering in the tourism sector. Other focus areas are coastal sports festivals with competitions, sports training and competitions, transgender empowerment, tribal sports matches and adventure activities such as trekking, adventure camps, adventure carnivals, archery training and beach festivals.

It is intended to extend the activities of schemes, Kerala Voluntary Youth Action Force, Youth Clubs, Keralotsavam, Yuvasakthi by increasing the number of participants and also their services.

Construction of a National Adventure Academy at Devikulam in Idukki District under the auspices of the Youth Welfare Board, with the objective of developing and utilising the adventure skills of the youth, is planned during the 14th Five-Year Plan.

*Kerala State Youth Commission.* Major initiatives of the Youth Commission during the 14th Plan are awareness programmes against dowry and crimes against women in the family/community at the district-level through the coordinators/members of the Commission. The conduct of studies and surveys on issues related to youth, including gender issues, problems of youth employed in private firms and in other States, the social status of individuals of the weaker sections, empowerment of marginalised youth and women, especially in SC/ST colonies, is in focus. The Commission will also extend its activities to awareness programmes for the youth in colleges and in SC/ST colonies, national and district-level seminars, cultural exchange programmes (including the EMS Memorial inter-university speech competition), youth legal support centres, facilitation programmes (Green Youth Initiative and Virtual Employment Exchange), adalaths/local-level sittings, the Youth Icon Programme, the National Youth Day Programme, awareness campaigns against dowry, provision of legal support and counselling, and the conduct of youth surveys.

The commission intends to implement a scheme involving the youth to make complete digital literacy possible in Kerala, on the lines of the total literacy achieved in Kerala. For this purpose, the commission is planning to conduct a digital literacy project during 14th Plan in the tribal/backward areas of the State with the cooperation of selected youth.

#### **New initiatives already started in Annual Plan 2022-23**

The rural playgrounds scheme of the Directorate of Sports and Youth Affairs is an initiative started in 2022-23. Schemes to establish Elite Sports Kerala Academies, open gyms, multi-sport playspace clusters and sports business incubators have also been initiated in 2022-23.

Chief Minister's Gold Cup Football Championship matches, Women's Volleyball Academy and National and International Championships have been started by the Kerala State Sports Council in the Annual Plan 2022-23.

The General Education Department started the project, 'Fitness for Future' in 2022-23.

The State Youth Welfare Board started initiatives such as employment generation schemes, and projects in collaboration with other departments. The first phase of the new building of the National Adventure Academy (NAA) at Devikulam is under way. Awareness campaigns against dowry, illegal support and



counselling, and a youth survey are the initiatives of the Kerala State Youth Commission that are included in the Annual Plan 2022-23.

## Chapter 20

### Local Governments

#### Overview

Kerala has embarked on its 14th Five-Year Plan with the focus on building a secular, democratic, inclusive and growth-oriented society. While the 13th Plan, towards the end of the Plan period, focussed largely on urgent issues that had stemmed from the consecutive floods and the COVID-19 pandemic, the 14th Plan proposes to address larger development issues such as enhancing economic growth, generating employment, improving infrastructure, sustaining the accomplishments in the service sector, managing natural resources, providing state-of-the-art sanitation and waste management facilities, and so on. The 14th Five-Year Plan specifically proposes to reinvigorate the productive forces and garner investments in various development sectors to enable growth. In order to achieve this, local economic development will be supported by means of establishing an environment that is congenial to fostering entrepreneurship. This being a programme that requires to be planned with the participation of multiple stakeholders, Local Governments have key roles to play in the process. Besides, the process of local economic development should be necessarily led by Local Governments, as it involves multi-level planning and integration of human and financial resources from different sources.

#### 13th Five-Year Plan

Table 20.1 *Budgeted outlay and expenditure of the Local Governments in the 13th Five-Year Plan, Kerala, in Rs crore and per cent*

Year	Budgeted outlay	Expenditure (Rs crore)	Expenditure as per cent of outlay	Expenditure (including pending bills) (Rs crore)	Expenditure as per cent of outlay (including pending bills)
2017-18	6,194.62	5,292.71	85.44	5,580.47	90.09
2018-19	6,721.91	5,696.08	84.74	6,250.24	92.98
2019-20	7,209.1	4,027.44	55.87	5,664.41	78.57
2020-21	7,276.66	6,927.83	95.21	6,953.73	95.6
2021-22	6,622.23	5,835.93	88.12	5,841.14	88.2

Source: LSG Department

The major accomplishments made by the Local Governments during the 13th Five-Year Plan are briefly explained below:

As mentioned earlier, the 13th Plan aimed at building a New Kerala (*Navakeralam*) through four important Missions. These were *LIFE*, the mission for housing for the poor; *Ardram*, which involves intervention in the health sector by means of establishing people-friendly health facilities; *Pothuvidyabhyasa Samrakshna Yajnam*, to improve school education; and *Haritha Kerala Mission* for sustainable agricultural production, better natural resource management, better waste management, clean environment, and a litter-free Kerala. The 13th Plan, through these missions and several other programmes, could achieve enhanced production and employment generation; better human resource development by giving top priority to education and skilling; unparalleled healthcare and social security, better natural resource management, efficient and responsive environmental protection, and sustainable methods of waste management. The Local Governments were considered as important agencies for implementing and coordinating these missions at the grassroots-level.

In the 13th Plan, a new set of guidelines were issued to enable Local Governments to formulate their Plans well in advance and ensure integration of their Annual Plans and budget. The new guidelines also helped the

local bodies utilise the whole financial year for the implementation. The mechanism to expedite Plan approval envisaged its approval followed by scrutiny and approval of the component projects. This has substantially reduced the delay in project-vetting. In addition, the subsidies by Local Government were dovetailed into the department rates. Ceiling of allocations in the production, infrastructure and service sectors were also revised with a view to enhancing production. The mandatory minimum ceiling in the productive sector was enhanced to 30 per cent in the case of Grama Panchayats, Block Panchayats and District Panchayats whereas in the case of urban Local Governments it was fixed at 10 per cent. The share of production sector expenditure in the normal share of general sector expenditure increased from 18.30 per cent (2016-17) to 28.18 per cent in 2020-21. These policy changes also resulted in higher utilisation of Plan funds by Local Governments as well as improvement in the quality of projects.

A major accomplishment during the 13th Plan was the preparation of District Plans, a mandatory function of the respective District Planning Committees. The preparation of Plans of all the 14 districts was completed, which helped the Local Governments draw out better Plans, from a wider perspective of growth-oriented area planning. It is anticipated that this would also enable the integration of programmes by different departments.

It was during the 13th Plan that competitive tendering was introduced for works by the Local Governments, which substantially increased tender savings to the tune of Rs 730.82 crore in the first four years of the 13th Plan and helped Local Governments take up new projects.

Another major accomplishment during the 13th Plan was the establishment of District Resource Centres (DRC) in all districts to provide consultancy support to the DPCs in Plan processes and help Local Governments to formulate innovative and feasible projects. The DRC consists of professionals and experts drawn from educational, research and technical institutions as well as retired experts from Government departments. The main functions of the DRC are to conduct studies in areas and topics required by the DPC as well as Local Governments, provide technical advice, provide support to prepare DPRs of projects as required by Local Governments, scrutinise local Plans, analyse model projects, point out the weaknesses of Plan processes and suggest measures to remedy them.

As part of the State-wide programme to ensure overall disaster preparedness and mitigate the impact of consecutive natural disasters that affected the State, all Grama Panchayats and urban Local Governments in the State prepared local disaster management plans, for the first time in the country.

A data collection round called the 'decentralisation round' survey was initiated to collect and collate data on the physical accomplishments of Local Governments.

The five constituent departments of the Local Self Government Department, namely, the departments of Panchayats, urban affairs, rural development, town planning and engineering were unified to form a single department with a view to strengthening local governance. This historic decision will facilitate better coordination among different departments and better delivery of services.

Integrated Local Governance Management System (ILGMS), a comprehensive software developed by the Information Kerala Mission (IKM), was deployed across 303 grama Panchayats in October 2020, to ensure greater transparency, accountability, accuracy and punctuality. ILGMS also enabled technical supervision of the process of providing services to the citizens.

Local Governments in Kerala successfully implemented quality standards in governance during the 13th Plan period. Of the 941 grama Panchayats in Kerala as many as 939 grama Panchayats and all Block Panchayats achieved ISO 9001: 2015, an international certification for quality management systems.

Following the disruptions caused by COVID-19 in food supply chains, the Government initiated the *Subhiksha Keralam* scheme aiming at large-scale production of paddy, fruits, vegetables, tubers, and foodgrains and to promote livelihood by providing assistance to raise cows, goats, rabbits, pigs, and fish. This programme, which was conceived as a flagship initiative to achieve self-reliance in food production in the next five years, included cultivation in fallow land, implementation of an integrated farming system, planting one crore fruit plants, promoting rain shelter cultivation, strengthening agricultural development and providing necessary loans to farmers. Under *Subhiksha Keralam*, a total of 26,135 projects in agriculture, fisheries, animal husbandry, dairy development, and food processing with an outlay of Rs 1,870.30 crore were implemented by Local Governments in various tiers.

The Government of Kerala initiated the LIFE Mission in 2016 as a flagship programme to address the issue of lack of housing in the State. The activities of the LIFE Mission progressed in three phases. In the first phase, the Mission addressed the issue of incomplete houses, and out of the total 54,116 identified incomplete houses, 52,680 houses were completed. In the second phase, for those who had land financial assistance to construct houses was provided, and out of the total 1,02,542 houses sanctioned, 94,047 were completed. The third phase of the Mission targeted the rehabilitation of landless and homeless beneficiaries. Of the total 1,68,284 people found eligible in the third phase, 32,376 who acquired land were assisted and 14,152 houses were completed. Altogether, as on May 31, 2022, the Mission provided housing to 2,95,795 families. This number included houses constructed under the Pradhan Mantri Awas Yojana-Rural (19,933 houses), PMAY-Urban (72,569 houses) and by departments, namely, Scheduled Castes Development (22,605 houses), Scheduled Tribes Development (2,899 houses), Minority Welfare (2,363 houses), and Fisheries (6,009 houses). And 2,363 houses went to families from an additional list.

## **14th Five-Year Plan**

### **Approach of the 14th Five-Year Plan**

The year 2021 marked the 25th anniversary of the People's Plan movement in Kerala. It is a crucial juncture, which demands intense efforts to transform Kerala's economy into a vibrant and sustainable one, in the face of the economic downturn due to COVID-19 and the constraints in getting Central assistance. Under these circumstances, the 14th Five-Year Plan foresees Local Governments as springboards of development, with the specific roles of enhancing production and productivity in the primary sector, creating growth and employment, promoting scientific natural resource management, aiding integrated development and poverty alleviation, and improving the quality of service delivery.

Services to the public will be further enhanced with a range of services, especially services for senior citizens and people with disabilities, delivered at the doorstep. The 14th Plan will provide unstinted support to the efforts of Local Governments to increase welfare, employment and income among the Scheduled Castes and Scheduled Tribes. Special programmes to address the exclusive issues of women, children, transgenders, persons with disabilities, senior citizens and those under palliative care will continue to be appropriately supported.

Kudumbasree programmes will be further strengthened by integrating them with the development programmes of Local Governments.

Rapid urbanisation demands concerted efforts by Local Governments to integrate various centralised programmes and externally aided schemes with local-level Plans to improve infrastructure, civic amenities and citizen services. Local Governments will be supported to employ spatial planning techniques for better planning and governance. The Plan will also support preparation of master plans for the development of urban centres and urban agglomerations. Attempts to address the issues of solid and liquid waste treatment in Kerala will be reinforced.

The 14th Five-Year Plan will support the efforts of the Kerala Institute of Local Administration (KILA) to train the members and personnel of local bodies and facilitate Local Governments by linking them with institutions of eminence in the country and abroad. Efforts to conduct studies on different dimensions of local governance will be intensified. KILA will also be supported to assess the models of local governance that emerge in response to the new development challenges at the grassroots-level.

The information and database support provided by IKM for local-level planning will be improved and efforts to integrate software applications used by Local Governments expedited.

The 14th Five-Year Plan will support efforts by local bodies to sustain and improve the accomplishments of the State with regard to Sustainable Development Goals (SDGs) of the United Nations.

#### **Objectives of the 14th Five-Year Plan**

1. The 14th Five-Year Plan envisages the sustainable development and high economic growth of Kerala and its transformation into a knowledge society by rejuvenating the production systems.
2. Enhance production and productivity in agriculture, animal husbandry, fisheries, dairy and related sectors, promote small-scale industries, develop value chains and facilitate large-scale production and distribution of value-added products.
3. Promotion of local economic development and employment generation through innovative entrepreneurship development programmes and support systems to be initiated by local bodies.
4. The Government of Kerala has unified *Haritha Keralam*, Livelihood Inclusion Financial Empowerment (LIFE), *Ardram* and *Pothu Vidyabhyasa Samrakshna Yajnam* (now renamed *Vidya Kiranam* into a single entity of *Nava Kerala Karma Padhdhathi* (New Kerala Action plan). Local Governments will play a key role in its effective implementation.
5. Provisions of MGNREGS will be integrated with local-level development programmes for production in the primary sector. The urban employment guarantee scheme *Ayyankali Urban Employment Guarantee Scheme* will be strengthened.
6. Build resilience among rural and urban communities to deal with natural disasters and the after-effects of climate change and promote sustainable development by ensuring conservation and better management of natural resources.
7. Inclusive development encompassing the backward, impoverished as well as marginalised communities.
8. Provide shelter and means and livelihood to the marginalised sections of the society.
9. Enhance the responsiveness of local governance and improve the systems of service delivery by employing state-of-the-art technologies.
10. Develop specialised programmes for children, the aged, and the differently abled, transgenders, and so on.

11. Attainment of sustainable development goals well before time.
12. Development interventions to improve the quality of life of the people.
13. Accelerate the growth and diversification of small-scale and village and cottage industries, energy and tourism sectors at the local body-level.
14. Promote public-private investment in the above areas, by also utilising the revenue from the cooperative sector.
15. Promote linkages with scientific research and other academic institutions in the process of planning for development at the local-level.
16. Abolishing extreme poverty.
17. Ensuring social justice and gender equality.
18. Ensuring door-step delivery of service to all those who are in need.
19. Drafting master plans for urban development considering the issues of harmonious urban and rural development in the context of the rural urban continuum will be taken up.
20. Management of solid and liquid waste will be taken up with urgency in light of the impending repercussions on social and economic life including health, environment and tourism.
21. Under the LIFE Mission, it is targeted to construct one lakh houses a year from 2022-23 to 2026-27. The construction of the total five lakh houses during the 14th Five-Year Plan which will include three lakh houses for the General category, 1.5 lakh houses for Scheduled Castes, 25,000 houses for Scheduled Tribes and 25,000 houses for fishers.

#### **Important new initiatives**

1. **Micro plans for the extreme poor.** Government of Kerala has embarked on an exclusive programme to eradicate extreme poverty by involving Local Governments and the civil society. The extremely poor households in the State have been identified based on a set of criteria that define extreme poverty. The identification process initiated in July 2021 was completed in January 2022. During the 14th Five-Year Plan, local bodies will formulate specific micro-plans to address the needs of these households and devise sustainable measures to keep them out of poverty. This will be a unique initiative towards poverty eradication.
2. **Local economic development.** In view of the need to revive economic growth in the State, Local Governments will foster entrepreneurship development by providing support to individuals and groups to establish enterprises in a hassle-free manner. The local bodies would provide financial, technical and skilling assistance to entrepreneurs. Local bodies will also establish community-level facilitation centres, incubation centres and so on to promote entrepreneurship. In this process, local bodies will harness resources from various sectors, particularly the cooperative sector, for the establishment of infrastructure facilities and supply and value chain management systems.
3. **Employment generation.** As the Government has declared generation of employment as one of its prime objectives, Local Governments would formulate innovative programmes to create employment opportunities on a large scale. Along with this, the educated unemployed segments of the society will be equipped with skills to tap the potential of employment opportunities within and outside the country through massive skilling programmes. Local bodies will convene *Thozhil Sabhas* in all the wards to create awareness on skilling and employment and institute channels for the employment-seekers and providers to interact. *Thozhil Sabhas* will also forge functional linkages with the entrepreneurship development programmes of the Local Governments as well as other development agencies.
4. **Doorstep delivery.** Local bodies will strengthen and diversify citizen service delivery during the 14th Plan. In this regard, a host of vital services will be provided at the doorsteps of people whose mobility is

limited due to ageing, illness, disability and other limiting factors. This will be done by harnessing the efforts of various development agencies and voluntary action.

5. **Local action plan for climate change adaptation.** The natural disasters that ravaged the State perceptibly due to climate change have to be scientifically studied to evolve mechanisms to efficiently mitigate them. Local Governments will formulate exclusive long-term and short-term action plans to build resilience in the face of the impacts of climate change.
6. **Sustainable Development Goals.** In the 14th Plan, Local Governments will focus on aligning the goals and outcomes of the development projects to align with the Sustainable Development Goals declared by the UN. In this process, the local bodies will translate the SDGs to local action programmes and monitor the progress of accomplishment at the micro-level.
7. **Urbanisation and waste management.** Issues related to growing urbanisation will be addressed by Local Governments in the 14th Plan. In this regard, Local Governments will encourage adoption of efficient techniques of solid waste management by households and establish adequate infrastructure facilities for recycling and reuse. More important, the issues of liquid waste management will be addressed by soliciting the cooperation of communities and employing state-of-the-art technologies.

## **Chapter 21**

### **Rural Development**

Kerala is on the path to economic recovery after two years of consistent low growth. This has necessitated the promotion of micro, small and medium enterprises considering that given the settlement pattern and terrain, large industrial establishments will generally be incongruous in the State. In agriculture, the focus has to be on value-added crops coupled with adoption of modern farming practices, cooperative aggregation and marketing, electronic trading, and establishing linkages among private, public and cooperative sector agencies and farmer-producer companies. An ecosystem conducive to the growth of high-value-added services such as software, financial services, and luxury tourism also needs to be encouraged.

The rural economy of Kerala has the capability to carry all the above, provided we facilitate investment in these areas by public, private and cooperative sector agencies. Local Governments in rural areas should be encouraged to formulate and implement projects in agriculture and small-scale industry that are production-oriented and capable of lifting the economy to a higher growth trajectory and ensuring employment of the skilled as well as unskilled labour force.

#### **Overview**

The rural development sector is divided into the sectors of Rural Development and Community Development and Panchayats. Rural development involves the following agencies and departments:

1. Commissionerate of Rural Development:
2. Directorate of Panchayats
3. Information Kerala Mission
4. Kerala Institute of Local Administration (KILA)
5. Kudumbasree
6. LIFE Mission
7. Suchitwa Mission

#### **13th Five-Year Plan**

The 13th Plan coincided with the second phase of decentralisation aimed at deepening people's planning through Local Governments as the key to achieving higher economic growth. The 13th Plan focussed on supporting the efforts of Local Governments in their core areas of activity including housing, sanitation, electrification, access to food, healthcare, insurance, access to school education, employment guarantee, welfare pensions, and special care for the differently abled, the aged, and the infirm. Housing was given prime focus. Under the LIFE programme, completing half-built and dilapidated houses was targeted in the first phase, while the second phase focussed on construction of houses for the homeless who had land. The outbreak of the COVID-19 pandemic and the lockdown resulted in huge job losses and the return of many NRIs from the Gulf and other countries. Initiatives to gainfully employ them by providing financial assistance through Kudumbasree, NORKA and so on to start micro-enterprises and start-ups were taken up. The 'special livelihood package' with Kudumbasree as the nodal agency initiated in the backdrop of the floods of 2018 was continued in two subsequent years in the context of the pandemic to revive, rejuvenate and recapitalise the unorganised sector and restore the livelihoods of poor households, particularly in the vulnerable and marginalised groups. The MGNREGS programme provided a cushion to the unskilled labour class to tide over the job losses that the pandemic entailed. In the context of the second phase of



decentralisation, KILA focussed on building competence and professionalism among Local Governments with emphasis on urban planning, spatial planning and disaster management planning.

Table 21.1 Budgeted outlay and expenditure in 13th Plan, Kerala, in Rs lakh and per cent

Year	Budgeted outlay (Rs lakh)	Expenditure (Rs lakh)	Expenditure as per cent of outlay
2017-18	97,369	87,636	90
2018-19	1,18,307	62,057.64	52.45
2019-20	1,69,062	1,02,743.2	60.77
2020-21	1,59,847	1,60,298.3	100.28
2021-22	1,60,769	67,219.67	41.81

Source: Rural Development Department

#### Achievements during the 13th Plan

1. *MGNREGS*. A total of 4,479.81 lakh persondays of work was generated under MGNREGS. The State achieved more than 100 per cent of the approved Labour Budget.
2. The average number of households that completed 100 days of employment increased from 1.17 lakh in 2017-18 to 5.12 lakh in 2021-22.
3. Innovative State programmes like the Tribal Plus scheme and Advance Wage Payment Scheme which aimed to improve the participation of Scheduled Tribe families in the employment guarantee scheme were implemented. The State Government took up a unique programme, namely *Mikavu*, to provide training to unskilled manual workers who were interested to upgrade themselves as semi-skilled or skilled workers.
4. *Pradhan Mantri Awas Yojana – Gramin PMAY-G*. Under PMAY-(G), 19,707 houses were completed out of a target of 28,905. Of this, 5,284 houses were allocated for Scheduled Caste households and 1,289 houses were for ST households.
5. *Pradhan Mantri Gram Sadak Yojana, or PMGSY*. Under PMGSY, out of a target of 1,850 km of roads targeted in the 13th Plan, 934.78 km was constructed.
6. *Kudumabsree*. Kudumbasree formed 49,653 Neighbourhood Groups (NHGs) and altogether 5,95,836 new households were included in Kudumbasree.
7. Around 19,552 ‘Auxiliary Groups’ were formed and 3.02 lakh youth became members of these groups. These are being formed with the objective of creating a new space for the social, cultural and livelihood uplift of women between 18 and 40 years in order that benefits of Government schemes reach them.
8. During the 13th Five-Year Plan, 113 BUDS schools and 78 BRCs were started. As of now, there are 342 BUDS institutions in the State (177 BUDS schools and 165 Block Resource Centres or BRCs).
9. Kudumbasree could cover 1.24 lakh tribal families through 7,135 tribal NHGs.
10. Integrated interventions among Scheduled Tribes as part of the National Rural Livelihood Mission in Attapady were expanded to six Districts: Wayanad (Thirunelly) Kannur (Aralam), Malappuram (Nilamboor), Kasaragod (Koraga), Thrissur (Kadar) and Pathanamthitta (Malapandara community).
11. Around 150 bridge school/bridge courses were started in selected tribal hamlets.
12. Attappady model community kitchens were established in Thirunelly, Kaniyambatta and Noolpuzha Panchayats in Wayanad District.
13. As part of the interest subvention scheme, Rs 148.12 crore was given away as interest subsidy. As part of the ‘Chief Minister’s Helping Hand Loan Scheme’, Rs 165.04 crore was given as first instalment interest subsidy.
14. *Janakeeya hotels*. Around 1,186 *Janakeeya hotels* were formed, which sell on an average 1.65 lakh meals a day.
15. *ARISE* (Acquiring Resilience and Identity through Sustainable Employment) multi-tasking teams were set up and 21,258 members were provided skill training. Till date, 724 Prathyasa Micro Enterprises and 477 Coastal Micro Enterprises were formed.

16. Through the intervention of the Kudumbasree Mission, 2,657 products have been listed online via various e-commerce websites, including Amazon and Flipkart.
17. As part of animal husbandry activities, 4,575 goat-rearing units and 2,713 cow-rearing units were formed.
18. Under the Kerala Chicken Project, Kudumbasree has formed Kudumbasree Broiler Farmer Company Ltd (KBFCL) to unify the supporting systems for production, marketing, and sales of chicken under the Kerala Chicken Project. The project is running in six Districts, namely, Thiruvananthapuram, Kottayam, Kollam, Ernakulam, Thrissur and Kozhikode. with the 270 broiler farms and 94 Kerala Chicken outlets. It is reported that 364 women found a livelihood through farming.

### **Critical gaps**

The critical gaps identified in the activities of various agencies are these:

**Kudumbasree.** Kudumbasree has undoubtedly enhanced and improved the status of rural women in Kerala. However, effective steps should be taken to ensure a sustained increase in the incomes and standards of living of members including Scheduled Caste and tribal communities. Micro-enterprises run by Kudumbasree are characterised by low volumes of production, low technology base, limited value addition, restricted scaling up for want of additional labour and capital, ineffective marketing resulting in subdued sales, lesser returns and hence forced early closures. A plan to sustain these enterprises has to be developed with inputs from market studies for better returns and sustained incomes. Standard Operating Procedures have to be developed for the branding and marketing of Kudumbasree products.

On the microfinance front, multiple memberships and cross-borrowing have widened the borrowing possibilities of members of Self-Help Groups, entailing higher-level of indebtedness and added vulnerability. Effective monitoring mechanisms have to be developed to check cross-borrowing and to ensure that loans are utilised for the declared purposes. The inroads made by informal sector credit organisations into the rural credit market have to be checked.

Convergence of the activities of Kudumbasree with other departments as well as Local Governments is required to increase the effectiveness of schemes and prevent wastage of scarce resources.

**MGNREGS.** Often, MGNREGS works are not duly integrated with Local Government Plans or District Plans. The integration of MGNREGS activities with those of the departments of agriculture, animal husbandry, dairy and social forestry has to be streamlined to make use of the labour force more productively at the local-level.

**Housing.** As per reports from the LIFE Mission, there are 1.68 lakh landless households in the LIFE beneficiary list for whom land has to be acquired. With regard to PMAY-G, as the beneficiary criteria are based on SECC data of 2011, the number of those eligible for assistance is low as the norms of beneficiary selection pursued by the Government of India could not be complied with because of different conditions that prevailed in the State.

**Solid and liquid waste management.** We are yet to establish an adequate system to address issues of solid and liquid waste management. Liquid waste management is to be addressed with vigour. Local Governments have to be imparted the technical expertise to utilise the funds of schemes such as the Swachh Bharath Mission-Gramin (SBM-G) for waste management.

**Centrally Sponsored Schemes.** Quite often, the criteria for Centrally Sponsored Schemes such as PMAY-G and PMKSY are not aligned with the requirements of the State.

**Pradhan Mantri Gram Sadak Yojana (PMGSY).** Kerala's terrain and its dense population make it difficult to provide the specified gradient and sufficient land width for PMGSY roads as per PMGSY-III. Hence a relaxation in gradient would be required for roads that are less than 200 m wide with 1 in 8 gradients. The minimum road length for it to become eligible for PMGSY-III is 5 km. It is very difficult to get 5 km in length in Kerala due to its settlement pattern. Hence, exemption is required to allow candidate roads with 3 km length under PMGSY-III.

#### **14th Five-Year Plan**

The 14th Five-Year Plan emphasises the transformation of rural areas into regions with thriving businesses, good living environments, social etiquette and civility, effective governance, and prosperity. The Plan envisages the accelerated development of rural areas through modernisation of agriculture and allied sectors, state-of-the-art civic amenities and a congenial policy framework for integrated urban-rural development. The Plan seeks to bring in coordinated economic, political, cultural, social, and ecological development, modernisation of the rural governance system and greater capacity. Focus will also be given to elements of a circular economy such as sustainable land use and rehabilitation, ecosystem protection, resource use efficiency, and renewable energy sources to help preserve natural capital and enhance climate change mitigation. It is proposed that Local Governments will be transformed into hubs/epicentres of economic growth by increasing production and productivity and by building systems and actively intervening in the Plan formulation process.

Convergence and integration between departments and schemes will be ensured wherever possible to optimise resources and avoid duplication. In addition, the potential of MGNREGA, NRLM, and other livelihood programmes of the Central and State Governments will be incorporated into livelihood projects at the level of Local Self Government Institutions. Better coordination would be needed among Local Governments, MGNREGS administrative units, technical teams at Local Governments, department officials, and Kudumbasree Community Development Societies (CDS) for improved demand generation, mobilisation, work identification, and budgeting.

#### **Objectives**

Local economic development, entrepreneurship and skilling will be the key priorities of Local Governments in the 14th Plan. Local Governments will become facilitating agencies for entrepreneurship development by creating a business-friendly environment by setting up enterprise promotion and incubation centres. Kudumbasree will be encouraged to set up micro, medium and small enterprises with a proper branding and marketing system to ensure guaranteed markets. Higher education and R&D institutions will be roped in to provide technology support to entrepreneurs, who will be trained to acquire new skills in managerial functions. Steps will be taken to analyse the job market to identify gaps in skilling, and skilling facilities will be extended to the local body-level. The mission of the Government to transform the Kerala economy to a knowledge-based economy will take centrestage in all the skilling and training programmes supported by Local Governments.

With regard to housing, providing land to the landless will be the focus, and Local Governments will take steps to acquire the needed land within their jurisdictions. Building decentralised systems of solid and liquid

waste management will be a top priority of Local Governments. A proper strategy for liquid waste management will be devised. Supply-chain management being a pertinent issue, Rural Infrastructure Development Fund and other Central funds will be utilised to build proper warehouses, as well as marketing infrastructure. Elimination of extreme poverty in the State has been one of the major priorities of the Government. In this regard, 64,000 extremely poor families have been identified. Micro plans to ensure food security, healthcare, social security and minimum sustainable income to these households will be formulated and implemented by Local Governments. Efforts will be taken to make the local bodies child-friendly, aged-friendly and disabled-friendly. Local Governments will also formulate gender-based plans. Doorstep delivery of services introduced in the 14th Plan will help citizens, especially those with restricted mobility, differently abled and bed-ridden patients access various Government services from their homes. IKM will be equipped to evolve into a full-fledged organisation to meet the e-governance challenges of Local Governments.

### **Key initiatives**

1. Kudumbasree micro-enterprises will be scaled up so that they are self-sustaining with assured incomes, plugging the causes for early closure. Rather than focussing on multiple and scattered MSMEs, integrating with programmes like 'One District One Product' and federating the enterprises will help reduce the chance of early failures, a cause for livelihood insecurity among the vulnerable sections of the society. Establishment of a sustainable distribution chain to find markets for Kudumbasree products will be given priority. To eliminate gender inequalities and atrocities against women, activities will be implemented at various levels by including members of neighbourhood groups and auxiliary groups. Gender clubs are planned in schools and colleges. Proper monitoring systems for the microfinance activities of Kudumbasree SHGs to check cross-borrowing and inroads being made by non-banking financial institutions (NBFIs). The utilisation of loans for productive purposes will be ensured.
2. Panchayats will be encouraged to include Kudumbasree activities in their Village Poverty Reduction Plans.
3. On the MGNREGS front, the effort will be to generate 10 crore person-days with active participation of 15 lakh households every year and to ensure that at least five lakh families complete 100 days of wage employment. Labour components of major schemes will be met by MGNREGS wherever possible, adhering to the guidelines
4. Incubation centres, innovation hubs and so on will be established in association with institutions of higher education and industries.
5. A proper decentralised system for liquid waste management will be built in the State. With regard to solid waste, technological options will be explored to efficiently utilise waste in various productive activities.
6. Multiple IKM software solutions will be integrated. ILGMS will be scaled up to all the local bodies. Integration of the databases of Local Governments with databases of other departments will be realised. IKM will be equipped to capture the physical achievements of Local Governments.
7. To complete 1,425 km road sanctioned under PMGSY-III by 2025
8. Construction of five lakh houses under LIFE, acquisition of land for 1.68 lakh landless households.
9. Block-level information centres will be set up in all Blocks
10. Evaluation of Centrally sponsored schemes will be taken up in terms of physical achievement and targets achieved.
11. A nature-based Septage Treatment Plant of 80 to 100 KLD capacity to be set up to cater to the needs of KILA and for co-treatment of septic tank sludge from the surrounding areas. This can be showcased as a

demonstration project for elected representatives, engineers, urban local body officials and the general public to overcome fear and apprehensions over sewage treatment plants.



## Chapter 22

### Urban Development

#### Overview

Kerala has been undergoing a fast rate of urbanisation in the recent decades. This is not only in terms of the population shifting to non-agricultural occupations but also in terms of the geographical land area of the State being transformed, acquiring urban characteristics. The urban component of the population was 47.71 per cent in 2011. The State is the third most urbanised in India and also reckoned as the fastest urbanising State in the country. The urban sector of Kerala consists of six municipal corporations, 87 municipalities and 461 Census Towns. A noticeable feature is the urbanisation of areas around major towns and cities forming Urban Agglomerations (UAs). As per Census 2011, there are 19 UAs. Unlike other States where the entire urbanisation process is concentrated in a few cities and the rest of the State is left with limited access to urban means of living in terms of earnings as well as basic infrastructure, Kerala as a whole is developing as one urbanised landscape. Urbanisation is a positive force and an impetus to development. The opportunity in urbanisation in Kerala is represented by the economic development prospects the urban areas offer. Creation of employment opportunities, technological and infrastructure advancements, improved transportation and communication, quality educational and medical facilities and improved standards of living are the positive effects of urbanisation. The challenge to such urbanisation is the low-density sprawl engulfing farmlands and other environmentally sensitive land areas. Considering the special features of the pattern of urbanisation and the geographical characteristics of Kerala, the process of urbanisation requires special attention while moulding urban infrastructure development programmes.

The schemes under Urban Development are implemented through the following Departments/agencies.

1. Urban Affairs Department
2. State Mission Management Unit (SMMU) – AMRUT
3. Smart Cities Mission
4. Town and Country Planning Department
5. LIFE Mission
6. Suchithwa Mission
7. Kudumbashree
8. Development Authorities
9. Capital Region Development Project

#### 13th Five-Year Plan

The 13th Five-Year Plan laid emphasis on addressing the problems of urbanisation and urban planning and worked towards a comprehensive action plan for urban development. The main thrust under the Plan was to work closely with various missions under the Navakerala Mission and ensure effective convergence of actions envisaged under each of them. The Plan focussed on providing the entire population of the State with assured drinking water supply and implementing projects to meet urban water demand, especially in water-scarce cities. The 13th Plan also focussed on safe and scientific waste management, especially of urban solid waste. Making Kerala litter-free with the help of LSGs and the Suchitwa Mission was also envisaged in the Plan.

During the 13th Plan period, Rs 5029.58 crore was allocated for the sub-sector and the expenditure was Rs 2,845.91 crore, which accounts for 56.58 per cent of the outlay. The outlay and expenditure during the 13th Five-Year Plan are in the Table 22.1.

Table 22.1 Budgeted outlay and expenditure in 13th Five-Year Plan, Kerala, in Rs crore and in per cent

Year	Budgeted outlay	Expenditure	Expenditure as per cent of budgeted outlay
2017-18	749.65	361.11	48.17
2018-19	1,199.91	595.1	49.59
2019-20	1,034.54	505.25	48.83
2020-21	1,047.74	902.42	86.13
*2021-22	997.74	482.03	48.31
Total	5,029.58	2,845.91	56.58

Source: Planspace 2022-23

**Physical achievements of the sector during the 13th Plan**

The major schemes under the sector were the Ayyankali Urban Employment Guarantee scheme, LIFE Mission, Atal Mission for Rejuvenation and Urban Transformation (AMRUT), Smart Cities Mission, Pradhan Mantri Awas Yojana-Urban (PMAY-U), Deendayal Anthyodaya Yojana-National Urban Livelihood Mission (DAY-NULM), Swachh Bharat Mission (Urban), Suchitwa Keralam and Scheme for preparing master plans and detailed town plans.

**Housing.** Pradhan Mantri Awas Yojana-Urban aims to address the housing requirements of urban poor including slum-dwellers, with the mandate of providing housing for all by 2022 under a 60:40 pattern. Under the scheme, sanction has been accorded for the construction of 98,037 houses under the beneficiary led individual house construction component for beneficiaries having land, at a project cost of Rs 39,921.48 crore. Of this, the construction of 72,569 houses has been completed. Under the Affordable Housing in Partnership component, sanction has been accorded for the construction of 11 apartment complexes consisting of 970 dwelling units for the landless at a total project cost of Rs 113.69 crore. Construction of 938 houses has been started and 280 houses have been completed under this category. An amount of Rs 402.56 crore is released as the State's share for this scheme. (Achievements under the LIFE Mission are given in the chapter on Local Governments.)

**Urban infrastructure.** Urban infrastructure covers schemes such as water supply, waste management systems, city sanitation plans, establishment and enhancement of public comfort facilities, implementation and improvement of sewerage schemes, storm water drainage schemes, effective parking policy and modern mechanised parking systems, beautification of cities and creation of green cities and non-motorised urban conveyance. Major infrastructure development programmes being implemented in the State are:

*Atal Mission for Rejuvenation and Urban Transformation (AMRUT).* The AMRUT scheme was launched in the State on September 1, 2015 and the projects are being implemented in the six City Corporations of Thiruvananthapuram, Kollam, Kochi, Thrissur, Kozhikode and Kannur, and the Municipalities of Alappuzha, Guruvayoor and Palakkad. Components under AMRUT include water supply and sewerage, septage, storm water drainage, urban transport, green spaces and parks and capacity building.

Physical Achievements under AMRUT:

1. Out of the total 1,000 projects, 808 have been completed and 177 are in progress.
2. AMRUT projects in water supply have been planned to ensure that every household has access to a tap with assured supply of water. As such, 172 projects were approved for a total outlay of Rs 1,046.93 crore, of which 134 projects have been completed and the expenditure incurred was Rs 873.85 crore.
3. Sewerage and septage management has been planned to ensure that every household has access to a sewerage connection. Under this, 138 projects were approved for a total outlay of Rs 425.03 crore. Of this, 90 projects have been completed and the expenditure incurred was Rs 114.50 crore.



4. AMRUT projects in the storm water drainage sector aim to eliminate flooding in cities by the construction and improvement of drains and storm water drains. As such, 495 projects have been approved for a total outlay of Rs 334.10 crore, of which 449 projects have been completed, incurring an expenditure of Rs 251.95 crore
5. AMRUT projects in the urban transport sector have been planned to reduce pollution by switching to public transport or constructing facilities for non-motorised transport such as walking and cycling. As such, 121 projects were awarded for a total outlay of Rs 179.47 crore. Of these, 83 projects have been completed and the expenditure incurred was Rs 93.76 crore.
6. AMRUT projects in the green space and parks sector have been planned to increase the amenity value of cities by developing greenery and well-maintained open spaces. As such, 72 projects are awarded for a total outlay of Rs 43.49 crore. Of these, 52 projects have been completed, incurring an expenditure of Rs 30.04 crore.
7. As part of capacity building, training has been given to 2,253 elected representatives. To strengthen the engineering wings of urban local bodies (ULBs), 42 engineers have been appointed on contract basis.
8. Reforms under AMRUT will lead to improvement in service delivery, mobilisation of resources and making municipal functioning more transparent and the functionaries more accountable. Kerala has received reforms incentives continuously for the last four years and bagged the seventh rank at the national-level. So far, the State has received Rs 59.82 crore as reform incentives.

*Smart Cities Mission.* The Smart Cities Mission aims to drive economic growth and improve the quality of life of people by enabling local area development and harnessing technologies, especially technologies that lead to smart outcomes. Kochi and Thiruvananthapuram are selected to be smart cities. Cochin Smart Mission Limited (CSML) is the SPV set up for implementing smart city projects in Kochi with a total estimated project cost of Rs 2,076.00 crore. Smart City Kochi includes five wards of west Kochi and parts of three wards of mainland of Kochi Municipal Corporation. Smart City Kochi envisages 46 projects, of which, 14 projects have been completed and 22 are under implementation. The completed projects include construction of modern grade walkways on Hospital Road, grid-connected solar roof-top systems in Government buildings, establishment of an integrated command, control and communication centre, an integrated traffic management system, e-health solutions at the General Hospital, and so on.

Smart city Thiruvananthapuram Ltd. (SCTL) is the SPV set up for implementing the Smart City Mission with a total project outlay of Rs 1,538.00 crore. The Thiruvananthapuram Smart City Project includes nine city wards. SCTL envisages 51 projects, of which 25 have been completed including nine convergence projects, while 25 projects are progressing. The major projects include construction of multi-level car parking at Palayam and Thampanoor, rain water harvesting, development of an integrated command and control centre, an integrated social housing complex project at Rajaji Nagar, and so on. The completed projects included procurement of 15 electric autos, 15 electric rickshaws and smart EV chargers, and the upgradation of anganwadis at three locations.

*Scheme of preparation of Master Plans and detailed Town Plans.* As part of the scheme, 18 Master Plans including for the Kozhikode urban area, Kayamkulam, Vatakara, Kasaragod, Kottayam, North Paravur, Thrissur, Pala, Thalassery, Alappuzha, Aluva, Perumbavoor, Perinthalmanna, Mattannur, Karunagapally, Nilambur, Ponnani and Koyilandy have been sanctioned by Government.

Master Plans including for Thiruvalla, Thodupuzha, Neyyattinkara, Punalur, Kodungallur, Chavakkad, Sulthan Bathery, Chittur-Thathamangalam, Pandalam, Koothuparamba, Chalakudy, Chengannur,

Ottappalam, Erattupetta, Mananthavaady, Vadakkancherry and Koothattukulam have been published by the respective LSGs. Of these, the master plans of Chengannur and Mananthavaady towns were attempted as a risk-informed Master Plans on a pilot basis.

*Preparation of Integrated District Development Plans and Local Development Plans.* The scheme was initiated with the objective of preparing development plans at two levels with a holistic approach to decentralised planning, namely, Integrated District Development Plans (IDDP) for the district as a whole to deal with district-level development issues, and Local Development Plans (LDPs) at the local-level to deal with local-level development issues.

Draft LDPs were prepared for Adat, Malampuzha, Mankara, Munroethuruthu and Elampalloor Panchayats. Preparation of LDPs for Kattur, Mulamkunnathukavu, Alathoor, Vadakkancherry, Chadayamangalam and Mayyanad Panchayats is under way. The draft IDDP for Kozhikode District was prepared and the preparation of the IDDP for Kannur District is under way.

*Employment generation and livelihood support.* Government of Kerala has been implementing the Ayyankali Urban Employment Guarantee Scheme since 2010 to address unemployment and under-employment in urban society. Since 2016-17, the scheme has made remarkable progress. The job demand from workers has been increasing rapidly. Three lakh families have registered under the scheme. Details of the financial and physical achievements under the scheme are given below.

Table 22.2 Budget allocation to Ayyankali Urban Employment Guarantee Scheme, expenditure as share of allocation, and total employment generated in 13th Five-Year Plan, Kerala, in Rs lakh, per cent and person days

Year	Allotment in the State Budget (Rs Lakh)	Allotment given to the ULBs (Rs lakh)	Expenditure as share of total allocation (per cent)	Employment generated (person days)
2017-18	2,510	2,510	100	8,46,432
2018-19	4,892	4,890	99.96	16,68,195
2019-20	7,500	3,422	45.63	26,80,660
2020-21	10,521	10,515	99.94	32,53,802
2021-22	10,000	9,997	99.97	46,33,552

Source: Urban Affairs Department

It is to be noted that PMAY-LIFE and AUEGS have been converged to ensure a steady supply of jobs. In 2019, dairy farming also was introduced under the scheme. Those farmers who have more than two animals can be given 100 days of employment through the scheme. Around 6,000 dairy farmers are availing financial support under the scheme.

The Deendayal Antyodaya Yojana-National Urban Livelihood Mission (DAY-NULM) aims to reduce the poverty and vulnerability of the urban poor. The scheme is being implemented in all the urban Local Governments in the State. Under the component, 'employment through skill training and placement', 21,546 candidates have been enrolled, of which 17,091 were issued certificates and 11,146 got placement. Skill training is imparted to the unemployed urban poor youth in 74 trades across different sectors, namely, cyber security, accounting, health care, plastic technology, electronics, electrical, Ayurveda nursing, hospitality, telecom, food processing and so on. Under the self-employment programme of DAY-NULM, 4,481 individual micro-enterprises and 949 group enterprises were established. Under the 'social mobilisation and institution development' component of DAY-NULM, opportunities are given to set up neighbourhood groups. Through this, 12,932 new NHGs have been formed and 16,394 NHGs and 1,036 Area Development Societies (ADSs) were supported with a revolving fund. Under the 'shelter to the urban

homeless' component, 3,195 homeless persons have identified, and in the 'Support to urban street vendors component' programme, 25,834 street vendors were identified and identity cards issued to 17,819 of them.

Kerala has been one of the three best-performing States in implementing DAY-NULM for the past four consecutive years according to the Systematic Progressive Analytical Real Time Ranking (SPARK) system. In 2020-21, the State was ranked first. Based on this, Kerala received the National Award for being the best performing State for four years in a row and received a financial assistance of Rs 65.94 crore over and above the normal allocation.

**Sanitation and Waste Management.** Proper sanitation and waste management facilities are prerequisites for improving the living standards of the people. Suchitwa Keralam waste management scheme for urban areas, aims at implementing solid waste management projects in urban Local Governments so as to address waste management problems in urban areas. Major physical achievements in this sector during the 13th Five-Year Plan are:

1. At the household-level, a total of 99,409 biogas plants and 8.65 lakh composting units were installed. At the community-level, 113 biogas plants and 2,196 composting units were set up. A total of 2,568 biogas plants were set up at the institutional-level.
2. A total of 1.75 lakh individual household toilets were constructed in rural areas and 29,578 IHHLs were constructed in urban areas. During this period, 13 sewage treatment plants, four faecal sludge treatment plants and four effluent treatment plants were set up
3. Haritha Karma Sena has been established in 1,034 LSGs. A total of 1,036 MCFs and 183 RRFs were also set up during this period.
4. A total of 453 'Take a Break' toilet complexes were made functional. Work on 656 such complexes is progressing.
5. Pre-monsoon cleaning activities at the ward-level were undertaken every financial year in all Local Governments.

#### **14th Five-Year Plan**

The 14th Five-Year Plan envisages the establishment of state-of-the-art, eco-friendly urban amenities for the people with focus on social and livelihood security. The following specific interventions are proposed to be implemented during the 14th Five-Year Plan.

1. Urban planning and urban development need to be environmentally sensitive, but at the same time it should be able to provide housing, employment opportunities, supporting utilities and quality services to the people.
2. Rapid urbanisation demands concerted efforts by Local Governments to integrate various Centrally sponsored programmes and externally aided projects with local-level plans to improve infrastructure, civic amenities and citizen services. It also requires that Local Governments have a clear conceptual approach to dealing with problems of urbanisation in the context of Kerala's unique rural-urban continuum. Local Governments must learn modern techniques and methods of spatial planning. The Plan will support all efforts by the Government of Kerala and Local Governments in these spheres.
3. Urban financial management is the key to the success of the ULBs in handling asset management and development functions. This may be given emphasis during the 14th Five-Year Plan period.
4. The task of drafting master plans for urban development is a serious issue and will be taken up. Since in Kerala the difference or border lines between rural areas and urban areas is not as sharp as in other States, master plans will also have to consider issues of harmonious urban and rural development.

5. The Plan proposes to ensure inclusive development by exploring the options of Corporate Social Responsibility (CSR) programmes in large-scale private development projects by ULBs as a means to tackle urban poverty and make essential services, facilities and utilities gender-friendly and accessible for all including the poor, disadvantaged, and differently abled as well as for old and young lives.
6. The problems of solid and liquid waste management in Kerala are of utmost urgency, and have repercussions for many aspects of social and economic life, including, for example, health, environment and tourism. Local Governments, urban and rural, have an enormous task before them in this regard.
7. Multiple institutions are tasked with sewerage and septage management. ULBs (with adequate qualified human power) should coordinate between organisations/partners/stakeholders for planning and implementing such action programmes.
8. Strengthening the implementation and enforcement mechanism in the ULBs – establishment of Environmental Engineering Divisions, at least in the Municipal City Corporations and the major Municipalities as solid waste management, sewerage, storm water drainage and so on (greening, reduction of carbon and other greenhouse gas emissions, and combating climate change) are technical subjects that require to be handled by technically qualified personnel.
9. IEC in waste management to be implemented on a larger scale and good practices such as Green Protocol and Green Offices to be promoted for reduction in the generation of waste. Linking educational institutions to provide technical expertise at local bodies. State-level ranking of local bodies based on performance indicators in solid waste management to be implemented.
10. Kerala pioneered urban employment guarantee programmes in the country (Ayyankali Urban Employment Guarantee Scheme) and will further strengthen this programme in the 14th Five-Year Plan period.
11. ULBs should prepare Service-level Benchmarking (SLB) reports and prepare Rapid Baseline Assessment (RBA) to identify the priority sectors as part of Five-Year Plans.

#### **14th Five-Year Plan objectives**

Under the Ayyankali Urban Employment Guarantee Scheme, it is targeted to create 3.04 crore person-days during the 14th Five-Year Plan. The details are in the Table 22.3.

Table 22.3 *Employment generation target envisaged under Ayyankali Urban Employment Guarantee Scheme in the 14th Five-Year Plan, Kerala, in person days*

Year	Employment generation target
2022-23	49,34,000
2023-24	52,71,000
2024-25	59,64,000
2025-26	64,78,000
2026-27	77,89,000
<b>Total</b>	<b>3,04,36,000</b>

Source: Urban Affairs Department

As an extension of AMRUT, AMRUT 2.0 has been launched with the aim to reduce water scarcity and thereby sustainably increase the consumption of clean water and augment water distribution in all urban local bodies. Also, the mission aims to complete sewerage/septage management in AMRUT cities (six Corporations, and Alappuzha, Guruvayoor, Palakkad Municipalities). The project period of AMRUT-2.0 is five years, from the financial year 2021-22 to 2025-26. Projects under AMRUT 2.0 include household water tap connection, sewerage/septage management in AMRUT cities, rejuvenation of water bodies and construction of green spaces.

Under Pradhan Mantri Awas Yojana-Urban, it is proposed to initiate the ground work of 27,000 houses, completion of 50,000 houses and sanction for 20,000 new dwelling units which will be completed by 2024. As part of the scheme 'Preparing master plans and detailed town plans', it is targeted to complete the technical preparation of master plans for all urban local bodies that were taken up in this scheme. Also, guidance will be given to the LSGs concerned to get the draft master plans published and sanctioned. Detailed road alignment plans will be prepared for select roads identified in master plans.

During the 14th Five-Year Plan, Suchitwa Mission aims to set up sustainable waste management systems in all urban and rural local bodies. New initiatives planned under the Suchitwa Keralam scheme during the 14th Five-Year Plan are:

1. It is proposed to set up sewerage treatment plants in 70 hospitals across the State.
2. Baby friendly toilets to be set up in 500 anganwadis and girl-friendly toilets with focus on menstrual hygiene to be set up in 100 high schools.
3. With the objective of promoting recycling and upcycling parks, it is proposed to provide viability gap funding at the rate of Rs 50 lakh per plant to LSGs/private entrepreneurs.
4. Haritha Karma Sena units to be given an assistance of Rs 75,000 to set up units for collection and branding of compost. It is proposed to construct 100 such ventures.
5. Urban LSGs to be given Rs 50 lakh as assistance to set up animal crematoriums.
6. Under liquid waste management, it is planned that no untreated waste water shall be let out to any waterbody or land and that 20 per cent of the treated waste water will be reused. The Mission plans to achieve these objectives by setting up facilities for treating waste water in all the institutions vested with LSGs, and 100 per cent waste water treatment and disposal in a scientific way in urban and rural areas of the State.
7. Providing sewer network and sewage treatment plants catering to the core sanitation areas where a majority of the population resides.
8. For the fringe areas, where the population density is less than 1,500 per sq km, strengthening of onsite sanitation systems with the facility to treat faecal sludge.
9. For the intermediate areas, decentralised waste water treatment plants and interception of drains and diversion of drains shall be done.
10. Separate storm water drain network may be developed so as to avoid mixing of wastewater with storm water.

As part of the World Bank supported Kerala Solid Waste Management Project, comprehensive Solid Waste Management Plans will be prepared by every urban local body within one year with the technical support of professional consultants, emphasising on the three "Rs": 'Reduce', 'Reuse and 'Recycle'. Emphasis will be given to promoting source-level treatment of waste.

Urban planning and urban development need to be environmentally sensitive. At the same time, people have to be provided with housing, employment opportunities and supporting utilities. The policies and strategies for the next five years aim to tap the employment and economic opportunities of urban areas with actions to attain sustainable development.



## **Chapter 23**

### **Regional Packages in the Plan**

#### **KUTTANAD PACKAGE II**

A package for the comprehensive development of the Kuttanad region (Kuttanad Package II) was announced by the Chief Minister of Kerala on September 17, 2020. A holistic approach for the development of the Kuttanad region was necessary particularly after the floods of 2018 and 2019. “A Special Package for Post-Flood Kuttanad”, the base report for the second Kuttanad Package, prepared by State Planning Board, covered various developmental issues concerned with the well-being and livelihood of the people of Kuttanad. The package is intended to be implemented through assistance from State Plan, Rebuild Kerala Initiative and KIIFB.

Flood, sea surge, drought and landslips are common water-related disasters affecting Kerala. Water management of the Kuttanad region is a core area of concern. The primary focus would be the innovative as well as conventional approaches that need to be adopted for improved water management practices in the region, to enable Kuttanad to be flood-resilient. Better livelihood by means of agriculture and allied activities, provision for clean and safe drinking water, adequate sanitation and promotion of tourism potential are the main prospects envisioned in this package.

For the effective implementation of the package as envisaged, all the activities would be streamlined, for which multi-departmental integration is essential. During the 14th Five-Year Plan period, a mechanism will be evolved at the Government-level, involving multiple stakeholders, for planning, implementing, monitoring and evaluating the whole process.

#### **SABARIMALA MASTER PLAN**

##### **Overview**

The objective of the Sabarimala Master Plan is to meet the essential needs of Sabarimala pilgrims while protecting the fragile environment of the area where the temple is located. The Plan addressed all aspects related to Sabarimala pilgrimage including traffic and transport management, solid waste management, water and sanitation, development of base camps and pilgrim logistics, and so on in a wider regional context since the repercussions of the pilgrimage are spread beyond the immediate surroundings of the temple.

##### **Review of the 13th Five-Year Plan**

During the 13th Five-Year Plan period an amount of Rs 138.90 crore had been allotted for the implementation of schemes sanctioned under the Sabarimala Master Plan and 44 per cent of the allocated expenditure was incurred. The major projects completed during the period were construction of queue complexes, from Marakkootam to Saramkutty, sewage treatment plant (STP) of 5 MLD capacity at the Sannidhanam, construction of a water supply system that could handle 60 lakh litres, Annadanamandapam of high capacity at the Sannidhanam to distribute food to 5,000 pilgrims at a time, sewage holding tank of 10 lakh litres capacity at Pamba, and so on. Considering the need for the movement of pilgrims on a mass scale during any flood and emergency situations, an amount of Rs 29.9 crore was allotted in 2020-21 for the construction of rescue bridge from the Pamba Ganapathy temple to the ‘U’ turn near the hilltop. But the authorities have been waiting to get clearance from the Forest Department as well as from the Union Ministry of Environment and Forests and the Wildlife Department. The preparation of detailed project reports (DPRs)

for the projects, the development of the core area at Nilakkal and the laying of a drinking water pipeline from Kunnar to Sabarimala are under way.

**Table 23.1 13th Five-Year Plan outlay and expenditure, in Rs lakh**

Year	Outlay	Expenditure	Expenditure %
2017-18	2,500.00	2,500.00	100
2018-19	2,800.00	2,800.00	100
2019-20	2,800.00	0.00	0.00
2020-21	2,990.00	311.68	10.00
2021-22	2,800.00	500.00	17.85
<b>Total</b>	<b>13,890.00</b>	<b>6,111.68</b>	<b>44.00</b>

Source: District Collector, Kasaragod

#### **Thrust areas and key initiatives during the 14th Five-Year Plan**

The master plan approved by the Government of Kerala envisages the phased and planned development of Sabarimala and its feeder towns in short, medium and long-term perspectives. It focusses on the development of hubs and feeder points in a scientific manner. During the 14th Five-Year period, thrust will be given to enhancing the facilities at three locations, of Pamba, Nilakkal and Sabarimala. Priority will be given to the construction of a rescue bridge subject to necessary forest and environment clearance. Effective crowd management, construction of an emergency exit, improved solid waste management systems, recycling and purification of water, ensuring better road connectivity and a drainage system, food waste to cattle feed plant, construction of good quality comfort stations, uninterrupted street light facility, fire-fighting facility, enhancement of accommodation facilities and so on are the key initiatives suggested during the 14th Five-Year Plan period.

#### **KASARAGOD DEVELOPMENT PACKAGE**

The Dr. P. Prabhakaran Commission was appointed by the Government of Kerala to prepare an integrated developmental Plan for Kasaragod District. The Commission identified various backward sectors and areas and put forth a package for the comprehensive development of the district. The package envisages a total outlay of Rs 11,123.07 crore covering various sectors, of which Rs 2,524.56 crore is proposed as the share of the Government of Kerala, Rs 756.19 crore as the share of the Government of India, Rs 543 crore as the share of external agencies, Rs 7,264.16 crore as the share of Central public sector undertakings, and Rs 35.16 crore as share from other sources. The projects mentioned in the Kasaragod Development Package commenced in 2013-14. An amount of Rs 70,195 lakh was allocated in the State Budget for the implementation of the Kasaragod Development Package up to 2021-22. From 2013-14 to March 2022, a total of 545 projects with an outlay of Rs 76,125.18 lakh were sanctioned under the package, of which 340 projects have been completed and 205 are in various stages of completion.

**Table 23.2 Physical and financial progress of Kasaragod development package, in Rs lakh**

Financial Year	Budgeted Outlay	Administrative Sanction Amount	Projects Sanctioned	Projects Completed	Ongoing Projects
2013-14	2,500.00	2,790.67	28	28	0
2014-15	7,500.00	9,332.94	24	23	1
2015-16	8,500.00	9,751.49	76	74	2
2016-17	8,798.00	14,299.84	81	75	6
2017-18	9,000.00	7,629.72	62	53	9
2018-19	9,500.00	7,882.22	82	50	32
2019-20	9,065.00	9,048.73	55	24	31
2020-21	7,500.00	7,500.00	74	12	62
2021-22	7,832.00	7,889.57	63	1	62
<b>Total</b>	<b>70,195.00</b>	<b>76,125.18</b>	<b>545</b>	<b>340</b>	<b>205</b>



Source: District Collector, Kasaragod

The major projects undertaken in the agriculture and allied sectors are irrigation and water conservation to ensure the availability of water in the summer season and for agricultural activities. In the educational sector, infrastructure development of schools and colleges were given prime importance, and in the health sector, projects such as the construction of the Kasaragod Medical College and related infrastructure development, upgradation of PHCs and CHCs to Aardram standards, sewage treatment plants in hospitals and laboratory upgradation were given priority.

The key initiatives of the 14th Five-Year Plan includes ensuring the development of the district by giving special focus on the productive sectors as well as the health sector. The thrust will be on providing amenities to facilitate the development of the area.

#### **IDUKKI DEVELOPMENT PACKAGE**

The Idukki Development Package (IDP) has been announced with the objective of comprehensive development of the district by integrating the development projects of Local Governments, State Government departments, the Central Government and other stakeholders. The objective of the package is to enhance agricultural income through production enhancement, value-added processing industries and tourism development. This also aims to improve physical and social infrastructure, to eradicate poverty and to restore ecological balance. While focussing on the development needs of the district, the resources required for the package are proposed to be met from various sources and through the convergence of department schemes, Local Government schemes and other schemes proposed at the district-level. A major focus on the plantation sector and the promotion of agro-based industrial centres are also envisaged in the package.

#### **WAYANAD DEVELOPMENT PACKAGE**

The Wayanad Development Package (WDP) is an all-inclusive package for the sustainable development of Wayanad District. The package aims for the development of various sectors such as agriculture including coffee, food processing, public infrastructure works, development of Scheduled Castes and Scheduled Tribes, and significant improvements in the tourism, forest, education and health sectors. The development programme primarily addresses crop development, tourism promotion, poverty alleviation and the development of infrastructure while focussing on environmentfriendly development. The thrust on the agriculture front will be on the rejuvenation and development of pepper, tea and coffee, which are major crops, branding of Wayanad coffee and the online marketing of agricultural produce under the 'Wayanad Organic brand'. The existing scheme of 'revitalisation of agriculture sector in Wayanad' for integrated pepper and coffee development, implemented by the Department of Agriculture Development and Farmers' Welfare, is merged with the Wayanad Development Package. The restoration and flood mitigation programme in Wayanad District implemented by the Department of Soil Survey and Soil Conservation is also merged with the Wayanad Development Package.



## Chapter 24

### Gender Budgeting

#### Review of Gender Responsive Budgeting

Gender Budget is not a separate Budget for women but a methodology to assist Governments to integrate a gender perspective into the budget. It breaks down the usual Budget through a well-established methodology, across schemes and programmes, to make women visible in each sector, recognising their contributions and emphasising the need to consider their needs and interests in the overall development policy. The consolidated attempts to undertake the gender budgeting exercise was initiated with the decentralised Planning during the 9th Five-Year Plan, mandating Local Self Government Institutions to set apart 10 per cent of the devolved Plan funds for women-specific Plans. At State-level programmes, it was announced in the Budget Speech of the 11th Five-Year Plan that a “multi-pronged strategy to address the dowry menace” would be pursued.

By then, the Government had made a commitment to ‘mainstreaming gender’ through Gender Responsive Budgeting (GRB) as an integral part of the Planning process at the State-level. The generation of annual GRB Statements in Kerala along with general Budget documents happened only since 2017-18 and succeeded in garnering to increase the share of resources for women under both its parts, namely-Part A and Part-B. Thus, the allotment for women as specified in GRB Statements, which was recommended as a minimum of 10 per cent of the total State Plan outlay, was in reality 11.4 per cent in the first Budget of 2017-18. And the figures has steadily risen in the subsequent Budgets: 14.6 per cent in 2018-19, 16.8 per cent in 2019-20, 18.4 per cent in 2020-21, 19.54 per cent in the 2021-22 and 20.20 in the 2022-23 January Budget, of which 7.26 per cent was from Part A and 13.64 per cent from Part B (Government of Kerala, GB Statements, various years). GRB in Kerala is also held up as a model for other States given its widened scope of reporting resources for women by removing the 30 per cent floor-level followed at the national-level for estimating composite expenditure of schemes reported in Part B (CBGA 2021). Another unique feature is the provision made for transgenders in Kerala’s GBS, and an attempt at an inclusive approach to gender *vis-a-vis* that in other States which mostly follow the narrow binary concept.

#### Perspective of Gender Responsive Budgeting for 14th Five-Year Plan

Expanding the scope of Gender Responsive Budget (GRB) and evolving a gender audit framework are important tasks during the 14th Plan period. This includes:

1. Explore classification of schemes across different categories of beneficiaries, particularly vulnerable groups, which will inform the budgetary outlays being made, serve to pinpoint their needs, and encourage bigger resource allocation and inclusion.
2. Motivate departments to devise more inclusive schemes and make gender perspective a mandatory component for every activity/programme in Detailed Project Reports and insist on adding a justifying note for excluding the same.
3. Capacity building is necessary to strengthen Gender Budgeting in various departments to ensure a systematic process of engendering their policies, programmes and schemes. Orientation modules need to be developed on the concept of gender mainstreaming, reporting sex disaggregated data and gender auditing. This should be supplemented by orientation-cum-training programmes for all officials.
4. Need for higher public investment in activities that reduce women’s burden of household and care work and provide an enabling environment for women to work from home and away from home –

child/elderly/disabled/care, common kitchens, safe transportation and safe stay while travelling and so on.

5. Identify a few schemes, departments, institutions or places to pilot detailed Gender Audits covering comprehensive categories of indicators. The pilot audit subjects may be identified based on the criteria of materiality, outlay, availability of easily measurable data, processes to collect them, and so on. Subsequently, stakeholder workshops may be conducted including key officials, gender experts and other stakeholders to work out the methodology and relevant indicators based on objectives specific to each audit subject.
6. Output, outcome indicators by gender may be requested to be identified for the remaining schemes from all departments, institutions and so on, so that they can embark on a performance audit pathway which can subsequently be widened in scope to include a more comprehensive gender-responsive audit process.
7. A gender audit observatory could be started on the web pages of the respective departments so that relevant documents related to audits of institutions/organisations, programmes/schemes can all be uploaded for easy reference by all.
8. Strengthening the gender component of the Decentralisation Process and widening gender-sensitive Planning in Local Governments by progressing to GRB at the grassroots-level
9. Revamp and strengthen the Women Component Plan, which earmarks 10 per cent of the Plan funds mandatorily for development projects that directly benefit women, to augment effective implementation and sustainability, and enhance employability and local economic growth.
10. The criticality of gender disaggregated statistics, developing gender responsive monitoring tools and extending GRB to local bodies.
11. Lack of easy access to gender disaggregated data is a major weakness at present that limits the ability to implement the GB methodology. This hampers even the technical objective of estimating the flow of budgetary resources to women.
12. The format of the GRB Statement in Kerala as of now includes only outlays for different schemes and does not include any information on targeted achievements or outcomes
13. Demand for grants in GRB is not uniform across various departments or projects. While some departments have made significant progress in gendering projects, many others lag behind – such as Science, Technology and Environment, Scientific Services and Research, IT Mission, Transport, Tourism (Ashraf 2020).
14. Categorisation of schemes under GRB Statements, it has been pointed out, largely reflect the conceptualisation of women as beneficiaries of welfare schemes. Indeed, the recent review of the Gender Budgeting exercise (Ashraf *ibid*), which adopts a five-fold classification of all expenditures on women – Women’s Livelihoods; Welfare of Women in Difficult Circumstances; Women’s Health; Women’s Nutrition; and Women’s Education – finds that if we consider Part A alone then the Livelihood vertical is the largest and fastest-growing but if Part B is added then it is Welfare of women in difficult circumstances. This indicates that the dominance of schemes like MGNREGA, Kudumbasree, self-employment schemes of the KSWDC, income support to traditional sector workers in coir, handloom, khadi, Saranya, a self-employment scheme for vulnerable women including widows, separated/single/unmarried women, registered in employment exchanges, in the Labour Department, props up Livelihoods in Part A. However, though women have been included in composite schemes in Agriculture and allied activities and “modern” sectors like IT and ITES and in Industry and Services, their share in employment generation is still small but growing.
15. A majority of the schemes included in GB in Kerala seek to address the practical gender needs of women rather than targeting strategic gender needs which are related to changing gender divisions of labour, power, and control.

16. So far, the primary fiscal tool used to pursue the objective of promoting gender equality and empowerment has been the expenditure component, and the revenue side has been completely neglected.
17. The capacity of officials for gender budgeting is rather limited at present. Many of them are not well-versed with the nuances of gender mainstreaming and the significance of reporting sex disaggregated data.
18. As of now, GRB focusses on the allocation of resources for implementation of programmes and schemes for women, and there is the absence of an institutionalised mechanism for review from a gender perspective. Absence of auditing and review defy the very objective of gender mainstreaming. In this context, a starting point would be developing a doable framework of gender auditing.



## Chapter 25

### Other Services

#### 25.1 GENERAL ECONOMIC SERVICES

##### Overview

The General Economic Services comprise schemes of the sub-sectors, namely, the Secretariat Economic Services, Economics and Statistics, Civil Supplies, Legal Metrology, the Public Works Department and so on. Under the Secretariat Economic Services, schemes of 30 departments are being implemented, which include Police, Treasury, Registration, Revenue, Survey and Land Records, Institute of Land and Disaster Management (ILDM), Programme Implementation, Evaluation and Monitoring Department (PIE & MD), Vigilance, Institute of Management in Government (IMG), Centre for Development Studies (CDS), Gulati Institute of Finance and Taxation (GIFT), State Legislature, Public Service Commission, Excise, Local Fund Audit, Prosecution, High Court of Kerala, Comprehensive Infrastructure Development of Varkala (VVID), State Planning Board, Law, Disaster Management, Kerala State Innovation Council (K-DISC), State GST Department, Finance G-SPARK, Nava Kerala Karmmapadhadhi, Directorate of Samoohika Sannadhasena, Kerala, Youth Leadership Academy (KYLA), Rebuild Kerala Initiative (RKI), Kerala Administrative Tribunal and Vigilance e-Court.

The schemes under these departments mainly focus on service delivery to people by being more responsive to their needs and being dynamic to the development process through modernisation, computerisation, skill development activities and so on. The schemes include software development, digitalisation of land records, strengthening the public distribution system, providing e-governance facilities, cyber security, modernisation of the police force, taking an integrated approach for disaster management, capacity building, training and awareness programmes, surveys and studies, and infrastructure development.

##### 13th Five-Year Plan

In the 13th Five-Year Plan period (2017-22), the budgeted outlay of the sector (excluding Disaster Management and Civil Supplies) was Rs 12,700.14 crore. Of this, Rs 6,623.61 crore was earmarked exclusively for the implementation of the Major Infrastructure Projects (MIP). The expenditure of the sector during the period was Rs 2,228.10 crore (excluding expenditure of MIP). The expenditure on MIP schemes were included under the sectors concerned. The sub-sector-wise budgeted outlay and expenditure are respectively Rs 12,638.76 crore and Rs 2,186.35 crore for the Secretariat Economic Services, Rs 12.68 crore and Rs 9.24 crore for Economics and Statistics, and Rs 48.70 crore and Rs 32.50 crore for Other General Economic Services. (The details of Disaster Management and Civil Supplies are included under Chapter 7.2 and Chapter 16 respectively. Sub-sector-wise and Department-wise details of outlay and expenditure during the 13th Five-Year Plan are given in Table 25.1 and Table 25.2.)

##### 14th Five-Year Plan

In the 14th Five-Year Plan period, the departments under the sector aims at better service delivery to the public by establishing full-fledged e governance systems, improved infrastructure development and modernisation activities, fostering innovations and skills for the Knowledge Economy, providing employment opportunities, capacity development programmes, training and awareness programmes. All the public services will be made available to the public in digital mode through e-sevanam and m-sevanam.

The department-wise initiatives proposed in the 14th Five-Year Plan are as follows.

## **POLICE DEPARTMENT**

### **Overview**

Kerala Police is the law enforcement agency for public safety and the maintenance of law and order. Kerala Police has emerged as one of the best police forces in the country in terms of management of police administration, maintenance of law and order and social policing schemes.

13th Five-Year Plan

During the 13th Five-Year Plan, an amount of Rs 766.85 crore was provided for various Plan schemes and of this Rs 620.39 crore was expended (year-wise outlay and expenditure shown in the Table 25.2).

Key Achievements in the 13th Plan

1. **Construction.** New buildings were built for 36 police stations, seven control rooms, 11 training centres, five smart classrooms at the Special Operation Group (SOG) headquarters, district police offices in Thrissur city, Malappuram, Kannur city and Alappuzha. District police offices at Thrissur rural and Kollam rural are in the final stages of construction. Central interrogation and custodial facility centre in Thrissur city, smart classrooms at the Counter – Terrorism and Counter – Insurgency School at Pandikkad, Malappuram, GRP Command and Control Centre at Thampanoor, and women's barracks at SOG Areekode have been built. Also constructed are 479 disabled friendly police stations, the State Special Branch range office at Ernakulam, Kochi City Police complex, the Crime Branch complex at Thiruvananthapuram, and so on.
2. **Community Policing.** Training conducted for newly inducted beat officers and refresher training done for existing 766 JMSP beat officers. Constructed Community Police Directorate and Janamaithri Directorate, implemented HOPE to provide psycho-social support to children who are school dropouts or who belong to flood-affected areas. School Protection Group, Chiri Help Desk, and a Police Blood Bank to give a centralised and formal nature to blood donation, are functioning.
3. **Constructed Student Police Cadet Directorate building.** During the 13th Plan, the SPC Project was expanded to 364 more schools and now it is being implemented in 1,000 Schools. All of 2,11,575 senior cadets passed out successfully.
4. 1,051 vehicles of various types purchased.
5. Special mobile squads set up to investigate cases registered under Acts relating to SCs and STs
6. Purchased vehicle-mounted GPS trackers and body – cameras
7. Digitalisation of the Crime Branch headquarters and various offices. Purchased advanced investigation kits and call detail record (analysis) system
8. Defined Wide Area Network (SD-WAN) started.
9. Technology upgradation of cybercrime investigation
10. Improved traffic management and reduction in accidents through traffic enforcement equipment purchases. Traffic training school and research centre set up at the Kerala Police Academy Phase II.
11. Modernisation and logistics for Biology Serology Divisions, Food Safety Laboratory, Thiruvananthapuram and RFSL, Thrissur. Setting up of cyber forensic work station at RFSL
12. Automatic Number Plate Recognition cameras installed in Ernakulam rural, Kottayam and Kollam city
13. Constructed ramps and disabled friendly toilets in police stations and higher offices.
14. Gender awareness and gender infrastructure facilities scheme for women's safety and security. Thirty light motor vehicles purchased for Pink Control Room and 165 police stations made women and child



friendly by introducing structural, procedural and attitudinal changes with community connection and coordination.

15. Established Police Drone Forensic Lab and Research Centre in Thiruvananthapuram. Drone technology is used for rescue operations during disasters, for agricultural needs and survey operations
16. Set up call centres to lodge complaints on online financial fraud. Victims of online cyber fraud can call toll free number 155260.
17. Opened 15 cyber crime police stations.
18. Started Crime and Criminal Tracking Network and Systems Training Centre and a high-tech Laboratory, Insight
19. Cyber Security Centre (Cyberdome) activated at Thiruvananthapuram. CCTV Surveillance System installed in Malappuram and Thiruvananthapuram rural.
20. Launched Pink Protection Project to tackle dowry-related atrocities, cyber-bullying and harassment of women in public places. Pink Romeo patrolling by a female officer, started.

#### **14th Five-Year Plan**

##### **Objective**

The main objective of the department during the 14th Five-Year Plan is leveraging technology for better policing, harnessing the power of futuristic technologies like Artificial Intelligence, facilitating community partnerships, ensuring inclusive policing, and creating infrastructure for effective public service delivery.

##### **Key initiatives proposed in the 14th Plan**

Upgradation of all police stations to smart standards, construction of four District Training Centres, five District Control Rooms and five District Police Offices, procurement of sophisticated equipment, community mediation centres in police stations, implementation of SPC in all Government and aided schools, procurement of furniture and equipment for police stations, police stations as mini control rooms, logistics and other equipment for 15 cyber police stations, strengthening communication systems, procurement of computers and peripherals, ramps and disabled-friendly toilets in police stations, strengthening the control rooms, procurement of vehicles including electric vehicles, setting up of a traffic signal maintenance and monitoring centre with necessary equipment, AI-based mobile application for police officials, Drone Forensic Lab and anti-drone system have been planned. Setting up of a Cyberdome-Cyber Security Centre at Thiruvananthapuram, and an Economic Offences Wing is on the cards.

##### **New initiatives already started in 2022-23**

1. In order to tackle crimes involving cheating, misappropriation, criminal breach of trust, drug trafficking, fraud, forgery, counterfeiting and so on, an Economic Offences Wing, a specialised investigation agency, is envisaged. Professionally trained investigators are necessary to deal with cases involving complicated financial transaction.
2. Cyber Security Centre (Cyberdome) in Thiruvananthapuram.

#### **TREASURY DEPARTMENT**

##### **Overview**

The Treasury Department plays an important role in the financial management of the State Government. It has three Regional Deputy Directorates, 23 District Treasuries, 200 Sub-Treasuries including seven Pension Payment Sub-Treasuries, and 12 Stamp Depots. The vision of the department is to set international standards in terms of security while transactions become faster and transparent under the Integrated Financial

Management System. The Department is aiming to change the present system to a paperless regime, introduce automatic teller machine facility and conduct a social audit system.

#### 13th Five-Year Plan

During the 13th Five-Year Plan, Rs 105.48 crore was provided as Plan assistance to the Treasury Department, and of this Rs 89.61 crore was expended (year-wise outlay and expenditure shown in Table 25.2).

#### 13th Five-Year Plan

##### Key achievements in the 13th Plan

A high-capacity central server has been installed at the State Data Centre II to maximise the online service potential of treasuries. Construction of new buildings for 13 sub-treasury offices has been completed and the construction of the treasury headquarters building is in the final stage, while administrative sanction has been accorded for the construction of 33 treasury buildings, of which 18 are in progress. Treasuries numbering 16 have been identified to be renovated as model treasuries. Land has been obtained for the construction of 15 treasuries. ISO 27001 certification, new passbook printers, currency counting machines with fake note detector in 1,000 treasuries, implementation of e-office system, provision of more online services such as applying for cheque books, opening new savings bank accounts, depositing money and renewing fixed deposits, submitting digital life certificates, and installation of CCTV surveillance, are key achievements. User Management and Authentication System (UMAS) has been introduced to enable employees to access the computer system of the department and work online, which ensures complete security of treasury transactions in the Integrated Financial Management System (IFMS) e-Treasury system, Core banking services for the treasury savings bank, integration with the Gem portal, digitalisation of pension books, and the introduction of a pensioners' portal have been achieved. Biometric attendance management system has been implemented in 23 District Treasuries, three Regional Offices and in the Directorate. Now, 21 departments and 10 banks are directly integrated with the e-Treasury system, and 53 banks have been merged through the Federal Bank gateway.

#### 14th Five-Year Plan

##### Objective

The department aims to attain international standards in terms of security as transactions become more expeditious and transparent under the IFMS. With the support of the latest technology, the service delivery system is being streamlined and steps are being taken to ensure that transactions are fully integrated with the high-quality cyber security system.

##### Key Initiatives proposed in the 14th Plan

To attain optimal efficiency of IFMS inclusion, the following components are proposed – revamping of WAN, replacement of old computer systems and other IT equipment for efficiency and successful treasury operations; currency sorting-cum-counting machines to minimise risks while handling cash, especially in counting, sorting and bundling; installation of fire extinguishers in all treasuries; equipping all treasuries with generators; installing video conferencing facilities; under the treasury infrastructure development programme, construction of buildings for all treasuries functioning in rented buildings, and replacement of old and dilapidated own buildings with new buildings and modern facilities; renovation and infrastructure upgradation in all offices, and imparting high quality training programmes to employees.

## **REGISTRATION DEPARTMENT**

### **Overview**

The Registration Department is mandated with the responsibility of registration of documents under different registration laws, specifically with registration of documents related to land transactions, death, marriage, societies, companies, partnership, power of attorney, and issue of encumbrance certificates. The department collects revenue from stamp duties and registration fees, which form the State's second largest source of own tax revenue. The important purpose of registration laws is to prove the uniqueness of documents, give publicity to transactions, prevent tampering, ensure that a given property has not been transferred already, and provide security of rights in case of loss or destruction of original documents.

### **13th Five-Year Plan**

During the 13th Five-Year Plan, an amount of Rs 9,542.00 lakh was provided as Plan assistance to the department, and of this Rs 6,334.59 lakh was expended (year-wise outlay and expenditure shown in Table 25.2). The amount was utilised for improved infrastructure facilities and preservation and digitalisation of old deeds.

### **Key achievements in the 13th Plan**

The major achievements during the 13th Plan period are the grant of permission to draft property deeds by the buyer or the seller for registration, e-payment/e-PoS facility for all transactions at Sub-Registry offices, e-Stamping for property registration with stamp duty of Rs 1 lakh and above, online mutation facility for all property transactions, online system for NRI chit registration in collaboration with KSFE, digital mortgage deeds (Gehan) for loans from cooperative banks, template-based registration facilitated in the property registration system, preservation and scanning of old registered deeds in all Sub-Registry offices, facility for anywhere-registration of documents within a district, and modernising record rooms in 56 Sub-Registry offices.

### **Critical gaps/issues**

The major gap identified by the department is the turnaround time for delivering core services. In order to overcome this gap, electronic devices for the biometric identification of parties to a transaction is introduced, and the digitalisation process has started.

### **14th Five-Year Plan**

#### **Key initiatives proposed in the 14th Plan**

Introducing electronic devices for the biometric identification of parties to a transaction, digitalisation project to provide digital certified copies as part of improving service delivery, simplification of registration procedures, and implementing the e-office system in all the offices. As part of strengthening the core IT infrastructure, it is proposed to introduce suitable disaster recovery systems to ensure business continuity.

## **LAND REVENUE DEPARTMENT**

### **Overview**

The Land Revenue Department is one of the oldest Government departments in Kerala, which handles documents and records related to land. Kerala has 14 districts, 27 revenue divisions, 78 taluks and 1,545 villages (1,666 including group villages) and almost 300 special offices constituted under different laws. The

main functions of the department are the protection of public land and resources, collection of basic tax, plantation tax and building tax, effecting revenue recovery, issue of various certificates to members of the public, maintenance and updation of land records, and calamity relief operations.

### **13th Five-Year Plan**

The main vision of the department is to provide better services to citizens. In order to achieve this, the department is seeking to simplify procedures in the delivery of services and move to IT-enabled services, capacity-building and personnel management of staff, and better infrastructure.

In the 13th Five-Year Plan, an amount of Rs 32,563 lakh was provided as Plan assistance to the department and of this Rs 26,098.17 lakh was expended (year-wise outlay and expenditure shown in the Table 25.2).

### **Key achievements in the 13th Plan**

Construction of Smart Village Offices: completed 115 of them, 52 nearing completion, maintenance work completed in 310; modernisation of other revenue offices: completed 102, and work progressing in the case of 25. Websites for all village offices; ReLiS, a web application for online integration with the Registration and Survey departments for the effective management of land records, rolled out in all village offices, e-office implemented in all District Collectorate Revenue Divisional Offices; 61 Taluk Offices and 324 Village Offices; completed BTR/TPR digitisation in all Village Offices; e-payment implemented in all Village Offices, unique thandapper using Aadhar seeding for each land-holder; e-Pos integration with e-payment; relief portal for emergency assistance and house damage complaints Revenue mithram, the public grievance redress system, online services in building tax, field measurement book (FMB), thandapper extract and location sketch.

### **14th Five-Year Plan**

#### **Objective**

The Department focussed on the delivery of services to the public in a timely, effective and efficient manner. The focus areas of the Revenue Department are e-Governance and IT-enabled services, infrastructure and modernisation of the Department and capacity-building, development of ILDM as a Centre of Excellence.

#### **Key initiatives proposed in the 14th Plan**

1. Converting all Village Offices to Smart Village Offices in the next Five-Years.
2. **Computerisation and digitalisation for effecting better service delivery.** This includes scanning and digital preservation of land records, software development and application support, project implementation facilitation, infrastructure creation, land board, taluk land board, land tribunals, appellate authority; digitalisation of records and software development, Kerala Land Authority
3. **Infrastructure development and maintenance project.** To develop and maintain physical infrastructure including the construction of the Revenue Bhavan headquarters, construction of smart villages and acquisition of land, maintenance of revenue offices including basic facilities in village offices, modernisation of revenue offices and infrastructure, construction of field office-cum-residential facilities, construction of building for emergency operations centre (EOC), inspection bungalows at Pamba and Sannidhanam, District and taluk headquarters, ISO certification, punching systems and revenue awards, Kerala land records modernisation mission, modern records rooms in taluk offices.
4. **Disaster resilience and disaster management.** Establishment of taluk emergency operations centres and District emergency operations centres, establishment of smart control rooms, capacity-building for employees and NGOs, imprest funds to meet emergency needs.

## **SURVEY AND LAND RECORDS**

### **Overview**

Maintenance of updated land records is one of the foundations for a successful revenue administration. The generation of error-free digital land records is essential for overall future development. The main function of the Department is to complete the resurvey of the State. So far, out of 1,666 villages, resurvey of 918 villages has been completed and in 21 villages it is progressing, and 727 remain to be surveyed. The department offered G2G services (provided to other Government departments) such as mapping, pattaya survey, LRM services, inter-state boundary survey, land acquisition survey.

### **13th Five-Year Plan**

During the 13th Five-Year Plan, an amount of Rs 12,052 lakh was provided as Plan assistance to the Survey and Land Records Department, and of this Rs 1,947.35 lakh was expended (year-wise outlay and expenditure shown in Table 25.2).

### **Key achievements in the 13th Plan**

Completed the procedural formalities for the establishment of Continuously Operating Reference Station (CORS) network. This advanced mapping infrastructure will give a high-level of accuracy and speed to the land survey programme.

**Implementation of e-maps software.** The e-maps software has been introduced in 89 digitally surveyed villages to establish a unified database of land records. This application is integrated with ReLIS software of the Revenue Department and PEARL system of the Registration Department to automatically exchange land records data.

**Modern survey training school.** Through the Survey Training School, world-class training facilities are provided to students and Government officials. Training in the use of instruments such as Electronic Total Station and Differential Global Positioning System is included in the survey courses offered by the Department. Construction work of Survey Training Schools in Thiruvananthapuram and Kannur Districts were completed.

**Digital resurvey.** Digital resurvey work of 39 villages was successfully completed and the data handed over to the revenue administration for land administration and management.

### **Critical gaps and inputs to address the gaps**

1. **Resource constraints in human power.** Shortage of surveyors can be filled by deploying trained private surveyors on contract/daily wages basis under the supervision of department surveyors.
2. **Paper records.** In 95 per cent of the resurveyed villages work was completed by using conventional methods and the resulting paper maps are in the local coordinate systems. To address the issue, a fresh digital survey of the entire State has been initiated for considering both un-resurveyed villages and conventionally surveyed villages for the digital survey to generate land records of the same standards.
3. **Inadequate software and workflow.** The major issue in land records integration is the non-availability of digitalized map data through a web platform from the Survey Department. Now the Department has developed the e-maps software with the assistance of the National Informatics Centre to overcome the

issue and the implementation gaps in e-maps will be rectified through the comprehensive ILIS portal Ente Bhoomi.

4. **Shortage of survey instruments.** Establishment of technology such as the CORS network, procurement of Real-Time Kinematic (RTK) rover, R-ETS equipment and so on for the overall efficiency of survey activities are in progress.
5. Lack of instruments for scanning documents
6. **Non-updation of map records in subsequent transactions.** To be addressed through proper amendment in the legal framework and software systems.
7. **Geographical conditions.** Explored the possibilities of latest technology such as drone survey and LIDAR sensors.

#### 14th Five-Year Plan

##### Approach in the sector

1. An objective of the 14th Five-Year Plan is to provide all poor landless households with land or homes and all legal landholders with title deeds. All title deeds are to be digitalised.
2. The resurvey of all land in the State is an important objective of the 14th Five-Year Plan. Reliable, up-to-date, and digitalised land records are necessary for economic development and land-use planning. They are essential to ensure people's titles to land, provide a record of ownership, and integrate information on all kinds of land ownership and control with information on land use. Good land records are an important component of a State's statistical system. In the present situation, records and up-to-date land records in which all textual and spatial data are integrated and digitalised are crucial to simplifying investment procedures. A fully digitalised document management system allows easy storage, is accessible from anywhere, permits multiple access, is time-saving, provides better security, reduces costs associated with document search, reduces costs associated with the physical storage of paper copies, improves preparedness against disaster, ensures document recovery, and permits easy movement.
3. Kerala is still working with land records formats created in the pre-Independence period in the princely States of Travancore and Cochin, and in the British Indian Malabar District. The process of survey, resurvey, and settlement that began in Kerala in 1964 is incomplete and in many instances, the resurveys completed earlier are already out-dated.
4. Kerala requires a system of updated land records, automated and automatic mutation, integration between textual and spatial records, and interconnectivity between the revenue and registration departments. It should replace the present deeds registration and presumptive title systems with conclusive titling with title guarantees. Modernised and digitalised land records should also be understood as being essential to land use planning, water resources management, infrastructure planning, and for disaster management and related objectives.
5. To complete surveys and resurveys and settlement/resettlement within a reasonable span of time, Kerala must invest in modern technology. The technology that best generates 3-dimensional geographical positioning data today is CORS (Continuously Operating Reference Station) technology. CORS is a satellite-based technology. Although CORS is the main technology, in certain areas, depending on conditions of terrain, built-up area, vegetative cover and cost, the use of CORS may have to be supplemented by other technologies, including Differential Global Positioning Systems (DGPS), Electronic Total Stations (ETS), and hybrid technologies that involve drone-based aerial photography and remote sensing data.
6. A programme of land record modernisation, if implemented efficiently, can be completed in five years.

**Objective**

A complete digital transformation of the department is envisaged in the 14th Plan period: every landholder will then have a clear record of his or her own land, consisting of both textual data and spatial boundaries so as to enhance security of rights over the land.

**Key initiatives proposed in the 14th Plan**

1. Establishment of CORS systems
2. Complete the Digital Resurvey of 1,550 villages across the State with the financial support of Rebuild Kerala Initiative (RKI).
3. *Integration of the land record service delivery project.* This includes continuous updation of land records and issuing RoR, construction of modern record rooms and related infrastructure development, Digital survey of 27 villages, IT infrastructure upgradation for e-office facilities, modern survey equipment, Digital survey-support call centre at the Survey Directorate, Physical and mental skill development centre, Physical conservation of records at the Central Survey Office, training and capacity building, and so on. It is proposed to complete the digital survey of 200 villages in the initial phase (over six months) and subsequently of 400 villages (within one year) and replicate the model to all villages in the Plan period.
4. *Modernisation of survey training schools.* This includes upgradation of District Survey Training Schools to Modern Survey Training Institutes, Upgradation of Survey Museum at the Central Survey Office building, Women-friendly offices, Construction of new building on the CSO premises, Smart Survey offices, Construction of new building for the Assistant Director's office at Thrissur, and infrastructure facilities for the Survey Directorate.

**INSTITUTE OF LAND AND DISASTER MANAGEMENT****Objective**

The Institute of Land and Disaster Management (ILDM), the State Training Institute for the Department of Revenue and Disaster Management, has been catering to the training needs of officials from the Departments of Revenue and Survey on various aspects of land revenue administration and disaster management since 1996, the year of its inception. The institute also caters to the training needs of the general public and NGOs in the field of disaster management, since the enactment of the Disaster Management Act in 2005.

**13th Five-Year Plan**

In the 13th Five-Year Plan, an amount of Rs 738 lakh was provided as Plan assistance to the department, and out of this Rs 482.17 lakh was expended (year-wise outlay and expenditure shown in the Table 25.2).

**14th Five-Year Plan****Key initiatives proposed in the 14th Plan**

Refurbishing of 25-year-old buildings including classrooms and hostels, Construction of open air auditorium, Functioning of Centre for Safety and Crowd Risk Research (CSCRR) and Centre for Lightning Research and Alternative Communication Systems (CLRACS), Revenue call centre, Revenue guide/Revenue journal, River Management Centre for conducting training in river bank protection, Sustainable sand mining management, Flood management and so on, Disaster Management Centre and Centre for Land Governance.





## **PROGRAMME IMPLEMENTATION, EVALUATION AND MONITORING DEPARTMENT (PIE AND MD)**

### **Overview**

The Central Plan Monitoring Unit (CPMU) was delinked from the Planning and Economic Affairs Department and made an independent administrative department named Programme Implementation, Evaluation and Monitoring Department (PIE&MD). The functions of the new department include monitoring and evaluation of the projects being implemented in the State, coordination and liaison with the Central Ministries for assistance and all NITI Aayog initiatives, implementation and monitoring of Member of Parliament Local Area Development Scheme (MPLADS), implementation and monitoring of steps towards the Sustainable Development Goals (SDGs), monitoring of all Missions in Nava Keralam Karma Padhathi, District Development Councils and monitoring projects through District Development Commissioners, designing incentives to encourage performance in programme and project implementation of departments/Government agencies/district offices and inducting professional management services and resources for programme and project implementation.

### **13th Five-Year Plan**

During the 13th Five-Year Plan Rs 618 lakh was provided for the Plan schemes of the CPMU, of which Rs 373.91 lakh was expended. (Year-wise outlay and expenditure shown in Table 25.2)

#### **Key achievements in the 13th Plan**

1. State-level Monitoring Committee (SLMC) meetings of MPLADS chaired by the Chief Secretary were conducted. Conferences of District Planning Officers and Training/Workshops were conducted during the period.
2. Projects were prioritised and categorised for effective monitoring. Accordingly, a real-time monitoring system named the 'Chief Minister's Project Coordination and Monitoring System' was established.
3. For the implementation and monitoring of Sustainable Development Goals (SDGs) in the State, an institutional framework has been established with the respective nodal departments as central points. Mapping of resources, that is, Plan schemes, was done for each financial year. The Department has been monitoring the progress of implementation of SDGs based on the monitorable indicators in the National Indicator Framework (NIF) and the State Indicator Framework (SIF) framed accordingly.
4. Activities of the Haritha Keralam Mission were monitored and those of the all four Missions, namely, LIFE, Aardram, Public Education Rejuvenation Campaign and Haritha Keralam under the Nava Keralam Karma Padhathi, were effectively coordinated. Guidelines were issued for the implementation of the programmes.
5. Steps were taken to improve the ICT infrastructure.
6. Training/capacity building and handholding support to departments for effective monitoring of the projects and programmes.

### **14th Five-Year Plan**

#### **Objective**

The department aims to give more emphasis and focus on monitoring the progress of projects being implemented in the State.

#### **Key initiatives proposed in the 14th Plan**

1. Real-time online monitoring mechanism that will capture details of projects/programmes including physical progress of schemes at the macro and micro-level with geo-referencing.

2. A dashboard fetching details from existing online platforms to be developed for enabling a tracking mechanism to resolve the bottlenecks during coordination, monitoring and liaising processes with Central Ministries for Central Assistance.
3. Kerala Vision Document for SDGs has to be brought out and envisaged. A results-based monitoring framework for achieving the 'Agenda 2030' needs to be implemented in a phased manner.
4. Analyses of NITI Aayog reports highlighting the State's position vis-a-vis progress, gaps in development and suggestions for futuristic planning with the help of the Kerala State Planning Board and the Department of Economics and Statistics.
5. Sufficient resources including human power for the coordination of all the four Missions, of LIFE, Ardram, Haritha Keralam, and Public Education Rejuvenation Mission, with RKI and the relevant departments/agencies
6. Conducting studies for evaluating the performance of the four Missions (LIFE, Ardram, Haritha Keralam, Public Education Rejuvenation Mission) based on the goals set and making evaluation studies through agencies accredited by the Kerala State Planning Board.
7. Sufficient hired human power with core competencies to streamline the institutional framework (both horizontal and vertical) for monitoring.
8. Professional management services and resources have to be hired for designing and incorporating state-of-the-art methods and processes into the planning, implementation, evaluation and monitoring systems of departments, Government agencies and district offices.
9. PIE&MD acts as an administrative department as well as an implementing department, and a website is essential for displaying its activities and programmes
10. Purchase of ICT equipment, computer consumables and stationery.

#### **New initiative already started in Annual Plan 2022-23**

Professional Management Services and resources for programme and project implementation for designing and incorporating state-of-the-art methods and processes in the planning, implementation, evaluation and monitoring systems of departments, Government agencies and district offices.

#### **VIGILANCE AND ANTI-CORRUPTION BUREAU**

##### **Overview**

The Vigilance and Anti-Corruption Bureau is the nodal agency of the State Government to fight corruption. It has 14 District Offices, four Range Offices, five Special Unit Offices and a Directorate. There are seven legal offices functioning for its legal advisers.

##### **13th Five-Year Plan**

In the 13th Five-Year Plan, an amount of Rs 5,037.00 lakh was provided as Plan assistance and of this Rs 2,755.53 lakh was expended (year-wise outlay and expenditure shown in the Table 25.2). The amount was utilised for modernisation and construction activities of the department.

##### **Key achievements in the 13th Plan**

Three cyber cells were established in the Directorate and Kozhikode and Ernakulam Districts. Introduced electronic file management system (i-APS), and data archiving solution (D-Space).

## **14th Five-Year Plan**

### **Key initiatives proposed in the 14th Plan**

Strengthening technological capability, digital repository for data archiving, networked connectivity to units, cyber cell establishment, electronic file management system, surveillance gadgets, D-space data archiving system, upgradation of suite software, infrastructure and logistics, a new web portal for implementing a unified online system for request and dissemination of NOC applications from other department heads and Government agencies, a centralised server and network management system in the Directorate, sophisticated EPABX system with security features in Directorate and all units of the VACB, connecting all offices of VACB with existing video conferencing system, installation of solar power plant, setting up of training centres at district-level, completion of construction works of the vigilance complex at Muttathara in Thiruvananthapuram and the proposed construction works in Wayanad and Pathanamthitta and four more offices for Legal Advisers.

## **INSTITUTE OF MANAGEMENT IN GOVERNMENT (IMG)**

### **Overview**

Institute of Management in Government is the Apex Training Institute (ATI) of the State offering in-service and induction training programmes as well as executive development programmes to employees of various categories primarily of the Kerala Government and to a lesser extent of the Central Government. It has two regional centres, one at Kochi and the other at Kozhikode. The State Government partly finances the establishment and training activities of the Institute through Non-Plan and Plan grants.

### **13th Five-Year Plan**

In the 13th Five-Year Plan, an amount of Rs 11,350 lakh was provided as Plan assistance to IMG and of this Rs 6,975.34 lakh was expended (year-wise outlay and expenditure in Table 25.2). The amount was utilised for the improvement of infrastructure facilities and State Training Programmes.

### **Key achievements in the 13th Plan**

During the period, IMG conducted 3,791 training programmes for 1.10 lakh personnel from more than 50 departments.

### **14th Five-Year Plan**

#### **Objective**

During the 14th Five-Year Plan period, IMG proposes to acquire enhanced academic, technological and human resource capabilities to make training an effective tool for good governance and better service delivery.

### **Key initiatives proposed in the 14th Plan**

Major programmes proposed by the department in the 14th Five-Year Plan are creating state-of the-art training facilities in the 20 classrooms at the three centres, upgrading libraries, seminar, conference and multipurpose halls, kitchen and dining halls in the three centres, creating 10 more training halls, setting up audio-visual facilities, e-resource bank, augmenting IT infrastructure (including in the regional centres), faculty development programme, new hostel blocks of 150 single rooms at Kochi and Kozhikode including furniture, strengthening the Centre for Good Governance and setting up a resource centre, State Training Policy Programmes, and establishing an Executive Development Centre.



## **CENTRE FOR DEVELOPMENT STUDIES (CDS)**

### **Overview**

The Centre for Development Studies (CDS) is a social science research and teaching institute with its focus on applied economics and development studies. CDS was set up at Thiruvananthapuram in 1971. It is an autonomous grant-in-aid institution of the Government of Kerala and the Indian Council of Social Sciences Research and receives yearly grant-in-aid from the Government of Kerala and ICSSR.

### **13th Five-Year Plan**

The research activities of Centre for Development Studies straddles a wide range of themes of human development and aging, social security, labour market, migration, industry, technology and innovations, local governance and macro-economic performance and policy as well as cross-cutting issues of ecology, gender, caste, ethnicity and sexuality. In the 13th Five-Year Plan, an amount of Rs 1,767 lakh was provided as Plan assistance and of this Rs 1,496.52 lakh was expended (year-wise outlay and expenditure shown in Table 25.2). The amount was utilised for creating infrastructure facilities for research, procuring books, journals and a database for the library, and so on.

### **Key achievements in the 13th Plan**

CDS has been ranked first in terms of publications among the research institutions of the ICSSR. During the period, CDS completed 456 research studies coming under the rubric of Culture and Development; Decentralisation and Governance; Gender and Development; Human Development; Health and Education; Industry and Trade; Innovation and Technology; Labour, Employment and Social Security; Macro Economic Performance; Migration; Plantation Crops; Politics and Development and others. The centre published 33 working papers, 205 research journal articles by faculty members and students and 36 books by faculty members. Forty-five open seminars and 37 webinars were conducted. The quarterly newsletter, CDS Chronicle, is being published to project its activities to wider-level. Two books, Kerala and the World Economy and India's Economy and Society, Lateral Explorations, were also published.

### **14th Five-Year Plan**

#### **Key initiatives proposed in the 14th Plan**

Publication and Research Support, Purchase of Furniture and Furnishings, Student Fellowship, Upgradation of Computing Facilities, Procurement of Books, Periodicals and Database for Library, Addition to and Alteration of Campus Infrastructure, Renovation and Maintenance of Campus, Buildings, Equipment, and so on.

## **GULATI INSTITUTE OF FINANCE AND TAXATION (GIFT)**

### **Overview**

Gulati Institute of Finance and Taxation is an autonomous institution of the Government of Kerala engaged in research, courses, training, consultancy, public awareness programmes and publications in the fields of Public Finance, Law, Taxation and Accountancy.

### **13th Five-Year Plan**

In the 13th Five-Year Plan, an amount of Rs 750 lakh was provided as Plan assistance and of this Rs 684.39 lakh was expended (year-wise outlay and expenditure shown in Table 25.2).

**Key initiatives in the 13th Plan**

During the 13th Plan period, 148 training programmes and 43 webinars were conducted and more than 50,000 people participated in the training programmes. Conducted various studies pertaining to finance and taxation which include the implications of GST in Kerala, and productivity of public expenditure in Kerala. Conducted pre and post Budget programmes, national seminar on Public Finance and Taxation, training, seminars and public outreach programmes in public finance to GST officials, taxpayers and tax practitioners.

**14th Five-Year Plan****Key initiatives proposed in the 14th Plan**

To provide evidence-based and empirically sound policy inputs to the Government of Kerala and other State Governments on matters of public finance, taxation, especially GST, and issues of fiscal federalism and devolution resulting in the publication of reports, research papers, monographs and books.

To develop and carry out an academically sound and rigorous teaching programme through distance education, leading to the award of doctorates/diplomas/degrees in public finance and taxation.

To provide training and consultancy services to various Government departments and State Governments on mutually acceptable terms in the areas of Finance and Taxation.

To increase awareness among the general public, business/industry fields and members of various professions on issues of State Finance, Taxation, Fiscal Federalism, Devolution and Fiscal Governance.

**New initiatives already started in 2022-23**

GIFT proposed to conduct two studies on GST and other sources of State revenue (Impact and Implications of GST in Kerala with emphasis on Ease of Doing Business, Tax Compliance and Revenue), Study on trade and development of Kerala.

**LEGISLATIVE SECRETARIAT****13th Five-Year Plan**

In the 13th Five-Year Plan, an amount of Rs 501.00 lakh was provided as Plan assistance to the Legislative Secretariat and Rs 4,490.29 lakh was expended (year-wise outlay and expenditure shown in Table 25.2). The amount was utilised for the computer-based Information System for the Legislative Secretariat/MLAs and modernisation of the Legislature Library.

**Key achievements in the 13th Plan**

Completed preservation of old and valuable documents in the library and kept in the library, Purchased KOHA Database and server and customised it to send e-mail and SMS alerts to library members during issue/return/renewal of documents, Newspaper Clipping Module is developed and added in the Digital Achieves, Digitalisation of 3,20,000 pages of old and valuable documents completed.

**14th Five-Year Plan**

## **14th Five-Year Plan**

### **Key initiatives proposed in the 14th Plan**

Computer-based Information System for Legislative Secretariat/MLAs (IT-based and e-niyamasabha), Sabha TV (includes installation of main studio, cameras and other auxiliary equipment, streaming engine and other devices for online streaming, Annual Maintenance of Sabha TV Software.

Modernisation of the Legislature Library includes digitalising articles in periodicals with search facility, setting up of digital display TV near library counters for utilising library services, and so on.

## **KERALA STATE PUBLIC SERVICE COMMISSION**

### **Overview**

The Kerala Public Service Commission has been constituted under Article 320 of the Constitution. The duties and functions of the commission include conduct of examinations for appointment to the services of the State and advising the Government on matters relating to the methods of recruitment to the civil services and for civil posts. The Commission has different wings such as Recruitment Wing, Examination Wing, Departmental Test Wing, Advice/Consultation Wing, Secret Section, and Research and Analysis Wing. The Commission has regional offices at Kollam, Ernakulam and Kozhikode and district offices in every district for district-wise selection processes.

## **13th Five-Year Plan**

In the 13th Five-Year Plan, Rs 3,507 lakh was provided as Plan assistance and out of this Rs 1,119.09 lakh was expended (year-wise outlay and expenditure in Table 25.2).

### **Key achievements in the 13th Plan**

During the period, the department utilised the funds for the Digitalisation of files, Implementation of an e-office system, Establishment of online examination centres at Thrissur and Palakkad, Implementation of on-screen marking system, Conduct of departmental examinations in online mode, Revamping of the CCTV system to ensure security at the office, Installing a server at the State Data Centre, Expanding its online examination centre.

## **14th Five-Year Plan**

### **Key initiatives proposed in the 14th Plan**

Kerala PSC envisages the digitalisation of its offices, construction of buildings for its facilities in Kollam, Idukki, Alappuzha, Ernakulam, Malappuram and Kasaragod Districts, and the purchase of IT equipment and other essential devices for ongoing programmes.

### **New initiatives already started in 2022-23**

Construction of district offices and online examination centres in Alappuzha, Kollam and Idukki.

## **EXCISE DEPARTMENT**

### **Overview**

The Department is administering the laws relating to liquor, narcotic drugs and psychotropic substances, medicinal preparations containing alcohol and narcotic drugs, and so on. Abuse of narcotics and psychotropic substances has increased in Kerala especially among youngsters. Controlling the use of such substances by children and teenagers is one of the major challenges of the department. Its vision is to ensure a drug abuse and addiction-free Kerala through proactive and emphatic enforcement, and to achieve excellence in all areas of its operations by ensuring transparency at all levels, optimising its citizen-friendly approach and ease of doing business mode and achieving modernisation to match the highest expectations of the citizens.

### **13th Five-Year Plan**

During the 13th Five-Year Plan, an amount of Rs 7,048 lakh was provided as Plan assistance, and of this Rs 5,672.11 lakh was expended (year-wise outlay and expenditure in Table 25.2).

### **Key achievements in the 13th Plan**

Twenty Excise check posts have been computerised and strengthened for enforcement activities by supplying equipment, vehicles and so on, Digital wireless system commissioned in Ernakulam, Palakkad, Kollam and Alappuzha Districts in the first phase, de-addiction centres started in all districts, zonal counselling centres started in Thiruvananthapuram, Ernakulam and Kozhikode, e-Office system implemented in 14 division offices and in the offices of JECs and AECs, video conference systems provided up to the circle office-level, improved infrastructure facilities provided to newly formed Jana Maithri Excise squads in Devikulam and Nilamboor, and 35 rest rooms constructed for women civil excise officers. Purchased 141 two-wheelers for women patrolling squads, constructed Excise Towers in Kottayam and Palakkad Districts and Excise complexes in Adoor, Koothuparambu and Cherthala.. A crime branch division set up to investigate and charge major cases, and a cyber cell created to address challenges in IT-related cases. Unarvu project has been started for schools in Thiruvananthapuram District to create sporting and cultural interests among students and to channel the youth to positive activities.

### **14th Five-Year Plan**

#### **Objective**

In the 14th Five-Year Plan, the department aims for comprehensive modernisation for effective enforcement activities, and implementation of policies and procedures by ensuring transparency and effectiveness in administration.

#### **Key initiatives proposed in the 14th Plan**

The department aims to enhance its enforcement activities and investigation capacity by modernising offices, check posts, the crime branch division, IT and cyber cell and the vigilance wing by meeting essential requirements and providing sophisticated equipment and infrastructure upgradation, switching to green and renewable energy sources, establishing testing labs, monitoring social media and the dark net, improving inter-State border security, digitalising offices and rendering of 100 per cent online services to citizens, enhancing communication systems through wireless systems across the State, capacity-building in cyber cells, and ensuring proper mobility support through the procurement of vehicles. The strengthening of the Vimukthi Mission by providing intensive awareness, counselling, de-addiction activities and rehabilitation facilities is a focus area. This requires taluk-level de-addiction centres, counselling centres in all districts, extension of the Unarvu programme to all districts, including activities in tribal/coastal areas, publication of Vimukthi magazine to create awareness among the public, activation of Vimukthi response team, special initiative for guest workers, setting up of a zonal rehabilitation centre.



**New initiative already started in 2022-23**

Implementation of a track-and-trace system to monitor the production, transportation and sale of liquor. To make the production, distribution and sale of toddy transparent, geo-fencing system has been introduced covering the production, distribution and sales areas through a track-and-trace system.

**KERALA STATE AUDIT DEPARTMENT****Overview**

Kerala State Audit Department, being the statutory auditors of the State, is vested with the powers and responsibility of conducting audit of accounts of local funds, local bodies included in the schedule of the Local Fund Audit Act 1994. The Director is also the treasurer under the Charitable Endowments Act of 1890. Besides, the department undertakes the responsibilities of auditing other institutions as per orders of the Government subject to the provisions contained in the Acts and Rules.

**13th Five-Year Plan**

In the 13th Five-Year Plan, an amount of Rs 1,138 lakh was provided as Plan assistance to the Kerala State Audit Department and of this Rs 660.26 lakh was expended. (year-wise outlay and expenditure shown in Table 25.2). The amount was utilised for the implementation and upgradation of the Audit Information Management System (AIMS) and the modernisation of offices.

**Key achievements in the 13th Plan**

Implementation and upgradation of Audit Information Management System (AIMS), Audit process of local bodies through online software developed by MoPR, Development and implementation of charitable endowment software, Launch of website for Kerala Audit Department, Establishment of training centre in GIFT with state-of-the-art facilities and IT-assisted training tool platform and video conference, Modernisation of sub-offices and the Directorate.

**14th Five-Year Plan****Objective**

It is intended to develop a digital platform for Comprehensive Data Analysis and Reporting Management System and an IT initiative to transform the department into a truly digital enterprise.

**Key initiatives proposed in the 14th Plan**

Digital revamping and adding modules in accordance with changing Government policies, Develop a digital platform, namely, Comprehensive Data Analysis and Reporting Management System.

Strengthening the infrastructure of the department and providing laptops to front-line auditors with speedy Internet facilities.

Commence studies covering critical gaps in the previous systems and prepare a DPR to transform into a digital enterprise.

**PROSECUTION DEPARTMENT****13th Five-Year Plan**

Modernisation of the Prosecution Department is the Plan scheme. In the 13th Five-Year Plan, an amount of Rs 1,059 lakh was provided as Plan assistance and of this Rs 474.65 lakh was expended (year-wise outlay and

expenditure shown in Table 25.2). The amount was utilised for improving infrastructure facilities and training programmes.

#### **Key achievements in the 13th Plan**

Major achievements of the department during the 13th Five-Year Plan period include continuous and rigorous training imparted to all prosecutors by online and offline mode, providing laptops to Deputy Directors of Prosecution and Assistant Public Prosecutors, hired cars to Deputy Directors of Prosecution, law journals and law books to Deputy Directors of Prosecution and Assistant Public Prosecutors, and so on.

#### **14th Five-Year Plan**

The main vision of the department in 14th Plan is to construct a building for the Directorate of Prosecution and to build a training academy for prosecutors.

#### **Key initiatives proposed in the 14th Plan**

The department has proposed the modernisation of the Prosecution Department including training of personnel, construction of a building for the Directorate of Prosecution and a training academy for prosecutors.

### **HIGH COURT**

#### **Overview**

The judiciary is the system of courts that interprets, defends, and applies the law in the name of the State and is one of the three pillars upholding the Constitution of India. The Kerala High Court stands at the apex of the judicial administration of the State of Kerala and the Union Territory of Lakshadweep. The Home Department is the administrative department for the High Court and the subordinate judiciary.

#### **13th Five-Year Plan**

During the 13th Five-Year Plan, an amount of Rs 8,138 lakh was provided as Plan assistance to the High Court, and of this Rs 4,685.45 lakh was expended (year-wise outlay and expenditure shown in Table 25.2).

#### **Key achievements in the 13th Plan**

e-Governance in the High Court including scanning, digitalisation and digital preservation of case records, Digitalisation of the High Court library, Modernisation of the High Court and the subordinate courts, A total of 28 civil courts were converted into model courts (civil) and 28 criminal courts were converted into model courts (criminal), Installation of surveillance and security systems in the new High Court building and the Ram Mohan Palace, implementation of e-Office in the High Court.

#### **14th Five-Year Plan**

#### **Objective**

The aim of the High Court in the 14th Five-Year Plan is to move towards a digital court room environment by utilising Information and Communication Technology (ICT) at all levels of the judiciary, in order to provide services to the citizens and communication and exchange of information between different courts in a speedy, convenient, efficient and transparent manner.

### **Key initiatives proposed in the 14th Plan**

- 1. Planning and management unit in the High Court of Kerala.** To set up a data warehouse and develop Management Information Systems with user-based database applications such as workflow-based web applications and content management system for the High Court and the subordinate courts and the creation of digital repository of statutory information with easy retrieval facility.
- 2. e-Governance in the High Court and subordinate courts.** Includes scanning, digitalisation and digital preservation of case records and pending cases of the High Court, Digitalisation of High Court Library, Setting up of model digital court rooms in the High Court, Training and capacity-building facility in the High Court.
- 3. Modernisation of Subordinate Courts**
- 4. Technical modernisation of judicial system.** Installation of CCTV cameras in compliance with the directions of Supreme Court, Setting up of model digital court rooms in the district judiciary, Purchase/replacement of hardware in the district judiciary, Training and capacity building in the district judiciary.
- 5. Comprehensive ICT infrastructure for the judiciary.** High Court Data Centre, Maintenance and support team for hardware and software in the High Court and the subordinate courts, Connectivity and Networking, Live-streaming and recording of court proceedings.

### **VISION VARKALA INFRASTRUCTURE DEVELOPMENT (VIVID) CORPORATION LIMITED**

#### **Overview**

Vision Varkala Infrastructure Development Corporation Limited (VIVID), constituted as a Special Purpose Vehicle (SPV) in 2012-13 for the comprehensive development of Varkala, facilitates the implementation of different projects through Public-Private Partnership and joint ventures, including NRI investment at all levels. The SPV was registered as a company under the Department of Planning and Economic Affairs under the Chairmanship of the Chief Minister.

#### **13th Five-Year Plan**

In the 13th Five-Year Plan, Rs 1,625 lakh was provided as Plan assistance and of this an amount of Rs 1,274.21 lakh was expended (year-wise outlay and expenditure in Table 25.2).

#### **Key achievements in the 13th Plan**

Completed the construction of the Centre for Performing Arts building at Varkala, Completed the Varkala Cliff Protection pilot study by NCESS, Establishment of geo-park at Varkala (Expression of Interest submitted to Unesco, Destination Development of Varkala (DPR prepared), Geo-spatial information system by IKM (MoU signed and work started), Establishment of a Museum for the Centre for Performing Arts (preliminary report prepared by HITES, Government of India, Establishment of a Geological Museum (MoU signed with KU).

#### **14th Five-Year Plan**

#### **Key initiatives proposed in the 14th Plan**

Additional Infrastructure facilities including establishment of a museum for the Centre for Performing Arts, Varkala, Establishment of Unesco Geopark at Varkala, Varkala Sivagiri Railway Station redevelopment, Pilot study on the protection of the Varkala Papanasanam Cliff, Geospatial Information system, Destination development for Varkala including heritage walk, Unesco Geopark Museum, Comprehensive infrastructure development including office expenses, human power cost and statutory payments.

## **KERALA STATE PLANNING BOARD**

### **Overview**

The Kerala State Planning Board was constituted in September 1967, and it is headed by the Chief Minister as Chairperson, and consists of a Vice-Chairperson, members (Ministers and non-Ministers), and a Member-Secretary. Chief Secretary to the Government and Additional Chief Secretary, Finance Department are permanent invitees to the Board. The term of the Board is co-terminus with the term of the ruling Government. The Board was reconstituted in 2021 after the present Government assumed office. The Planning Commission has been wound up at the national-level and the new entry, NITI Aayog, has been set up to frame policy inputs and advise the Government. Kerala is the only State in the country to continue the Planning Board and the Plan process. The State took a conscious decision to proceed with the 14th Five-Year Plan. The role of the Kerala State Planning Board vis-à-vis the Government's actions in development planning has indeed increased.

The main functions of the State Planning Board are to formulate Five-Year and Annual Plans based on a scientific assessment of the resources of the State on the one hand and the growth priorities on the other, Prepare the annual Economic Review, Monitor Plan implementation, Conduct concurrent and retrospective evaluation of schemes, Coordinate with different departments with respect to Plan schemes, Facilitate decentralised planning in the State, Provide inputs and recommendations with respect to externally aided programmes and Centrally sponsored schemes, and to prepare policy briefs for the Chairperson.

### **13th Five-Year Plan**

In the 13th Five-Year Plan, an amount of Rs 13,109 lakh was provided as Plan assistance and out of this Rs 2,737.20 lakh was expended (year-wise outlay and expenditure shown in Table 25.2).

Key Achievements in the 13th Plan

DPC buildings construction completed in three districts (Idukki, Malappuram, Kollam) and progressing in Kottayam, Pathanamthitta, Palakkad,

Formulated District Plans for all districts.

### **Planspace**

The real-time treasury expenditure for each scheme has been integrated with Planspace, a web-based information system. It maintains a customised dashboard for various stakeholders and provides customised reports in Planspace, Integrated with Sulekha, the Plan monitoring software developed for Local Governments Data for the effective monitoring of Local Government expenditure through Planspace is provided.

### **Internship programme**

As part of SPB's Internship Programme, 46 postgraduate students from various universities underwent internship.

### **Other activities**

Rolling out of e-office to all districts, Published Kerala Development Report (KDR), Organised International Conference ('Kerala Looks Ahead'), Organised Livelihood Development Package in connection with Flood 2018, Organised Workshop on State-level Statistics for Kerala, Organised International Coconut Conference,

Conducted 26 Evaluation Studies from various sectors of the economy, Installed online Webex Platform and purchased computers/printers.

## **14th Five-Year Plan**

### **Approach in the sector**

1. Evaluation is an integral part of planning. The feedback and knowledge acquired through the evaluation process will help the planning process in terms of programme design and resource allocation. The Planning Board undertakes concurrent evaluation of ongoing projects and retrospective evaluation of completed projects.
2. In the 14th Five-Year Plan period, evaluation of projects and schemes will be given utmost importance. The Board will devise a mechanism for conducting such reviews in a regular and systematic manner. The Board will take efforts to eliminate overlapping and duplication in schemes and redundant schemes. Through the process of evaluation, the Planning Board will aim to improve the scheme design and implementation process and expedite completion of projects in a time-bound manner. Evaluation of projects and schemes will help enhance efficiency in planning and implementing schemes and projects and thereby promote better utilisation of resources.

### **Key initiatives proposed in the 14th Plan**

*Strengthening of State planning machinery.* Strengthening the State Planning Board with modern ICT facilities and strengthening the SPB Library

*Strengthening of District planning machinery.* Aiming to strengthen the District Planning Machinery and also provide facilities to DPOs/DPC buildings, Construction of Thiruvananthapuram DPC building.

*Preparation of Plans and conducting surveys and studies.* To conduct Surveys and Studies, Seminars/Workshops/Meetings, Internship programmes, Maintenance of Planspace, Capacity building of officials of SPB, Publication charges.

## **LAW DEPARTMENT**

### **Overview**

The Law Department is a distinct and independent unit within the Government Secretariat. Being a separate unit, matters relating to the establishment, staff, budget, contingencies, furniture, stationery and other administrative matters of the Department are attended to within the Department. The Law Department is generally guided by the procedure laid down in the Secretariat Office Manual and the Law Department Manual. The business of the Law Department is transacted by the Law Secretary assisted by other officials of the Department.

### **13th Five-Year Plan**

In the 13th Five-Year Plan, an amount of Rs 440 lakh was provided as Plan assistance, and out of this of Rs 301.97 lakh was expended (year-wise outlay and expenditure in Table 25.2).

**Key achievements in the 13th Plan**

*Modernisation.* The Law Information Management System (LIMS) has been introduced. Through this system, Knowledge Management System, Document Management System and File Flow Management System have been implemented.

*Court Cases Monitoring Solution for Law Offices (CCMS).* CCMS has been implemented to put in place a computerised court case tracking and monitoring system at 14 District Government Pleaders' offices in Kerala, the law office in New Delhi and the office of the Advocate General in Ernakulam. This project enables the Government to effectively monitor the conduct of court cases in which the Government is a party and information exchange and inspection verifying court cases have become faster.

**14th Five-Year Plan****Key initiatives proposed in the 14th Plan**

Modernisation of Law Department: On the basis of a policy decision taken by the Government of Kerala, the Law Department shifted to e-office from April 1, 2022. Hence the department proposed Court Cases Monitoring Solution (CCMS) project under Modernisation. Also, training of officials of the Law Department, Government Pleaders in district courts and KAT has been proposed.

**New initiative already started in 2022-23**

**In-house training in Law Department and other training.** To provide training to new recruits and existing staff for the special work of legislative drafting and providing legal opinion on different issues, conducting training for Government Pleaders and Additional Government Pleaders and also Government Pleaders appearing in KAT on certain special laws/subjects/service laws.

**KERALA DEVELOPMENT AND INNOVATION STRATEGIC COUNCIL (K-DISC)****Overview**

The Kerala Development and Innovation Strategy Council (K-DISC) is a strategic think-tank and advisory body constituted by the Government of Kerala. It was launched in 2018 with the mandate of promoting innovations in the State. K-DISC was totally revamped and registered as a society in 2021. K-DISC aims at bringing out path-breaking strategic plans that reflect new directions in technology, product and process innovations, social shaping of technology and creating a healthy and conducive ecosystem for fostering innovations in the State.

The major stakeholders of K-DISC are Kerala University of Digital Sciences, Innovation and Technology (Digital University, Kerala), Kerala Start-up Mission, Universities and Centres of Excellence (CoE), Information Communication Technology Academy of Kerala (ICT Academy), Additional Skill Acquisition Programme (ASAP) and Kerala Academy for Skills Excellence (KASE).

**13th Five-Year Plan**

In the 13th Five-Year Plan, an amount of Rs 4,475 lakh was provided as Plan assistance and Rs 8,312.76 lakh was expended (year-wise outlay and expenditure shown in Table 25.2). The amount was utilised for promoting innovation and skilling.

### **Key achievements in the 13th Plan**

In order to develop ideas into products and processes, the Young Innovators Programme nurtures 204 innovators with mentoring and resource support, Selected 79 differently abled children for an innovation programme, and a leadership camp was arranged. The Kerala Block Chain Academy inaugurated KBA Women Connect initiative and it acts as a platform to network woman Block Chain professionals. Accelerated Block Chain has covered 6,667 students. Three blended learning programmes launched for Mean Stack by the ICT Academy of Kerala, Train-the-trainer programme conducted for Hyperledger trainers and Ethereum trainers, Established five community math labs in Thirunelli in Wayanad district, Feroke in Kozhikode District, Perinthalmanna in Malappuram District, Chalavara in Palakkad District and Alappad in Kollam District, For the One District, One Idea programme, 52 cluster organisations have been shortlisted. Fifty-five mentor institutions have been brought into the programme of mobilising farmer producer organisations and modern engineering clusters. MSME cluster-based innovation plan for 68 clusters has been developed by academic institutions. Artificial Intelligence-based system for automatic screening for diabetic retinopathy, AI-based facial recognition of CCTV videos and Collision warning system for KSRTC buses, are in advanced stages of implementation. District Innovation Councils formed in all the districts. In the Accelerated Block Chain Competency Development Programme, 385 candidates cleared Certified Block Chain Associate Programme, 141 candidates certified as Hyperledger developers, 134 candidates certified as Ethereum developers and 79 candidates certified as Block Chain architects. Completed the DPR for a mineral hub for Kerala using mineral resources in the Chavara region and handed over to the Industries Department,. A mobile app developed for job-seekers at the pre-registration stage, and 3.92 lakh candidates registered. Of these, hired 4,411 candidates through ICTAK and CII. Some 72 lakh households visited and 48 lakh job-seekers identified.

### **Critical gaps/issues**

The formal education system and the departmental system lack embedded innovation. MSMEs, Local Governments and the public at large lack an innovation culture needed for innovation that is bottom-up and democratic.

### **14th Five-Year Plan**

#### **Key initiatives proposed in the 14th Plan**

The Kerala Knowledge Economy Mission (KKEM) aims to provide employment to 20 lakh educated unemployed people in five years, mobilising 55 lakh candidates across the State and providing training to 35 lakh, conducting continuous virtual job fairs in association with Skill Development Programme Kerala (SDPK). The target is to create demand for 5.92 lakh jobs. For training purposes, it is proposed to associate with ASAP, ICTAK, Kudumbashree and KASE, Kudumbashree is being positioned for mobilisation of job-seekers at the grassroots-level. As part of Knowledge Economy activities it is envisaged to create 4,000 platform cooperatives as techno-economic models for providing a social security system for the gig-workers. Innovative Society in Kerala-Young Innovators Programme aims at democratising innovation and promoting a culture of innovation among students aged between 13 and 35. A series of Product Development

Hackathons, One District, One Idea, One Local Government, One Idea, are under way. Innovation programme in bioethanol production from water hyacinth in association with CSIR-NIIST is on., A two-track initiative with participation from the Kerala Agricultural University and College of Agriculture, Vellanikkara to develop an innovative solution to the problem of water hyacinth proliferation in waterbodies, while address the climate impacts of fossil fuels is under way. Kerala Genome Data Centre will generate, curate and publish genomic data relevant to the medical, agricultural and livestock sectors. Also, Centre of Excellence in micro biomes, Activities to create a programme for Nutraceuticals in Kerala, Local Innovation programmes, Electronic Vehicle Development and Manufacturing Consortium, Accelerated Adoption of emerging technology solutions in Government, activities under Kerala Medical Technology Consortium to facilitate the collaboration of start-ups and industrial partners.

#### **STATE GST DEPARTMENT**

##### **Overview**

The Kerala Goods and Services Tax Department is the largest revenue-earning department in the State and plays a major role in mobilising financial resources for the Government. Out of the total tax revenue, more than 75 per cent is collected by the department. The Kerala Goods and Services Tax Department administers the biggest financial reform of Goods and Services Tax along with the Central Government through the the introduction of the GST Act in the State.

##### **13th Five-Year Plan**

In the 13th Five-Year Plan, an amount of Rs 12,803 lakh was provided as Plan assistance, and of this Rs 4,962.65 lakh was expended. (year-wise outlay and expenditure shown in Table 25.2). The amount was utilised for IT infrastructure, developing public awareness, and construction activities of the department.

##### **Key achievements in the 13th Plan**

Automated Number Plate Reading System (APNR)-based e-Waybill surveillance system is established in 22 locations; the vehicle number is validated against e-Waybill issued. GPS-based Video Surveillance Project was implemented in 80 vehicles for enhancing transparency and efficiency in the functioning of mobile squads. Established a Cyber Forensic Lab at the headquarters with a supporting environment at the district-level. A Data Analytics Unit has been set up in association with the Digital University of Kerala to explore the scope of applying data analytics in the GST scenario.

##### **14th Five-Year Plan**

##### **Key initiatives proposed in the 14th Plan**

IT infrastructure development to equip the department for modern and professional indirect tax revenue administration by adopting Green IT initiatives is on. This includes application of ANPR system, Artificial Intelligence, RFID Technology for monitoring goods movements, Data Analytics, mobile app-based services for taxpayers, and so on.

The department plans to become carbon-neutral by 2025 in line with the SDGs of the United Nations, and to utilise solar energy in offices and shift to electric and CNG vehicles.

Construction of State GST office complexes at Kannur, Alappuzha, North Paravoor, Wayanad and Kasaragod, Construction of additional tax complexes in Ernakulam, Kozhikode, Construction of Tax complex at Feroke and Thamarassery in Kozhikode District and Construction of office building at Amaravila



in Thiruvananthapuram, Creation of public awareness and capacity development, and Purchase of vehicles are in focus.

#### **NAVA KERALAM KARMA PADHATHI**

##### **Overview**

Nava Keralam Karma Padhathi was one of the unprecedented initiatives of the Government of Kerala. The core implementation strategy involved the departments of the Government being brought together in their development efforts meaningfully at the level of Local Self Governments to provide services and support to ordinary households in the State. The task mode programmes were implemented through Haritha Keralam, Aardram, LIFE and Education Mission.

##### **13th Five-Year Plan**

In the 13th Five-Year Plan, an amount of Rs 2,985 lakh was provided for the Plan schemes of Haritha Keralam, of which Rs 2,805.60 lakh was expended (year-wise outlay and expenditure shown in Table 25.2). The amount was utilised for administrative expenses and Haritha Keralam activities.

##### **14th Five-Year Plan**

##### **Key initiatives proposed in the 14th Plan**

1. Preparation of a carbon-neutral initiative in the State and achieving the goal of net zero carbon emission.
2. Monitoring and evaluation of Haritha Keralam projects/programmes and Green Statements of different departments and administrative expenses.

#### **KERALA ADMINISTRATIVE TRIBUNAL**

##### **Overview**

The Kerala Administrative Tribunal is a constitutional body envisaged as per Article 323A contained in Part XIV A of the Constitution of India and functioning under the Administrative Tribunal Act 1985. The Kerala Administrative Tribunal deals with adjudication of disputes between the State and State Government Employees pertaining to service matters, and adjudication of disputes pertaining to appointment in Kerala Government service. Kerala administrative Tribunal has three wings, namely, Administration, Finance and Judicial.

##### **13th Five-Year Plan**

In the 13th Five-Year Plan, an amount of Rs 36 lakh was provided as Plan assistance and Rs 115.17 lakh was expended. The amount was utilised for computerisation programmes. (year-wise outlay and expenditure in Table 25.2).

##### **Key achievements in the 13th Plan**

Comprehensive digitisation work including e-filing, digitisation of records and e-office. Case information System (CISKAT) developed for the Kerala Administrative Tribunal to track applications from the receipt stage to the disposal stage, training of officers and staff as well as other stakeholders such as advocates and Government officials.

##### **Critical gaps/issues**

Comprehensive computerisation scheme to be completed and additional construction works in the building of Kerala Administrative Tribunal to be carried out.

#### **14th Five-Year Plan**

##### **Key initiatives proposed in the 14th Plan**

Comprehensive computerisation includes security audit, provision of human power for technical support for software, purchase of laptops, printers and other electronic gadgets, installation of hardware for video conferencing, installation of software for video conferencing, and additional construction works of the building of Kerala Administrative Tribunal.

#### **DEPARTMENT OF ECONOMICS AND STATISTICS**

##### **Overview**

The Department of Economics and Statistics is the nodal agency and apex body of the State responsible for the systematic collection, compilation, analysis, interpretation and dissemination of statistics relating to various sectors of Kerala's economy. The effectiveness of the planning process at each-level depends to a great extent on the availability of reliable and up-to-date statistical information.

##### **13th Five-Year Plan**

In the 13th Five-Year Plan, an amount of Rs 1,268lakh was provided as State Plan assistance, and of this Rs 924.26 lakh was expended (year-wise outlay and expenditure shown in Table 25.2).

##### **Key achievements in the 13th Plan**

Computer division in the Directorate strengthened through the purchase of 84 desktops, four laser printers, three workstations, 13 scanners, two LCD projectors, one UPS (5KV), two UPS (10KV), 21 monitors and 11 UPS batteries. Software development and website revamping are also part of the scheme.

Computer divisions in district offices are strengthened through the procurement of 190 desktops, 91 tablet printers, five photocopiers-cum-printers, six photocopiers, 24 UPS (3KV) and three UPS (2KV).

Subject-specific training programmes conducted for field investigators and supervisory officers, middle and senior-level officers attended programmes conducted by NSSTA, workshops and training programmes arranged by National Accounts Division, Central Statistical Office, Government of India and Socio Economic Surveys training arranged by National Sample Survey Office.

Conducted survey of private medical institutions in Kerala in 2017-18, survey of organic farming and marketing in Kerala and survey of markets in Kerala in 2021-22. Reports on Private Medical Institutions in Kerala and Forestry Input Cost Rate in Kerala 2017-18 were published.

Annual Reports on Agricultural Statistics have been released and submitted to the Ministry of Agriculture and Farmers' Welfare, Government of India, State Agricultural Departments and other user departments in time.

All the works related to 10th Agriculture Census have been completed and report was submitted to the Government of India. Holding-wise and size class-wise ownership of land is available in the Agriculture Census Report.

Fifth Minor Irrigation Census field work and data entry has been completed during the Plan period and the data processing is progressing.

To study the statistics related to cause of death in five urban centres in the State, the medically certified cause of death schedules coded based on the International Cause of Death 10 coding and report of the survey sent to Registrar General up to the year 2020-21.

#### **14th Five-Year Plan**

##### **Approach in the sector**

At the two-day workshop on State-level statistics organised by the State Planning Board in July 2019, the Chief Minister said that “economic policy in Kerala needs statistical data of much higher quality.” The Chief Minister further stressed the need for statistical evidence to:

- (i) identify and understand issues; (ii) formulate appropriate policies and strategies;
- (iii) set directions and benchmarks; and (iv) monitor and evaluate policies and programmes.

It is essential to have statistics to identify areas or sectors where we need to implement programmes, to understand whether the policies and programmes are meeting our intended objectives, and identify areas where we need to improve. For this purpose, we require timely, complete, accurate, and reliable statistics.

The Planning Board will support efforts by different agencies, particularly the State Statistical Commission, to (i) identify priority areas with respect to State-level statistics, and statistical information that may be considered critical to social and economic development in the State; (ii) make preliminary suggestions on how to develop standard concepts, definitions, categories, and methodology in different areas that are consistent with international and national practices; and (iii) suggest methods of building new statistical skills and competence in State Government organisations.

##### **Objective**

In the 14th Plan period, the department aims to develop scientific methods of data collection, processing, presentation and data dissemination in a user-friendly approach ensuring data quality. Also deals with survey and studies of subjects with economic and social relevance in the State, in order to reduce the time taken for data processing, updation and finalisation.

##### **Key initiatives in the 14th Plan**

Preparation of Business Register, Wage Rate Survey of construction workers and Preparation of Wage Index of construction workers in Kerala, Building Construction Cost Index for rural and urban houses, Strengthening the computer divisions in the directorate/districts, In-service training for statistical personnel, Support for Statistical Strengthening Project, Strengthening of vital statistics in surveys and studies relating to the State, which include Study on incidence of infertility and scope of treatment, Study on impact of COVID-19 on pravasis, Solid Waste Management, surveys on accessibility of the basic needs of the aboriginals, Employment opportunities for transgenders, orphanages/care homes, disabilities, prevalence of lifestyle diseases, prevalence of dementia, private medical institutions

### **New initiatives already started in 2022-23**

1. **Preparation of business register, source of information of the business population and its demography.** By means of the business register, the collected data can be used to fill the data gaps in the service sector, manufacturing sector, construction sector and so on.
2. **Wage rate survey of and preparation of wage index of construction workers.** To collect category-wise, gender-wise wages in the construction sector in all the 14 districts of the State. The aim of the survey is to provide basic data for building up an index of wage rates for the construction sector and to disseminate information relating to wage rates and average earnings of workers in different sectors of the construction sector in the State.
3. **Building construction cost index for rural and urban houses.** To collect category-wise cost of inputs (materials, labour and services) for the construction of dwelling units in the 14 districts to provide both basic data to build up an index of the construction cost (rural and urban) for a dwelling unit and to determine the rate and ratio of building materials of a unit and disseminate information regarding the average cost of constructing a dwelling unit in each district.

### **LEGAL METROLOGY DEPARTMENT**

#### **Overview**

The objective of the Legal Metrology Department is to protect consumer interests by ensuring metrological accuracy in the field of trade and commerce, industrial production, protection of human, animal and vegetation. The activities include verification of the original benchmarks and periodic re-verification of weights, measures, weighing and measuring instruments, conducting periodic inspection on trade premises, booking cases against those traders, industrialists and others who violate the Act and Rules, Implementation of Packaged Commodities Rules.

#### **13th Five-Year Plan**

In the 13th Five-Year Plan, an amount of Rs 4,870 lakh was provided as Plan assistance and of this Rs 3,250.49 lakh was expended (year-wise outlay and expenditure shown in Table 25.2). The amount was utilised for improvement in the quality and efficiency of verification, consumer awareness programmes, training programmes and construction of office buildings.

#### **Key achievements in the 13th Plan**

Completed Water Meter Calibration unit at Legal Metrology Bhavan, Kakkanad, Purchased non-automatic weighing instruments for various offices, A call centre with a toll-free number set up for customer queries and lodging of complaints, launched Sutharyam mobile app, Completed construction of Kollam District office building complex, Working/Secondary Standard Laboratory at Thrissur, Water meter calibration Unit at Ernakulam, office buildings at Kottayam and Kasaragod Districts, and Purchased equipment for enforcement activities.

#### **Critical gaps/issues**

Major critical gaps found by the department are:

**Legal metrology and trade.** Measurement involved in trade transactions should ensure fairness to all parties. Therefore a sound measurement system is essential in the process of increasing the quality of verification. To achieve this, Working Standard Labs attached to every office to get NABL accreditation.

**Legal metrology and health.** Accurate health-related measurement to identify diseases and prescribe treatments or actions so that patients are treated effectively, safely and in a cost-effective manner. Therefore, a sound, standardised measurement system is essential for achieving efficient healthcare policy.

**Legal metrology and safety.** Safety regulations and laws also ensure that the correct information is published on labels, packing and instruction manuals. A sound measurement system is essential for achieving an effective safety policy.

#### **14th Five-Year Plan**

##### **Objective**

The vision of the department is to augment the quality of its services throughout the State by improving the calibration and measurement capability of laboratories and to add to the infrastructure of the department with a view to achieving this goal. All the activities of the Department are aimed at protecting the rights of consumers at large.

##### **Key initiatives proposed in the 14th Plan**

**Ongoing Programmes.** Improvement in the quality and efficiency of verification, Consumer awareness programmes, Training Programmes, Construction of office buildings, and so on.

##### **New programmes**

**Legal metrology and the environment.** Measurement of nutrients added to the soil, noise-level and emissions, amount of substances in water, soil and the atmosphere, pollution of gases.

**Metrological consultancy services to industries and commerce.** Extend technical and legal consultancy service to industries and commerce in the field of Legal Metrology and Industrial Metrology.

**Facilitate redress of consumer grievances.** Facilitate redress of consumer grievances by providing necessary information to the public about various redress mechanisms prevailing under different rules and regulations.

**Consumer awareness initiatives at the school-level.** Cooperate with consumer clubs in schools and impart training on Metrology and Consumer rights, thereby enlightening students. It is also proposed to include curriculum topics relating to consumer rights and various complaint redress mechanisms.

#### **GENERAL ADMINISTRATION (COORDINATION) DEPARTMENT**

##### **Overview**

During the 14th Plan period, the Government constituted a department to coordinate the activities of local-level Community Volunteer Corps. The department merged with the General Administration (Coordination) Department. Samoohika Sannadha Sena was formed. During the period, it also constituted Kerala Youth Leadership Academy (KYLA) as a registered society to coordinate the activities and skills of the youth.

##### **1. Directorate of Samoohika Sannadha Sena**

The floods, cyclones and health emergencies including Nipah and the COVID-19 pandemic necessitated community-based volunteering to strengthen social cohesion. Moved by the immense response of civil society, the Government decided to form the Directorate of Samoohika Sannadha Sena, also called Community Volunteer Corps, under the Department of General Administration to sustain volunteerism as an asset of Kerala society. The Sannadha Sena is a unique concept of the Government; it has been established to institutionalise volunteerism, with youth as its driving force.

The major objectives of the Samoohika Sannadha Sena is to unify, institutionalise and promote volunteerism in the State, assist Local Governments in times of crises, facilitate the smooth delivery of public services, aid the Government in special tasks like survey, campaign and studies, work as partners in development towards achieving the Sustainable Development Goals (SDGs), promote a culture of collaborative decision, ensuring civic participation in governance.

#### **Key initiatives proposed in 14th Plan**

In association with Local Self Government Institutions the Department undertakes various activities such as Thirike Naadinayi, Panchayat Alumni Network, Promotion of Sustainable Development Goals, Promote peaceful and inclusive society. As part of Disaster Resilience, the proposed programme is Foot soldiers for climate action. It is also proposed to undertake Volunteers for Kerala for assisting special needs of the marginalised sections of the society, through the activities such as Professionals and Techies for Kerala, Arikil Ninnun Munnilekk. Policy Advocacy – Creating more inclusive societies and Promotion of Volunteerism are also the activities of the Department.

#### **Initiatives already started in 2022-23**

Vathilpady Sevanam (doorstep service), Community volunteering for Disaster Risk Reduction, Thirike Nadinayi – Panchayat Alumni Network, Techies for Kerala, Volunteer Vigilante groups to report substance abuse.

## **2. Kerala Youth Leadership Academy (KYLA)**

Kerala Youth Leadership Academy (KYLA), registered as a Society, is incubated by the Government of Kerala, under the Chairmanship of the Chief Minister and under the administrative control of the General Administration (Coordination) Department. It is a unique institute in the country funded by the Government to promote and nurture inclusivity, leadership, employability, coordination and social skills among the youth, to transform them into socially and potentially viable leaders of the future.

The major objectives of KYLA are to nurture, skill and motivate socially committed youth leaders, to connect passionate youth with prominent global resources of academic, professional, social and personal development, enhance employability and workforce participation among youth in various disciplines, especially by integrating technical education, workshops, webinars, internships and so on for graduates, to nurture leaders in all possible spectra of life, to develop Kerala as a knowledge economy with youth as its driving force.

#### **Key initiatives proposed in 14th Plan**

**Constitution, law and human rights.** Know Your Constitution (KYC), Legal Literacy Programme, Certificate Programme on Human Rights, Unique Strategy for Implementation

**Disaster management.** CRYSTAL – Intensive Physical Training on Emergency Survival Skill

**Gender programme: BODHI.** Youth Leadership for Gender Justice, PRISM – Inclusion Project, KYLA in collaboration with the Women and Child Development (WCD), POSCO Certification Trainer Course for School Teachers, Internship Programme in POSCO Courts.

**Other programmes.** Environment and Climate Change, Online Certification, Modern Technology and Employability, Policy Making.

**Initiatives already started in 2022-23**

**Crystal.** Community Readiness for Youth in Skill Training and Advanced Leadership, comprehensive and intensive physical training on disaster resilience.

**Prism.** Inclusion Project is a unique and first-of-its-kind comprehensive inclusion scheme in the country. It focusses on mainstreaming LGBTQ+ and Disabled students on campuses and promoting inclusive workplaces.

## **25.2 GENERAL SERVICES**

General Services consist of schemes under the departments of Stationery and Printing, and Public Works Department (buildings). The activities mainly include modernisation, computerisation, e-governance, capacity building and infrastructure development. The 13th Plan outlay for the sector was Rs 432.98 crore, including Rs 50.90 crore for Stationery and Printing and Rs 382.08 crore for Public Works. The total expenditure during the period was Rs 569.67 crore, of which Rs 30.94 crore was for Stationery and Printing and Rs 538.73 crore for Public Works. Sub-sector-wise outlays and expenditure during the 13th Five-Year Plan are in Table 25.3.

The department-wise initiatives proposed in the 14th Five-Year Plan are listed follows.

### **STATIONERY DEPARTMENT**

#### **Overview**

Stationery Department is a service department entrusted with the task of supplying stationery materials to various Government departments needed for their day-to-day functioning. It has regional offices at Thiruvananthapuram, Ernakulam, Shoranur (Palakkad District) and Kozhikode, and district stationery offices in the remaining 10 districts.

#### **13th Five-Year Plan**

In the 13th Five-Year Plan, an amount of Rs 555 lakh was provided as Plan assistance and of this Rs 376.53 lakh was expended (year-wise outlay and expenditure in Table 25.3). The amount was utilised for modernisation and construction activities.

#### **14th Five-Year Plan**

#### **Key initiatives proposed in the 14th Plan**

Construction of stationery office building in Wayanad, Renovation of stationery office buildings in Kollam, Pathanamthitta, Kannur, Kasaragod, Modernisation of regional offices in Thiruvananthapuram, Shoranur and Ernakulam, Modernisation of godowns, IT and allied infrastructure in the offices, Purchasing modern equipment in paper testing lab, and e-governance initiatives.

### **PRINTING DEPARTMENT**

#### **Overview**

The Printing Department undertakes and executes all printing and binding works of the Government, Legislature, Judiciary and others. All the Acts, Bills, Rules, Ordinances, Codes, Manuals, Kerala Gazette, departmental publications, text books, Government diary, calendar, lottery tickets, multi-colour posters, forms and registers for various departments are printed in the Government presses. The Department of Printing manages the largest factory establishment directly run by a Government Department. At present there are 11 printing presses and 12 District Form Stores under this department.

#### **13th Five-Year Plan**

In the 13th Five-Year Plan, an amount of Rs 4,535 lakh was provided as Plan assistance and of this Rs 2,717.38 lakh was expended (year-wise outlay and expenditure shown in Table 25.3). The amount was



utilised for the modernisation of the Government Press and the construction of buildings for Government presses.

#### **14th Five-Year Plan**

##### **Key initiatives proposed in the 14th Plan**

Modernisation includes procurement/purchase of various machines in the Shoranur Government Press, Vazhoor Government Press, Wayanad Government Press, Central Prison Press, Ernakulam Government Press, Kozhikode Government Press, Kannur Government Press, Kollam Government Press, Central Press Thiruvananthapuram, and Mannanthala Government Press.

Construction Activities include renovation/construction works in the Shoranur Government Press, Vazhoor Government Press, Wayanad Government Press, Central Prison Press, Thiruvananthapuram Stamp Manufactory Press, Ernakulam Government Press, Kozhikode Government Press, Kannur Government Press, Thiruvananthapuram Central Press, Mannanthala Government Press.

Construction/renovation works are also proposed in District Form Stores in Thiruvananthapuram, Pathanamthitta, Malappuram, Ernakulam, Alappuzha, Palakkad and Kannur.

#### **PUBLIC WORKS DEPARTMENT (BUILDINGS)**

##### **Overview**

Public Works Department (PWD) is one of the prominent engineering departments of Kerala and is the statutory authority for designing, planning, monitoring, constructing and undertaking maintenance of public works of the State Government. The building wing of the PWD deals with planning, project preparation, construction, maintenance and arrangement of works including water supply, electrification, electronic works and investigation works of public buildings.

The PWD Buildings Division is entrusted with the construction of various public office buildings coming under the common pool and it includes State Legislature, Judiciary, Elections, Land Revenue, Stamps and Registration and Excise Departments. The State GST, Sales Tax, Public Service Commission, Secretariat, Treasuries, Stationery and Printing, Public Works, Fire Force, Public Health Department, Raj Bhavan, Commercial Taxes, Kerala PSC, Police, Jails, and other buildings also come under the PWD division.

##### **13th Five-Year Plan**

In the 13th Five-Year Plan, an amount of Rs 38,208.00 lakh was provided as Plan assistance and Rs 53,872.69 lakh was expended (year-wise outlay and expenditure shown in the Table 25.3).

##### **Key achievements in the 13th Plan**

Construction of staff quarters for Government employees at the Observatory Hill, Thiruvananthapuram, Construction of Directorate of Vocational Higher Secondary Education, Construction of Mini Civil Stations at Kattakkada and Pothencode, Construction of Second Floor, Electrification works and other allied works, Construction of Court Complex at Punalur Phase II, Construction of Election warehouse in the Collectorate Compound in Pathanamthitta, Construction of additional block PWD rest house Kottayam, Construction of first floor and second floor of PWD rest house, Neriampalam, the PWD Engineers' Training Centre compound, Neriampalam Phase III balance works, Construction of Palakkad Town Excise Complex, Construction of NGO Quarters at Kallepully, Construction of Court Complex in Manjeri, Finishing works

of the court Complex in Perinthalmanna, Construction of a new warehouse for storage of EVM and VVPAT machines in Kannur District, Construction of Women and Children Hospital, Kasaragod.

#### **Critical gaps/issues**

The major issues faced by the PWD Buildings wing during the execution of works are: Delay in timely completion of projects, Issues related to quality control, Time delay in issue of technical sanction, Dearth of qualified contractors, Lack of adoption of novel technologies in construction, Reluctance to change to a project-oriented approach, Non-Availability of vehicles for site inspection, Delay in the award of contracts, Delay in the execution of electrical, electronics and other specialised works, and Difficulty in implementation and maintenance of various electronics projects.

#### **14th Five-Year Plan**

##### **Objective**

The vision of the department is to work with the community and other Government departments to create and maintain environment-friendly, sustainable, energy-efficient and aesthetic buildings for improving the quality of life of the people, and to take necessary measures to implement the Government's Green Building Policy in all the buildings constructed by the PWD.

##### **Key initiatives proposed in the 14th Plan**

Construction of PWD complexes in all districts, Construction of a Common Convention Centre under PWD in Thiruvananthapuram for convening Government meetings and functions, Construction of New Model Rest Houses and Guest Houses in major tourist spots of the State, Setting up of caravan park on the premises of rest houses, Setting up of a Centralised Quality Control Laboratory with scientific equipment, Construction of mobility hub and logistics parks along the major highways of the State, Incorporating Green building concepts in building construction within five years, Making all existing buildings energy-efficient, environment-friendly, women-friendly and disabled friendly in the next five years, Promoting pre-fabricated construction, Construction of buildings for the Social Justice Department such as orphanages for destitutes, Construction of good quality Government official residence complexes, construction of staff quarters for Neriampalam Training Centre and conversion of training centre as State Training Centre, and so on.

Table 25.1 *Budgeted outlay and expenditure for general economic services in the 13th Five-Year Plan*, in Rs lakh

Sector	Annual Plan 2017-18		Annual Plan 2018-19		Annual Plan 2019-20		Annual Plan 2020-21		Annual Plan 2021-22		Total	
	Budgeted Outlay	Exp.	Budgeted Outlay	Exp.*	Budgeted Outlay	Exp.	Budgeted Outlay	Exp.*	Budgeted Outlay	Exp.*	Budgeted Outlay	Exp.
Secretariat												
Economic Service **	1,89,577.00	22,766.77	2,13,836.00	29,631.06	3,12,735.00	25,027.29	2,42,842	1,02,060.25	3,04,886.00	39,149.96	12,63,876	2,18,635.33
Economics and Statistics	200.00	228.18	217.00	120.82	239.00	138.27	212.00	197.64	400.00	239.35	1,268.00	924.26
Other General Economic Services	1,000.00	944.16	1,150.00	480.47	1,150.00	457.68	1,020.00	934.00	5,500.00	434.18	4,870.00	3,250.49
<b>Total ***</b>	<b>1,90,777.00</b>	<b>23,939.11</b>	<b>2,15,203.00</b>	<b>30,232.35</b>	<b>3,14,124.00</b>	<b>25,623.24</b>	<b>2,44,074.00</b>	<b>1,03,191.89</b>	<b>3,05,836.00</b>	<b>39,823.49</b>	<b>12,70,014.00</b>	<b>2,22,810.08</b>

Note: \* Expenditure includes Supplementary Demand for Grants

\*\* Budgeted outlay including outlay of schemes under major infrastructure projects, expenditure excluding the expenditure of MI projects

\*\*\* Outlay and expenditure for Disaster Management and Civil Supplies are included under separate chapter

Source: Annual Plan 2017-18, 2018-19, 2019-20, 2020-21 and Thirteenth Five-Year Plan 2017-2022 Accounts

Table 25.2 Department-wise outlay and expenditure of general economic services in the 13th Five-Year Plan, in Rs lakh

Sl. No	Sector/Dept	Annual 2017-18		Annual 2018-19		Annual 2019-20		Annual 2020-21		Annual 2021-22		Total		% exp
		Budgeted Outlay	Exp.	Budgeted Outlay	Exp.	Budgeted Outlay	Exp.	Budgeted Outlay	Exp.	Budgeted Outlay	Exp.	Budgeted Outlay	Exp.	
I	<b>Secretariat Economic Service</b>													
1	Police	7300	8904.65	18200	10986.59	19110	10144.35	15925	18031.01	16150	13387.36	76685	62039.15	79.88
2	Treasury	2100	1290.39	2300	1259.01	2300	1498.20	1924	2493.99	1924	2419.68	10548	8961.27	84.96
3	Registration	1000	808.96	2000	1109.34	2446	775.09	2046	2044.06	2050	1597.14	9542	6334.59	66.39
4	Revenue	5600	4979.44	6525	6440.79	6525	2776.46	6913	5814.31	7000	6087.17	32563	26098.17	80.15
5	Survey and Land Records	2600	837.48	5128	161.38	1624	107.36	1350	468.50	1350	372.63	12052	1947.35	16.16
6	Institute of Land and Disaster Management (ILDm)	150	150.00	160	160.00	160	0.00	134	63.63	134	108.54	738	482.17	65.33
7	Central Plan Monitoring Unit (CPMU)	50	44.42	155	79.17	155	77.87	129	74.53	129	97.92	618	373.91	60.50
8	Vigilance	750	341.03	1300	600.28	1274	430.09	788	650.89	925	733.24	5037	2755.53	58.63
9	Institute of Management in Government (IMG)	2000	2000.00	2300	2025.00	2350	657.64	2350	913.75	2350	1378.95	11350	6975.34	61.46
10	Centre for Development Studies (CDS)	410	307.5	327	310.00	360	253.00	335	407.00	335	219.02	1767	1496.52	84.69
11	Gulati Institute of Finance and Taxation (GIFT)	350	262.50	150	112.50	75	12.00	75	262.50	100	34.89	750	684.39	91.25
12	State Legislature	97	101.23	110	83.88	110	1489.80	92	1728.16	92	1087.22	501	4490.29	896.27
13	Kerala Public Service Commission	220	219.35	800	273.90	800	146.79	837	227.88	850	251.17	3507	1119.09	31.91
14	Excise	750	552.11	1300	1126.02	1705	1403.16	1543	1791.45	1750	799.37	7048	5672.11	80.48
15	Local Fund Audit	220	206.47	250	86.74	250	44.85	209	205.54	209	116.66	1138	660.26	58.02
16	Prosecution	110	65.54	150	83.67	170	33.87	309	112.24	320	179.33	1059	474.65	44.82
17	High Court of Kerala	450	187.59	2460	489.99	1940	1281.24	1644	1066.66	1644	1659.97	8138	4685.45	57.57
18	Comprehensive Infrastructure Development of Varkala (VIVID)	250	100.00	275	516.19	400	150	350	250.00	350	258.02	1625	1274.21	78.41
19	State Planning Board	2250	561.16	2550	827.5	3250	262.37	3019	521.93	2040	564.24	13109	2737.20	20.88
20	Law	120	75.79	140	99.15	66	4.31	57	53.73	57	68.99	440	301.97	68.63
21	Kerala State Innovation Council (K-DISC)	100	9.80	100	950.36	1500	837.84	1275	1741.07	1500	4773.69	4475	8312.76	185.76
22	State GST Department	7500	761.36	2500	1222.58	1075	768.28	828	1013.81	900	1196.62	12803	4962.65	38.76
23	Finance G-SPARK							1				1	0.00	0.00

Sl. No	Sector/Dept	Annual 2017-18		Annual 2018-19		Annual 2019-20		Annual 2020-21		Annual 2021-22		Total		% exp
		Budgeted Outlay	Exp.	Budgeted Outlay	Exp.	Budgeted Outlay	Exp.	Budgeted Outlay	Exp.	Budgeted Outlay	Exp.	Budgeted Outlay	Exp.	
24	Haritha Keralam – Administrative cost			825	620.91	760	951.10	700	850.00	700	383.59	2985	2805.60	93.99
25	Rebuild Kerala Initiative				4.31	100000	858.04	100000	61240.26	183000	1358.11	383000	63460.72	16.57
26	Kerala Administrative Tribunal				1.80		63.58	9	33.35	27	16.44	36	115.17	319.92
	<b>Sub-Total</b>	<b>34377.00</b>	<b>22766.77</b>	<b>50005.00</b>	<b>29631.06</b>	<b>148405.00</b>	<b>25027.29</b>	<b>142842.00</b>	<b>102060.25</b>	<b>225886.00</b>	<b>39149.96</b>	<b>601515.00</b>	<b>218635.33</b>	<b>36.35</b>
27	Major Infrastructural projects	155200		163831		164330		100000		79000		662361		
	<b>Total including MIP</b>	<b>189577.00</b>	<b>22766.77</b>	<b>213836.00</b>	<b>29631.06</b>	<b>312735.00</b>	<b>25027.29</b>	<b>242842.00</b>	<b>102060.25</b>	<b>304886.00</b>	<b>39149.96</b>	<b>1263876.00</b>	<b>218635.33</b>	
II	<b>Economic and Statistics</b>													
28	Economics and Statistics Department	200	228.18	217	120.82	239	138.27	212	197.64	400	239.35	1268	924.26	72.89
III	<b>Other General Economic Services</b>													
29	Legal Metrology Department	1000	944.16	1150	480.47	1150	457.68	1020	934.00	550	434.18	4870	3250.49	66.75
	<b>Total – General Economic Services</b>	<b>35577.00</b>	<b>23939.11</b>	<b>51372.00</b>	<b>30232.35</b>	<b>149794.00</b>	<b>25623.24</b>	<b>144074.00</b>	<b>103191.89</b>	<b>226836.00</b>	<b>39823.49</b>	<b>607653.00</b>	<b>222810.08</b>	<b>36.67</b>
	<b>Total – General Economic Services including MIP</b>	<b>190777.00</b>	<b>23939.11</b>	<b>215203.00</b>	<b>30232.35</b>	<b>314124.00</b>	<b>25623.24</b>	<b>244074.00</b>	<b>103191.89</b>	<b>305836.00</b>	<b>39823.49</b>	<b>1270014.00</b>	<b>222810.08</b>	

Source: Annual Plan 2017-18, 2018-19, 2019-20, 2020-21 and Thirteenth Five-Year Plan 2017-2022 Accounts

Table 25.3 *Budgeted outlay and expenditure of general services in the 13th Five-Year Plan, in Rs lakh*

Sector	Annual Plan 2017-18		Annual Plan 2018-19		Annual Plan 2019-20		Annual Plan 2020-21		Annual Plan 2021-22		Total	
General Services	Budgeted Outlay	Exp.*	Budgeted Outlay	Exp.*	Budgeted Outlay	Exp.	Budgeted Outlay	Exp.*	Budgeted Outlay	Exp.*	Budgeted Outlay	Exp.*
Stationery	65.00	61.69	100.00	70.63	150.00	55.54	120.00	78.09	120.00	110.58	555.00	376.53
Printing	935.00	633.77	1,000.00	987.55	1,000.00	264.32	800.00	690.07	800.00	141.67	4,535.00	2,717.38
Public Works	7,600.00	14,086.20	8,120.00	9,786.15	8,120.00	8,766.5	7,184.00	10,902.8	7,184.00	10,330.9	38,208.0	53,872.6
Total	8,600.00	14,781.66	9,220.00	10,844.3	9,270.00	9,086.4	8,104.00	11,671.0	8,104.00	10,583.1	43,298.0	56,966.6
				3		5		1		9	0	0

Note: Exp. = Expenditure

\* Expenditure includes Supplementary Demand for Grants

Source: Annual Plan 2017-18, 2018-19, 2020-21 and Thirteenth Five-Year Plan 2017-2022 Accounts

## 25.3 INFORMATION AND PUBLICITY

Information and Publicity Relations Department is dealing with the Information and Publicity sector and plays a key role as a communicator between the people and the Government. It is the nodal agency for the timely dissemination of news and information on Government policies, programmes, schemes, initiatives and achievements through print, electronic and social media to the public, and also in tracking the response of the people. It includes the directorate, 14 district information offices and the information office in New Delhi. The district information offices focus on activities in the district and works in tandem with the respective District Collectorates in news dissemination and publicity campaigns. The New Delhi information office is a platform for the department to showcase the art, culture and heritage of Kerala on special occasions, including at the India International Trade Fair.

### Major Achievements of 13th Five-Year Plan

In 2017-18 the Information and Public Department has started Nam Munnottu, the Chief Minister's television programme. The Department bagged a Silver Medal at IITF, New Delhi. Over the years, 12 documentaries were prepared in connection with the Vajra Keralam celebrations. A special campaign on completion of 1,000 days of the Government, training in mobile journalism, development of The Malayalam version of the Government web portal [www.kerala.gov.in](http://www.kerala.gov.in) and the installation of a Dolby sound system in Tagore Theatre, Thiruvananthapuram were some of the achievements of the Department during the 13th Five-Year Plan. Government advertisement processes have been automated through a software named 'Admire' with the help of Keltron. The Department conducted a documentary fest in collaboration with Doordarshan and this involved Pulitzer Prize-winning photographer Nick Ut who toured Kerala.

The Department gives out state media awards, Swadeshbhimani Kesari award and State photography award. A social media campaign for the Loka Kerala Sabha, advertisements, publication of books, exhibition and performances were carried out during this time.

The Department conducted a month-long social media campaign titled Inniyum Munnottu in February 2021, highlighting the Government's welfare and developmental initiatives. The first phase of a digital compilation of the Visual History of Kerala spanning its ancient, medieval and modern periods has been completed. About 50,000 copies of the Government's progress report has been printed and published with details of sector-wise achievements, covering the period from 2016 to 2020. The Department launched 'GoK Direct' mobile app for COVID-19 related information dissemination, and promoted 'Break-the-chain'-social media campaign (short videos, infographics, posters and animation films were used, including multilingual content for guest workers). On a regular basis, the department uploaded Government Orders and Cabinet

Orders, besides Circulars, Notifications, Tenders, Government Reports, Policies, News, Videos, Pictures and Banner News in [www.kerala.gov.in](http://www.kerala.gov.in). A State-level campaign was held as part of the 75th anniversary of independence (Azadi Ka Amrut Mahotsav) and an awareness campaign was conducted through field publicity and social media modes on various Government programmes.

The Kerala Media Academy (autonomous) is the academic division of the department giving quality training to aspiring students in media studies. Some of its flagship programmes such as the Public Relations Information Service Management (PRISM) has transformed it into a strong platform for keeping tabs on grassroots-level activities of the Government and bringing them to the attention of the public.

Major achievements of the Department are listed below

1. Gives wide publicity on developmental and welfare programme of the Government through print-audio-visual and new media.
2. Published periodicals viz. Kerala Calling in English and Samakalika Janapatham in Malayalam.
3. Content management of the Government web portal [www.kerala.gov.in](http://www.kerala.gov.in), the official website of the Chief Minister, – [www.keralacm.gov.in](http://www.keralacm.gov.in), news portal [www.keralanews.gov.in](http://www.keralanews.gov.in), the official website of the Department, [www.prd.kerala.gov.in](http://www.prd.kerala.gov.in), and the official websites of Ministers.
4. Scrutiny division of the department gives feedback to the Government on public opinion.
5. Production and telecast of the Chief Minister's interactive television programme Naam Munnottu; news and development-based television programmes, namely, Priya Keralam and Nava Keralam, and the Janapadham radio programme.
6. Production of documentaries and short films.
7. Conducts study tours for journalists to culturally and developmentally significant places and arranges inter-State visits for journalists.
8. Provides financial and administrative assistance to the Kerala Media Academy, which offers post-graduate and diploma courses in Journalism, PR and Advertising.
9. Functions as the official agency for the release of Government advertisements.
10. Issuing of departmental advertisements to various media and payment of advertisement charges.
11. Production of video advertisements and documentaries for other departments.
12. Fixing the Government rate for advertisements in print, electronic and online media and publication of media list.
13. Selection and distribution of State Media awards, Swadeshabhimani-Kesari Award and State Photography Award
14. Provides pension to various categories of journalists.
15. Facilitating mediapersons in reporting Government functions.
16. Organises press conferences for ministers and officials.
17. Setting up of media centres for major events such as Sabarimala festival, Onam celebrations and Loka Kerala Sabha.
18. Acts as the enforcement agency for the Cable TV Act and the Press and Registration of Books Act.

Table 25.4 *Outlay and expenditure of information and publicity sector in the 13th Five-Year Plan, in Rs crore*

2017-18		2018-19		2019-20		2020-21		2021-22	
Outlay	Exp.	Outlay	Exp.	Outlay	Exp.	Outlay	Exp.	Outlay	Exp.
40.80	32.43	45.88	38.49	45.08	23.36	38.46	26.15	38.46	15.14
	(79.49)		(83.90)		(51.82)		(68.01)		(39.38)

Source: Planspace, Government of Kerala

## **Key Initiatives – 14th Five-Year Plan**

### **Integrated newsgrid project**

The Government's attempt to reach out to people at the grassroots-level has been given a new direction through the Public Relations Information Service Management (PRISM) programme as part of the Integrated Newsgrid Project. During the 14th Five-Year Plan, the effort would be to provide added impetus to this project by enhancing the penetration of information-gathering and quick dissemination by additional deployment of trained personnel, who would closely work with LSGD institutions. This would trigger precise and timely information flow that would benefit several stakeholders in the community besides the Government. Increasing the penetration of mobile journalism is expected to provide more impetus to this project.

### **Info-cultural hub**

The Tagore Theatre in Thiruvananthapuram has its own cultural legacy. During the 14th Five-Year Plan period this sprawling campus marked by good greenery is looking forward to its transformation into the biggest Info-Cultural Hub in the State. This would be done by incorporating some of the best in multimedia technologies to showcase, learn, share, experience and enjoy the many facets of the State's art, culture, heritage and theatre. Electronic installations, open-air cultural programmes aided by laser display, augmented reality, theme-based galleries and theme gardens would provide a variety of infotainment for the visitors.

### **Information hub**

Realising the setting up of an Information Hub at the headquarters with Information Centres in 14 district information offices and the Information Office, New Delhi is one of the major tasks for the department during the 14th Five-Year Plan period. Each district will be provided with a networked Information Centre, broadband connectivity, hardware support and personnel to man the centre. The heart of the Information Hub would be an Info Portal catering to the citizens with up-to-date information on Government services, projects, financial assistance and other relevant information that could be of use in daily life, business, employment, education, health, service sectors and many other sectors.

### **Social media reach**

A full-fledged social media wing catering to the social media needs of the Government has become relevant in the context of the modern-day significance of social media and the rising quantum of news and information being exchanged over this platform. During the 14th Five-Year Plan period, the department intends to set up a 24 x 7 social media wing with qualified hands to generate multi-lingual content, fact-check experts, campaign managers and analysts.

### **Centralised digital archive**

The Archive, meant for archiving the huge volume of video content, images, press cuttings and so on, would be examined by engaging the Digital University as technology partner. As the Information Public Relations Department is the largest repository of Government audio-visual content, it is important that the system be backed by good cloud storage facility, hassle-free archiving methods and retrieval system.





## **Chapter 26**

### **Concluding Notes**

The 14th Five-Year Plan aims to lead the State firmly on the path of development with a long-term vision, while ensuring social security to all the people. The financial allocations to the sectors are focussed on the key engines of growth for the integrated development of the State. The tasks and efforts of the Plan are to build a knowledge-based society, while improving the service sectors and energising the production sectors.

The path-breaking development plans formulated in the 14th Five-Year Plan will stimulate growth in the areas of social investment, particularly in higher education and health, high-technology manufacturing, skilling, information technology, biotechnology, start-ups, agro-food processing and life sciences-based industry. The efforts will bring out new directions in product and process innovations, social shaping of technology and in creating a healthy and conducive ecosystem to foster innovations in the State.

The Government is committed to eradicating extreme poverty from the State, and this will be achieved through various welfare schemes for the old, the infirm and the disabled, free medical care to the deserving, payment of social security pension and ensuring that land, housing and drinking water become accessible to all, and so on. Tasks and efforts to eradicate extreme poverty have been incorporated in the Five-Year Plan.

The Plan envisages the creation of 40 lakh employment opportunities and this will be made possible through skill improvement programmes, industrial restructuring and the modernisation of agriculture. The assessment is that knowledge-based industries and service industries like tourism are more suited than others for a State such as Kerala. Special attention to start-ups could pave the way for university campuses becoming hubs of innovation and employment generation. The Government intends to make large-scale interventions in these sectors to revive the economy and lay the foundations for a knowledge economy.

It also focusses on the special responsibility to ensure the preservation and enhancement of biodiversity in the State while monitoring changes caused by climate change. Accordingly, priority has been given to infrastructure development that is resilient to climate extremes.

The ultimate aim of the 14th Five-Year Plan is to create a New Keralam (Nava Keralam) that reflects sustainable and all round development that ensures transparency and happiness to all. This will certainly be achieved by realising the goals envisioned in the Plan.