



GOVERNMENT OF KERALA
KERALA STATE PLANNING BOARD
FOURTEENTH FIVE-YEAR PLAN
(2022-2027)

APPROACH PAPER

DRAFT

CONTENTS

| | |
|---|----|
| 1. INTRODUCTION | 1 |
| 1.1 Distinct Features of Kerala | 1 |
| 1.2 Challenges and Crises of the 13th Plan period | 3 |
| 1.3 Achievements of the 13th Five-Year Plan | 4 |
| 1.4 International Situation and Its Implications for Kerala | 7 |
| 1.5 14th Five-Year Plan | 9 |
| 2. Productive Sectors and Services | 11 |
| 2.1 Agriculture and Allied Sectors | 11 |
| 2.2 Industry | 19 |
| 2.3 Science and Technology | 23 |
| 2.4 Information Technology | 24 |
| 2.5 Tourism | 27 |
| 2.6 International and Internal Trade | 30 |
| 3. Labour, Labour Welfare, Employment, and Skilling | 31 |
| 3.1 Labour and Labour Welfare | 31 |
| 3.2 Employment and Skilling | 32 |
| 4. Education | 35 |
| 4.1 School Education | 35 |
| 4.2 Higher Education | 36 |
| 5. New Frontiers in People's Welfare | 39 |
| 5.1 Medical and Public Health | 39 |
| 5.2 Gender and Development | 40 |
| 5.3 Scheduled Castes and Scheduled Tribes | 43 |
| 5.4 Social Services and Social Security | 44 |
| 5.5 Housing | 46 |
| 5.6 Water Supply and Sewerage | 46 |
| 5.7 Food and Civil Supplies | 46 |
| 5.8 Eradication of Absolute Poverty | 47 |
| 6. Infrastructure | 48 |
| 6.1 Transport | 48 |
| 6.2 Power | 50 |
| 6.3 Irrigation | 52 |
| 7. Environment | 54 |
| 7.1 Biodiversity, Climate Change, and Environment | 54 |
| 7.2 Disaster Management | 55 |
| 7.3 Forestry | 57 |
| 8. Local Governments | 58 |
| 9. Art, Culture, and Sports | 62 |
| 9.1 Art and Culture | 62 |

| | |
|---|----|
| 9.2 Sports | 63 |
| 10. Non-Resident Keralites | 65 |
| 11. Administration and Governance | 67 |
| 11.1 Land Records | 67 |
| 11.2 e-Governance | 68 |
| 11.3 Statistics for Development | 68 |
| 12. Resources for the 14th Five-Year Plan | 70 |
| 12.1 Plan Resources and Outlay | 70 |
| 12.2 Cooperatives | 72 |
| 13. Evaluation of Projects and Schemes | 73 |

1. INTRODUCTION

1. The Left Democratic coalition has achieved an unprecedented second consecutive term in office. This is a unique opportunity for the Government of Kerala not only to build on its strengths in social policy and investments, but also to ensure its people a prosperous future. Despite the political, financial, and administrative constraints within which a State Government in India must function, the Government of Kerala will, through the 14th Five-Year Plan and other means, present India and the world a secular, democratic, socially inclusive, and high-growth alternative development policy.
2. Left Governments in Kerala come to office with a vision. As noted in the 13th Five-Year Plan, when the first elections in Kerala State were to be held in 1957, a June 1956 meeting in Thrissur outlined proposals for a document titled “Building a Democratic and Prosperous Kerala,” which, in turn, provided the basis for the 1957 manifesto and for the policy agenda of the first State Government. Similarly, at the time of the 2016 Assembly elections, the manifesto was based on detailed public consultation, and by drawing on the deliberations of the International Congress on Kerala Studies. There is a difference in the status of the election manifesto in Kerala and elsewhere, and the election manifesto as a document of policy gained new importance under the previous State Government.
3. In 2021, despite the constraints imposed by the pandemic, the Chief Minister conducted wide-ranging consultations to seek people’s opinions on the future of Kerala and on creating a vision of Navakeralam, or a New Kerala. The consultations took place through the Kerala Paryatanam programme, through consultations on campuses throughout the State, and by means of online and hybrid meetings with a wide range of mass organisations and social groups. The Kerala State Planning Board organised, at the initiative of its Chairperson, an international conference and consultation titled “Kerala Looks Ahead.”

1.1 Distinct Features of Kerala

Human Development

4. Kerala has been acclaimed for its achievements in human development, particularly in the spheres of health and education. Among the States of India, Kerala has the lowest infant

mortality rate (IMR) and death rate for children below five years of age. In fact, among the bigger States in India, Kerala is the only State with a single digit IMR of 6 (equal to the IMR of OECD or Organisation for Economic Co-operation and Development countries). The all-India infant mortality rate is 30. The under-five mortality rate in Kerala is 10; the corresponding figure for India is 36. Similarly, expectancy of life at birth in Kerala (75.3) is higher than the figure for India (69.4). Kerala achieved the UN Sustainable Development Goal of reducing the maternal mortality rate (MMR) to less than 30 per 100,000 live births in 2019, one year ahead of the schedule. The MMR in Kerala is 30, the lowest in India. The corresponding figure for India is 103. Two health centres of the State (Chalakyudi Taluk Hospital and Noolpuzha Family Health Centre) were selected as the best Government hospitals of the country in 2018. In terms of school education, Kerala has achieved universal enrolment and has the lowest dropout rate in India. Kerala has topped the Sustainable Development Goal India Index for three years (2018, 2019 and 2020) consecutively. By the NITI Aayog's Multidimensional Poverty Index (2021), the headcount ratio (the number of people in the State who were "multi dimensionally poor" as a proportion of the State population) of Kerala was 0.71 per cent, the lowest among States in India. The headcount ratio for India is 25.01 per cent, while it is 51.9 per cent for Bihar and 42.16 per cent for Jharkhand. In 2019, Kerala was judged the first among the States of India in promoting empowerment among persons with disabilities. Among States of India, Kerala has the highest monthly per capita consumption expenditure both in urban and rural Kerala. In terms of per capita income, average income per person in the State is 1.5 times the all-India average.

Planning Continues

5. Kerala remains the only State to have made a public commitment to continue the planning process. Five-Year Plans and Annual Plans have served as instruments to structure the aspirations of the people into schemes and programmes, and invest the scarce resources of the economy to productive and socially impactful purposes.
6. When the Government of Kerala came to office in 2016, it decided, against the trend at the centre and in other States, to continue the process of economic planning. The Government decided that while deepening and extending its achievements in human development, it would use these achievements as a foundation on which to create new employment

opportunities for the people, particularly youth, to enhance the productive forces and increase incomes from production in agriculture, industry, and income-bearing services, and to build infrastructure.

7. In the coming years, fiscal constraints may become more restrictive. The Revenue Deficit Grants recommended by the Fifteenth Finance Commission are to cease after 2023-24. GST compensation may end by June 2022. Further, the ceiling for borrowing as a proportion of gross state domestic product for States will be brought back to 3 per cent (it was raised to 4.5 per cent during the pandemic) in 2025-26. In these circumstances, we need to continue our focus on post-Covid recovery efforts to revive the economy. The task of promoting sustained economic growth in the economy cannot be postponed.
8. Kerala today has to meet the challenge of sustainable development in a scientific and rational manner. Infrastructure development must be resilient to climate extremes. Disaster prevention must be ensured in the development process and not as an afterthought. Climate change is bringing forth new concerns, especially coastal protection and the impact on our agriculture and natural resources. Kerala is one of the biodiversity hotspots of the country. We have a special responsibility to ensure its preservation and enhancement, while we also monitor the changes caused by climate change.

1.2 Challenges and Crises of the 13th Plan Period

9. The preceding five years 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. There was an outbreak of Nipah virus disease in two districts of the State in 2018. There were new stresses on the State economy caused by demonetisation in 2016 and the introduction of GST in 2017. And in Kerala as elsewhere, the crisis associated with the Covid-19 pandemic unsettled the economy as never before. The production of goods and services during the early phase of the Covid-19 pandemic came to an abrupt and almost total halt. Further, the halt to production during the Covid-19 pandemic was not locality-specific or scale-specific. Its effects were from top to bottom and across all locations. There is still uncertainty about how long it will take to achieve full recovery and previous levels of

production of goods and services, since their resumption involves national and international supply and distribution chains.

10. During the floods of 2018, Kerala demonstrated exceptional capability in undertaking immediate rescue and relief work. The State initiated immediate efforts to rebuild and rehabilitate the economy through the 'Rebuild Kerala Initiative.' During the Covid-19 pandemic, Kerala's policy response was swift and people-oriented. The Government ensured that no one would go hungry and without access to a kit of essential consumer goods, that no one went without a shelter, that everyone had access to the health system, and that people had access to a free and continuous flow of information. During the crises, the Government of Kerala took special efforts to ensure the well-being of migrant workers.

1.3 Achievements of the 13th Five-Year Plan

11. Despite the multiple challenges that the State of Kerala has had to confront – with respect to natural disaster, the pandemic, and limited financial resources and other setbacks caused by adverse Central policy – there have been short-term, medium-term, and long-term structural gains in different spheres of the economy.
12. Kerala's average economic growth in the first three years of the Plan (2017-20), at constant and current prices, was 5.31 per cent (constant prices) and 9.15 per cent (current prices). These were close to the national average. There were significant improvements in the productive sectors of the economy. Productivity of paddy increased from 2,547 kg per hectare in 2016-17 to 3,105 kg per hectare in 2020-21. In the 13th Plan, area under paddy also registered an increase from 1.71 lakh ha in 2016-17 to 2.02 lakh ha in 2020-21. A key achievement in the agriculture sector was the increase in the area and production of vegetables. Production of vegetables increased from 7.25 lakh MT from an area of 52,830 ha in 2016-17 to 15.7 lakh MT from an area of 1.02 lakh ha in 2020-21.
13. An improvement in the performance of the manufacturing sector was central to the revival of Kerala's economy from 2016 onwards. There has been a steady increase in the size of Kerala's manufacturing sector. The share of manufacturing in Kerala's GSVA increased from 9.8 per

cent in 2014-15 to 11 per cent in 2019-20. Major highlights of the improved performance of Kerala's manufacturing sector from 2016-17 onwards include a revival in the performance of State PSUs (mainly in the chemicals and electrical machinery sectors) and continuing vigour in the growth of micro, small, and medium enterprises (MSMEs). The growth in MSMEs was the result of policies implemented during the 13th Plan. One of the notable achievements in the sphere of industry has been a favourable change in the perception of Kerala as an investment destination among potential entrepreneurs over the last few years.

14. In the Information Technology sector, the Kerala Fibre Optic Network (KFON) and Skill Delivery Platform Kerala were the major policy initiatives of the 13th Plan. The sector saw the entry of world-famous companies into the State. IT policy was formulated in the first year of the Plan to transform Kerala into a knowledge-based society and leading IT destination. There was a substantial increase in built-up space, the number of companies, and employment in IT parks in the State. One of the significant achievements of the 13th Plan was the creation of a favourable environment for startups in the State.
15. Infrastructure development in the State entered a new phase with the revamping of the Kerala Infrastructure Investment Fund Board (KIIFB). Some of the major projects financed by KIIFB include the Kerala Fibre Optic Network, Petrochemical and Pharma Park in Kochi, Coastal and Hill Highway, Transgrid 2.0, Life Science Park in Thiruvananthapuram, and the Hi-Tech School Programme. As of March 2022, 955 infrastructure projects worth Rs. 50,762 crore have been approved. In addition, land acquisition for seven projects worth Rs 20,000 crore has been approved taking the total to Rs 70, 762 crore. Other major projects were completed in the 13th Plan period. These include the Kochi Metro, Kannur International Airport, and the Kollam and Alappuzha highway by-passes. Another major achievement of the 13th Plan period was the provision of an electricity connection to every household in the State.
16. Livelihood, Inclusion, Financial Empowerment (LIFE), a historic and unique programme to provide modern decent housing to income-poor people who do not own their own homes,

was introduced in 2016. It envisages higher investment than all previous housing schemes in the State. More than 2.79 lakh houses had been constructed under the LIFE Mission by February 2022.

17. The 13th Plan saw new policies in the sphere of tourism. An increased share of investment has gone to promotion and marketing. A tourism policy that outlined a new framework and significant new areas of attention in tourism was announced in 2017. Though tourism was one of the worst affected sectors in the 13th Plan, the sector has shown great resilience. After the floods of 2018, the sector rebounded strongly in 2019.
18. The Government took particular care to implement the National Food Security Act, 2013, successfully, and to ensure food security for all at all times, including periods of crisis. As part of relief measures during the floods of 2018, the Government provided 15 kg of rice free to each affected household and all coastal households. After the Covid-19 pandemic struck, the Government of Kerala ensured that no one was deprived of food and other essential consumer goods. Free food rations were distributed to all ration card holders. Special kits were distributed during festivals.
19. One of the major achievements of the present Government was the establishment of the Kerala Bank in 2019. The Bank will lead cooperative-based efforts to ensure sustainable development of the State.
20. The Government's "Public Education Rejuvenation Mission," which aimed to raise the quality of infrastructure, teaching, and learning in State schools, has seen a massive shift of students from unaided to government and aided schools between 2016-17 and 2021-22. In this period, 8.91 lakh additional children enrolled in government and government-aided schools.
21. Kerala's progress in its public health system has received national and international appreciation. Kerala has also been a model for other States of India in dealing with public

health exigencies, as the experiences in dealing with the Nipah virus outbreak in 2018 and the Covid-19 pandemic have shown. The Aardram Mission aimed at modernising all public medical institutions – from Primary Health Centres to government Medical Colleges – in the State and making them people-friendly.

22. Welfare pensions increased from Rs 600 per beneficiary in 2016 to Rs 1600 per beneficiary in 2021. The number of social security pensioners, which was 34 lakh in 2015-16, went up to 51.35 lakh in 2021. Programmes were implemented for the welfare of the elderly, persons with disabilities, welfare of women and children, and persons belonging to the scheduled castes and scheduled tribes. Gender budgeting was a key feature of the 13th plan and the process of gender budgeting was institutionalised during this period. The share of the Gender Budget went up from 11.5 per cent in 2017-18 to 19.5 per cent in 2021-22.
23. In the 13th Plan period, Local Governments streamlined planning processes and improved the implementation of Plans. A notable feature of this period was the formulation of District Plans.
24. Local Governments played a crucial role in times of crisis, particularly during the floods and the Covid-19 pandemic.
25. During the 13th Plan period, in every crisis it had to face, the Government of Kerala put people's welfare at the centre of its policy response.

1.4 International Situation and Its Implications for Kerala

26. As Kerala's 13th Five-Year Plan period ended in 2021-22, global economic circumstances were not the most propitious. Initially it appeared that the worst of the pandemic and the devastating shutdown of economic activity that accompanied it were substantially over. But new problems have arisen. As the post-pandemic recovery gained momentum, inflation has again become a matter of concern, forcing central banks in the advanced nations to consider withdrawing the unconventional monetary policies, involving injection of liquidity at low interest rates into economies, that they had relied on for long to drive growth. In practice,

while the growth-inducing effects of such policies were weak, the excess liquidity spilt over into asset markets, especially global financial markets, and triggered unsustainable asset price inflation. This meant that if these unconventional monetary policies were unwound too quickly, growth could slow and asset prices could collapse. Ensuring recovery without inflation was difficult. And efforts to address inflation could destabilise financial markets in advanced nations and emerging economies like India.

27. It was when the challenge of inflation was being addressed by policymakers that the war in Ukraine broke out. The war has led to shortages and pushed up oil, food, and other commodity prices and intensified the incipient tendency to stagflation. Fears of energy, food, and financial crises are being expressed in policy circles.
28. India has been hit severely by this combination of developments. Oil prices and inflation are on the rise, foreign investors are exiting financial markets and the rupee is depreciating, accelerating inflation in the process. Being a State that is also aiming to step up capital formation, these developments are especially challenging for the Government of Kerala. The real value of available financial resources can erode and more resources would have to be diverted to providing support to vulnerable sections that were hurt by the pandemic and are now being burdened with inflation. One source of hope is the positive effect that rising global oil prices may have on remittances from the Gulf. The uncertainties inherent in the situation weigh heavily on resource mobilisation during the 14th Five-Year Plan.
29. In recent years, trade conflicts and associated political developments have caused a complex set of changes in global production value chains. The early evidence of these changes are emerging in the export patterns of East Asian Countries such as Japan, South Korea, Taiwan, and Vietnam. The impact of these changes on the Indian economy and especially Indian manufacturing is still not very clear and will have to be watched carefully.

1.5 14th Five-Year Plan

Process

30. The formulation of Five-Year Plans is an exercise in people's participation. In September 2021, the State Planning Board began wide consultations and discussions for the preparation of the 14th Five-Year Plan.
31. 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 was about 1200. The members of the Working Groups included scholars, administrators, social and political activists, and other experts. The reports of Working Groups are valuable inputs for the formulation of our 14th Five-Year Plan.

Thrust Areas of the 14th Five-Year Plan

32. 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 Kerala's youth with the best forms of skilled employment available in a modern economy.
33. Our aim should be 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 our development process will be inclusive. Our guiding principle is that the development process under the leadership of the present Government will not leave any person behind.
34. In five years we aim to set Kerala 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.

35. 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:
- i) to build on strengths in social investment (health, school education, and housing), social welfare, and social and gender justice;
 - i) 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;
 - ii) 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;
 - iii) to build a modern, high-employment, productive economy;
 - iv) 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;
 - v) to end extreme poverty in Kerala;
 - vi) to establish comprehensive and innovative systems of waste management;
 - vii) to help Local Governments become engines of growth; and
 - viii) to promote an inclusive development process – the guiding principle of the development process will be to leave no person behind.

2. PRODUCTIVE SECTORS AND SERVICES

2.1 Agriculture and Allied Sectors

36. According to the NSSO's Situation Assessment Survey (SAS) of 2018-19, of the 44 lakh rural households in Kerala, 33 per cent were "agricultural households." In India as a whole, 54 per cent of the rural households were agricultural households.
37. While the time series data show a long-term decline in the share of agriculture in State's income, the data from the SAS 2018-19 show that a substantial number of households continue to depend on agriculture in the State. A still larger number cultivate homestead plots, a feature of Kerala's agriculture not adequately captured by different datasets.
38. A feature of Kerala's agricultural sector over the past decade has been its poor annual growth rate. Between 2011-12 and 2019-20, agriculture and allied sectors grew year-on-year by -2.2 per cent while the crop sector grew year-on-year by -3.6 per cent. Household-level data from the SAS of 2012-13 and 2018-19 are consistent with these results.
39. We must recognise, in the first instance, that low growth rates in the value of production of many crops in Kerala reflect the vulnerability of these crops to falling international prices. Free trade policies of the Government of India contribute substantially to predatory imports and the consequent fall in prices of, for example, rubber, tea, coffee, cardamom and other spices, and even coconut, all of which are important components of Kerala's agricultural economy. While the Government of India declared that it would double farmers' real incomes between 2015 and 2022, its own domestic policies in agriculture – beginning with demonetisation and running through the ban on cow slaughter, contractionary fiscal policies, and reforms in the taxation and GST regime – contributed to an absolute fall of real incomes from cultivation in rural India between 2012-13 and 2018-19.
40. The slogan of the 13th Five-Year Plan for agriculture in Kerala was to enhance productivity, profitability, and sustainability in agricultural production. Although agriculture was hit hard by the adversities of the preceding five years, there were major gains as well as a result of policy intervention during the 13th Five-Year Plan. The decline of areas under rice cultivation

was arrested; in fact, there was an increase in area under rice cultivation from 1.71 lakh ha in 2016-17 to 2.02 lakh ha in 2020-21. Kerala provides its rice cultivators with the highest support price for paddy in India today. Most of the rice produced in the State is procured by State agencies. The agricultural problem in Kerala is therefore not shortage of price support, but of productivity and of the number of crops grown per year. The main means of increasing incomes is to ensure sustainable increases in productivity and intensification of cultivation.

41. The 13th Five-Year Plan emphasised the need to enhance productivity in agricultural production. There was a significant increase in vegetable production, production subsidies were raised, base prices were announced, and market interventions by public agencies were strengthened. A mission-mode programme in the sphere of coconut production, with a replanting target of 1 million new palms in a year, was begun. A programme to encourage fruit tree cultivation was introduced. Kerala is now close to self-sufficiency in the production of milk. Fish production also rose. Agro-climatic zones in the State were delineated during the 13th Five-Year Plan.
42. In 2020, the major production scheme in the package of measures to help revive the economy during the pandemic was Subhiksha Keralam. The programme focussed on food crop production and value addition to agricultural products. It brought together efforts by departments concerned with agriculture and allied activities and departments concerned with irrigation, cooperation, industry, and local governments to revive the economy during this difficult period.
43. During the 14th Five-Year Plan period, enhanced productivity of crops in agriculture and intensification must become the primary instrument for the revival of agricultural growth rates in the State. Production relations in agriculture must be reshaped in order to ensure the development of productive forces in agriculture and the achievements of new levels of productivity, profitability, and sustainability. Kerala's agriculture must embrace new technologies, particularly in biotechnology and nanotechnology. Youth should be attracted to agriculture by making it economically rewarding and intellectually stimulating. Production

and marketing must be restructured, and interventions in marketing must use the strengths of the State's cooperative sector. Kerala must also open its doors to private investment in agricultural value addition and agro-processing.

44. In this context, the leading objectives of the 14th Five-Year Plan in agriculture and related activities are as follows.

- i) Plan schemes in agriculture should better reflect the nature of agriculture in Kerala, which, for many cultivators, is conducted on homesteads where cultivation differs according to agro-climatic zone. Thus, planning should not only be crop-focussed and focussed on field agriculture, but should also be oriented towards integrated farming schemes that encompass crops, livestock, fisheries, and other activities such as beekeeping and sericulture.
- ii) Leaving land fallow and reclaiming wetlands for non-agricultural purposes must be discouraged, and efforts made to cultivate, through farmer groups, cultivable land. Necessary legal reforms must be explored to incentivise such practices.
- iii) In order to be able to plan for scientific rice cultivation and wetland conservation, modern technology must urgently be used to create an accurate database of wetlands and land on which rice is cultivated. Planning for agriculture must be based on India's land capability classification.
- iv) Kerala needs a transformation in the productivity of most crops grown in the State. Detailed analysis in the *Kerala Development Report 2021* showed that yield gaps across crops are wide, whether relative to yields achieved in research stations or yields obtained by farmers in other parts of India. Low yields hinder efforts to raise farmers' incomes.
- v) Kerala needs change in crop management practices. To take the example of a vital aspect of crop production, soil management, a substantial proportion of Kerala's soils is deficient in major and minor nutrients. Ninety-one per cent of soils are acidic; 34 per cent of soils are deficient in nitrogen, 37 per cent in phosphorus, 31 per cent in potassium, 59 per cent in calcium, 79 per cent in magnesium, 56 per cent in sulphur, and 64 per cent in boron. Frequent floods and heavy rains have further affected the health of soils, including through a drain of organic carbon. At the same time, and quite contrary to the view that there is an

excessive use of fertilizers in the State, the consumption of N, P and K fertilizers in Kerala was only 36.4 kg per ha, the lowest among all Indian States. Kerala's consumption of N, P, and K fertilizers declined alarmingly over the last decade, from 106.2 kg per ha in 2010-11 to 36.4 kg per ha in 2018-19. Such imbalances, which are greatly at variance with the recommendations of the official Package of Practices, are a major constraint on agricultural growth.

- vi) With respect to farm mechanisation, mechanisation of field operations will continue. The 14th Five-Year Plan will also encourage the use of machines and implements that are suitable for small farms and homesteads.
- vii) In Kerala's fragmented agricultural landscape, ensuring economies of scale is an important means of ensuring a stable market and fair incomes to farmers. Although the State has a rich history of cooperatives in spheres such as rural credit, small and marginal farmers must also be brought together in forms of group production and marketing.
- viii) Agricultural marketing is a key area of concern. During the 14th Five-Year Plan period, the policy on agricultural marketing needs radical strategic change. A regulated supply-chain network must be built for major commodities like coconut, vegetables, rubber, and spices. In the medium term, Kerala needs at least one primary rural agricultural market (PRAM), equipped with cold storage facilities, in every panchayat. These markets should act as feeder markets for markets at block and district levels. Farmers, farmers' cooperatives, and farmer producer companies must be linked to these primary markets. Efforts must also be made to create federations of markets in order to ensure viable linkages with the value-addition and processing sectors.
- ix) Another problem of agricultural marketing in Kerala is the absence of facilities for aggregation at the farm gate. The absence of such aggregators is particularly conspicuous in homestead farming. Farmers can be linked profitably to secondary production only when such aggregation is in place. The 14th Five-Year Plan will emphasise and encourage the role of primary agricultural cooperative societies (PACS), farmer producer companies, Kudumbashree groups, and other such collectives in agricultural marketing.

- x) Private investment will be welcomed in the sphere of value addition and processing. While Kerala has several food parks and industrial parks, these are yet to achieve their full potential.
- xi) Agricultural research holds the key to raising productivity and meeting specific environmental challenges. Kerala's public research system has made significant efforts to introduce new seed varieties and hybrids that are high-yielding and resistant to pests and diseases. Rice farmers today need new seeds that are not only high-yielding and resistant to pests and disease, but also tolerant to climate variability, salinity, and acidity. They need varieties of shorter duration than the current varieties. Vegetable farmers need hybrid seeds that are high-yielding, resistant to pests and disease, and suitable for precision farming and polyhouse cultivation. Coconut growers need seedlings that are high-yielding and resistant to pests and diseases. Kerala's agricultural research system should be better geared to meet these emerging challenges. The quality of seeds is another area of concern.
- xii) The agricultural research system suggests *integrated nutrient management* and *integrated pest management* as important measures towards reducing chemical use in agriculture. At the same time, the agricultural extension system has largely failed to encourage farmers to take to these management practices on any large scale. Irrational cultivation practices – at the one extreme, the advocacy of chemical-free agriculture, and at the other, a complacency towards the misuse and overuse of chemicals – should be discouraged through the development of a modern and responsive agricultural extension system. Krishi Bhavans should become smart Krishi Bhavans, allowing agricultural officers to spend more time with farmers. Social media and mobile applications must also find a place in new extension strategies.
- xiii) Kerala needs transformation in the participation of local governments in the production process in agriculture and allied activities, and enhanced plan expenditure by the local governments in the sphere of agricultural production.
- xiv) In the 14th Five-Year Plan period, local governments will intensify their participation in agricultural planning. Special assistance must be provided to them to prepare viable and meaningful projects in agriculture, including the preparation of a shelf of templates for model projects in different activities.

Fisheries

45. Scientific inland aquaculture is an assured means of raising the incomes of small-scale farmers. Youth are also interested in entering this sector. Although the 13th Five-Year Plan emphasised inland aquaculture, frequent floods and heavy rain were an obstacle to its development. The 14th Five-Year Plan must renew efforts in this sphere. Rural areas in Kerala are rich in small ponds, canals, and other water bodies. Every panchayat should promote commercial inland fisheries in a specified number of water bodies. Reservoirs in the State should also be used for this purpose.
46. An important constraint to the growth of inland fisheries is the availability of adequate fish seeds. The 14th Five-Year Plan will focus on ensuring investment in more hatcheries and nurseries to ensure the availability of seed material for inland fisheries.
47. The 14th Five-Year Plan will attempt to establish a Matsya Bhavan in each block by the end of the Plan period. The task of Matsya Bhavans is to ensure the efficient implementation of government schemes as well as to lead extension efforts in inland fisheries.
48. Rice-fish culture has much promise in Kerala. It can help raise the incomes of rice farmers and reduce the conversion of rice land to non-agricultural purposes. Special efforts must be made to promote rice-fish culture in the *Pokkali*, *Kaipad*, and *Kol* regions.
49. Two problems of the marine fisheries sector will receive special attention in the 14th Five-Year Plan. First, marine fisheries will be made sustainable and the physical security, social security, and economic security of fish workers will be ensured. A programme dedicated to reducing the debt burden of fish workers must be put in place. Secondly, a strategy must 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.

Animal Resources

50. Although animal farming holds enormous promise in Kerala as a rural enterprise for income generation and youth employment, data show that it is, at best, a minor supplementary source of income for Kerala's agricultural households today.
51. Special efforts will be made in the 14th Five-Year Plan to place the "Kerala Chicken" scheme, introduced in the last year of the 13th Five-Year Plan, on a firm footing. The scheme involves collaboration between the Department of Animal Husbandry, local governments, Kudumbashree, Kerala State Poultry Development Corporation, and cooperatives.
52. Kerala's recent success in milk production has not been replicated in meat or egg production. In the 14th Five-Year Plan period, the Planning Board will support efforts to draft a strategic plan for the meat sector. The plan must assist the modernisation of animal farming and meat production in the State, establishment of more slaughterhouses, and mechanisms to supply raw material to slaughterhouses on a regular basis. The strategy must also consider issues of the modernisation of slaughterhouses with rendering plants.
53. Insurance schemes in the sector have to be extended to cover poultry, ducks, goats, and pigs. This is necessary if Kerala is to attract investors to these sub-sectors. Many private entrepreneurs are now interested in investing in larger dairy farms, poultry farms, and slaughterhouses. Rules and regulations governing such establishments need review and simplification in order that more private investors are able to enter these sectors.

Dairy Development

54. Over the 13th Five-Year Plan period, Kerala made significant progress in moving towards self-sufficiency in milk production. 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.
55. 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.

56. Kerala must prepare itself for a surplus in milk production during the 14th Five-Year Plan period. The Kerala Co-operative Milk Marketing Federation (Milma) plans to establish a powder-cum-evaporator plant in Malappuram district, and efforts must be made to produce a range of value-added products in the dairy sector.

Credit for Agriculture and Allied Activities

57. Capital formation in agriculture and allied activities is critical to boost productivity, increase incomes, and improve the standards of living of farmers. Credit plays a crucial role in capital formation.
58. Financial institutions (FIs), which augment State resources and private equity in the primary sector, need to play a larger role in the State's development. In the 14th Five-Year Plan period, FIs need to focus on long-term and medium investment loans to build key infrastructure in the sector. This will also trigger further demand for short-term loans and help build the credit absorption capacity of the sector.
59. The three main institutions involved in the provision of agricultural credit in Kerala are (1) commercial banks, (2) credit cooperatives, including Kerala Bank, Primary Agricultural Credit Societies (PACS), Farmers' Service Societies (FSSs), Kerala State Co-operative Agricultural and Rural Development Bank (KSCARDB), and Primary Cooperative Agriculture and Rural Development Banks (PCARDBs), and (3) Kerala Gramin Bank. The Kerala Bank, formed by amalgamating district co-operative banks with the Kerala State Co-operative Bank, is emerging as a key partner in the development of the primary sector.
60. The State will create new opportunities in the primary sector to make use of loans from NABARD during the 14th Five Year Plan period. The State will develop a mechanism to

identify, formulate, and monitor infrastructure funding under the Rural Infrastructure Development Fund (RIDF).

Statistics

61. The absence of accurate data is an important obstacle to scientific planning in agriculture. The State Statistical Commission must be requested to review the entire system of agricultural statistics in the State and suggest methods to modernise it. Different databases in agriculture should also be linked with the efforts of the Revenue Department to resurvey land in the State and create a digital geo-referenced database on land ownership and use.
62. In summary, the objective of the 14th Five-Year Plan must be to reform the agricultural economy of Kerala. This effort must be led by the Departments of Agriculture, Animal Husbandry and Fisheries, but actively helped by the efforts of the Departments of Local Self Government, Cooperation, and Industry. Agriculture should embrace the most modern technologies available to raise levels of productivity. Only through an increase in productivity can the incomes of farmers be raised. Policy should also give special attention to aggregation, marketing, and value addition. Cooperatives and other forms of collective organisation and group activity at the ground level must be the main instruments of progress in these spheres.

2.2 Industry

63. 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, co-operative, and public sectors. Given the significance of the sector, attracting investment in existing industry and in emerging areas is a priority for the State. The State shall take effective measures to ensure that Kerala remains an industry-friendly and investor-friendly destination.
64. Industrial development shall be promoted taking into account the resource base, the distinct advantages, and the special geographical features of the State. Industrial development in Kerala must have its own features and must follow a path with specific characteristics.

65. Although there was a small increase in the size of Kerala's manufacturing sector, the sector was set back by repeated natural disasters and the pandemic. The share of manufacturing in Kerala's GSVA increased from 9.8 per cent in 2014-15 to 11.1 per cent in 2019-20. There was a revival in the performance of State PSUs, especially those engaged in the production of chemicals and electrical machinery, and growth in micro, small, and medium enterprise (MSME) sector in the 13th Five-Year Plan period.
66. ASCEND, a new outreach programme, was held in Kochi in 2019 and 2020. Policy measures were implemented to simplify the methods of starting businesses in Kerala. The Kerala Micro Small Medium Enterprises Facilitation Act 2019 is one of the key components of reforms to facilitate the establishment and retention of new businesses in the State. The high-tech industrial corridor project connecting Kochi and Palakkad will stimulate investments in the areas of high technology manufacturing, agro-processing, information technology, biotechnology, and life-sciences-based industry.
67. The strategy for developing industries under the 14th Five-Year Plan will have the following components.
- i) 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 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 to Kerala in this sector.
 - ii) 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, KINFRA, and others 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 lands with existing State public sector undertakings (PSUs) as well as from local bodies.

iii) 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 more professional autonomy to these units.

iv) A special focus has been given to develop infrastructure for the information technology (IT) industry and IT-enabled service sector at urban and rural centres. The success of this sector critically depends upon 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 will also help develop talents in advanced areas of information technology.

v) A large section of our people continues to depend upon 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.

vi) 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.

- vii) 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.
- viii) The plantation industry, particularly with respect to crops such as rubber, coffee, tea, and spices, has been under great stress because of the WTO regime. A new directorate for plantations was formed under the Industry Department during the 13th Five-Year 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.
- ix) 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.

- x) The State shall draft a new mining policy. Such a policy will address the multiple requirements of environment, industry, and livelihoods.

2.3 Science and Technology

68. Modern science and technology is a direct productive force that pervades all productive sectors in the economy and remoulds the physical conditions of human life. The development and advancement of science and technology are a priority of the 14th Five-Year Plan.
69. 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.
70. Two other features of development with regard to science and technology are important in the context of the 14th Five-Year Plan. First, in keeping with Kerala's commitment to inclusive development, Government policy will ensure that the benefits of science and technology reach all sections of society. Secondly, the State will continue interventions to develop the scientific temper among the people, particularly youth. This is of special importance in the present day, when the scientific temper in Indian society is under threat as never before.
71. The Kerala Development Report 2021 identified certain problems that required special policy attention in the 14th Five-Year Plan period. These include weak links between technology research and actual production in the State, concerns of quality across various levels of education and research in science and technology, and inadequate links and arrangements of collaboration between science and technology institutions in Kerala and the rest of the country and world. A further problem is that of weak collaboration between industry and applied research institutions.
72. The 14th Five Year Plan will give priority to the following tasks in science and technology.
- i) The Plan will focus on building a robust science, technology, and innovation ecosystem in the State. The Government will encourage greater collaboration between academic and

research institutions, government, and industry. The Plan will encourage stronger links between Central and State research institutions in Kerala, and between institutions in the State and elsewhere in India and the world.

- ii) The 14th Five-Year Plan will encourage efforts to strengthen scientific and technological innovations, and to provide attractive research opportunities to students who want to pursue a research career in science in the State.
- iii) The 14th Five-Year Plan will encourage investment in research infrastructure in research and educational institutions in the State. Only high quality research and development in the science and technology research network in the State can ensure that Kerala emerges as a leader in fundamental and translational research, innovation, and economic development.
- iv) The Plan will work to strengthen research institutions funded directly by the Government of Kerala through the Kerala State Council for Science, Technology, and the Environment (KSCSTE). These institutes will benefit from learning from best practices elsewhere, and from encouraging peer reviews in order to evaluate their work and its impact, and sharpen their mandates and focus. Research scientists in these institutions will be expected to raise project funding from different sources.
- v) The Government will intervene to develop the scientific temper among youth and students through well-designed programmes, campaigns, meetings, and conferences.

2.4 Information Technology

- 73. The information revolution, and the growth of unprecedented capacities to collect, analyse, and process data, has transformed the main productive and income-bearing sectors – agriculture, industry, and services – of the economy. It has created enormous opportunities for youth to be employed productively directly in IT and in Information Technology-enabled services (ITES) industries.
- 74. The continuing advance of information technology and its impact on all aspects of people's lives has led to the coining of terms such as “knowledge economy” and “knowledge society.” As used by UNESCO, the term “knowledge societies” describe capabilities to identify,

produce, process, transform, disseminate, and use information to build and apply knowledge for human development.

75. Technologists from Kerala have played an important role in India's emergence as a major global centre for the provision of the IT and ITES services. The state of Kerala, however, is still in the early days of realising potential benefits from information technology, especially the benefits to be had from recent developments in artificial intelligence, machine learning, blockchain technology, and communication technology developments such as 5G.
76. During the 13th Five-Year Plan period, a large number of international companies entered the IT sector in Kerala. The Kerala Fibre Optic Network (KFON), a project to provide internet connectivity to Government offices and free internet connectivity to 20 lakh income-poor households, was a major initiative of the 13th Five-Year Plan. The Skill Delivery Platform Kerala, another major initiative of the 13th Plan, links engineering colleges in the State with IT parks to deliver skills training to approximately 50,000 students every year. About 196 lakh sq ft of built-up space, Rs 4982.1 crore investment, Rs 22,204.57 crore turnover, and 109,740 jobs were created in the three IT Parks (Technopark, Infopark, and Cyberpark) run by the Government of Kerala. Kerala received various awards for development in the Information Technology sector.
77. With respect to the provision of citizen services and decision-making processes in Government, the application of IT has great transformative potential.
78. The 14th Five-Year Plan recognises the employment potential as well as the cross cutting impact of IT. It supports the integration of IT applications in different sectors and departments of Government.
79. The following are the main focus areas of the 14th Five-Year Plan in this sector.
 - i) *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 Five Year Plan will continue to support the creation of built up space and basic infrastructure for strengthening the IT ecosystem, in order to create opportunities for employment creation on a large scale.

- ii) *Digital infrastructure.* Digital infrastructure in terms of broadband connectivity and other high-end common computing facilities is essential in creating 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 Five-Year Plan, will be completed soon, and will be a historic milestone in the development of the IT and ITES sectors in the State.
- iii) *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 startup companies is also being developed. A large number of youth are currently choosing an entrepreneurial career path. The 14th Five-Year Plan will support the efforts of the startup mission and industry department to encourage young entrepreneurs. The Plan will support the creation of a fund of funds that focuses on the growth of viable businesses.
- iv) *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 Five-Year Plan will support additional investment in hardware production.
- v) *Policy environment and regulations.* With increased digitisation, and the expansion of the Internet of Things (IoT) and 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, our

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.

2.5 Tourism

80. The travel and tourism sector plays a significant part in the economy of the State. It is a sector with 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 well equipped to capture the business opportunities this development will provide.
81. 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.
82. 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.
83. *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.

84. 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.
85. *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.
86. *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, farmstays, and nature tourism should be encouraged through appropriate incentive 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.

87. 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.
88. *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. Homestays provide unique experiences to tourists and involve local populations in the tourism efforts.
89. *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.
90. 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.

2.6. International and Internal Trade

91. Historically, trade has been an important driver of Kerala's economy. The export of spices, coir products, and processed cashew from Kerala provided the base for the growth of traditional industries, which are, even today, a major source of employment in the State. The revival of economic growth in Kerala from the late 1980s occurred along with a boom in consumption expenditures and trade (especially retail trade). In 2019-20, the combined share of trade, repairs, hotels and restaurants, transport, storage, and communication in Kerala's gross State value added (GSVA) was 24.4 per cent, while the corresponding share of these sectors in India's GVA (both at constant prices) was only 19.4 per cent. The combined share in total employment in Kerala of the sectors mentioned above is even bigger: 27 per cent in 2017-18, while the corresponding share at the national level was only 17.7 per cent. Trade (along with the repair of motor vehicles) employed 16.95 lakh workers in Kerala in January 2018, including 2.53 lakh women workers.
92. The promotion of trade in Kerala will go hand in hand with policies to promote manufacturing in the State. An overwhelming proportion of the consumer goods that are sold in Kerala – which include food products, garments, and electronic goods – are manufactured outside the State. If industrial units in Kerala produce some of these goods and cater to at least a part of the large retail trade in the State, the overall impact on employment will be enormous.
93. At the same time, Kerala will make use of its long-standing connections with the rest of the world to boost trade and manufacturing. The State should revitalise its export trade by selling more goods abroad – including fashion apparel and medical devices made in Kerala – relying partly on the demand from the large diaspora of Malayalees worldwide. Another source of growth for trade and manufacturing in Kerala will be demand from tourists who visit the State.

3. LABOUR, LABOUR WELFARE, EMPLOYMENT, AND SKILLING

3.1 Labour and Labour Welfare

94. 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. In Kerala, the active role of trade unions and representatives of the working people in politics ensures that legitimate claims to rights are enacted as laws and policies of the State.
95. The Government of Kerala is committed to a series of changes with respect to wages and the working conditions of the widest sections of workers, including the large segment of the workforce that is in the informal sector. It is committed to bridging the wage-gap between men and women workers. The 13th Five-Year Plan period saw significant increases in the remuneration of scheme workers, school cooks, panchayat-level palliative-care nurses, Kudumbashree staff workers, preschool teachers, and school and panchayat councillors. In Kerala, unlike many other parts of India, the Government actively seeks to recognise and remunerate the socially vital services of scheme workers. The Government has also expressed its intention to improve conditions of employment and wages in a wide 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 decent conditions of work. It has also expressed its intention to strengthen and reorganise labour welfare boards in the State.
96. The Government will seek to protect workers from the adverse effects of the amendments to labour laws proposed by the Central Government.
97. During the 14th Five-Year Plan, measures will be taken to improve the welfare of migrant workers. Reform in this sphere began in the 13th Five-Year Plan period and schemes to issue ration cards to migrant workers and provide them health insurance and other forms of social security will continue in the 14th Five-Year Plan. The Plan will also encourage local authorities to provide facilities for safe and comfortable living to migrant workers.

98. The Planning Board urges that the Government consider a complete overhaul in the system of labour statistics in the State. Policy in this sphere requires better and more detailed and disaggregated data on the structure and living conditions of the workforce in the formal and informal sectors of employment in the State.

3.2 Employment and Skilling

99. Kerala aims to build a modern, high-employment, productive economy in the 14th Five-Year Plan period.
100. Recent data on employment in the State shows that a massive effort is required in this direction. In 2019-20, the unemployment rate in Kerala was 10.0 per cent, 7.4 per cent among males and 15.1 per cent among females. These rates were higher than the corresponding all India figures of unemployment of 4.8 per cent, 5 per cent among males and 4.2 per cent among females. In 2019-20, the labour force participation rate (LFPR) in Kerala was 39.8, as against the all India figure of 40.9 per cent.
101. In the 14th Five-Year Plan, the Government of Kerala aims to create new employment that increases incomes from new employment opportunities for the people, particularly youth in agriculture, industry, and service sectors such as information technology and tourism. It is a truism that Kerala's future development depends on the welfare, education, and social consciousness of its youth. Kerala has high rates of youth unemployment. The creation of modern employment for Kerala's youth will be the priority of the Government.
102. 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.
103. The Government of Kerala recognises that skill training and development play a crucial role in promoting economic growth. A relative abundance of educated and skilled workers, a history of entrepreneurship, and exposure to the wider world are our strengths. As global

manufacturing becomes more automated and knowledge-intensive, Kerala's strengths with respect to school and higher education make it better equipped than most other States to deal with the new challenge. The 14th Five-Year Plan will encourage building links between vocational learning in higher secondary schools and skill upgradation in the economy.

104. The State's industrial policy and information technology policy envisages rapid increase in investment in different sectors. This calls for the highest levels of skill development and training to be made available to the youth of Kerala for participation in the process of structural transformation of Kerala's economy.
105. 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. We must make available the most modern skill training and development to prepare Kerala's youth for opportunities in skilled employment in these sectors.
106. Further, certain sectors such as IT-enabled services, transport, storage and communication, banking and insurance, construction sector, health care and medical equipment, food processing, and tourism and hospitality have significant employment possibilities in Kerala. Continuous reskilling programmes are also required.
107. 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.
108. The international experiences on successful employment policies and strategies indicate the role of government 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.

109. The International Labour Organisation in particular has delineated three areas with respect to skilling, that is, (i) linking training to current labour market needs as well as anticipating and building competencies for the jobs of the future; (ii) building quality apprenticeship systems and incorporating core skills into training for young people; and (iii) expanding access to employment-related training in order to equip women and men to work in the formal economy. These areas are of significance to Kerala.
110. The task of skill development in the State is implemented by multiple agencies including Additional Skill Acquisition Programme (ASAP), Kerala Academy for Skills Excellence (KASE), Kerala Institute of Labour and Employment (KILE), and Kerala Institute of Entrepreneurship Development (KIED). Specialised skill training is imparted by various departments, including tourism (through courses, for example, in tourism, hospitalist, and catering), housing, Scheduled Caste and Scheduled Tribe development, industrial training, local government, and social justice. The creation of the knowledge economy is an important aspect of the skilling programme (see also the section on information technology) and Kerala Development and Innovation Strategic Council (K-DISC) is the agency coordinating the knowledge economy schemes in the State through the Kerala Knowledge Economy Mission. The 14th Five-Year Plan is committed to support the different efforts that contribute to the skilling and upskilling of the vast human resources of the State.

4. EDUCATION

4.1 School Education

111. School education in Kerala surged ahead in the 13th Five-Year Plan period. The most important policy measure in this regard 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.
112. The bedrock of Kerala’s development achievements is school education, because school education was the instrument that made progress in other fields possible. The task that the Government of Kerala set in the 13th Plan period was to make the best possible school education available to every child in the State, regardless of considerations of income, region, or social group. Kerala achieved universal literacy in the 1990s and has also achieved the goal of free and universal school education for its children.
113. The 13th Plan period was one of 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, the improvement of the quality of schools and instruction, and by the improvement of social coverage and inclusion in the school education system. High quality school education was made available to wider sections of the people than ever before.
114. A remarkable outcome of recent policy was that 891,046 additional children enrolled in Government and aided schools between 2016-17 and 2021-22.
115. Schemes under the 14th Five-Year 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 preschool through higher secondary, are in the process of being revised. A gender audit is being conducted of 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, infrastructural facilities, and facilities for high 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.

116. 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.

117. The 14th Five-Year Plan will support efforts to help preschool 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.

118. The 14th Five-Year Plan will support all efforts to help schools serve the special needs of children with intellectual and physical disabilities.

119. 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.

4.2 Higher Education

120. Higher education is vital to a society's efforts to further human capabilities and development in the widest possible sense. Improving the quality of higher education is a necessary condition for the success of the next stage of Kerala's social and economic development.

121. Kerala has received international recognition for its advances in education, particularly in universalising and improving the quality of school education in the State. Less noted are the advance in higher education, the broad-basing of social entry into the higher education system, and the rise of the gross enrolment ratio in higher education in the State.

122. Nevertheless, Kerala has immense tasks ahead in this sphere. The first is related to raising the gross enrolment ratio (GER) in tertiary education. The Government has declared the objective of raising the gross enrolment ratio in tertiary education from 38 per cent to 75 per cent. We recognise that the task of raising the GER in tertiary education to 75 per cent involves providing tertiary education to lakhs of new students. While these students will enter different streams of education, public and private, it is clear that the achievement of the objective requires qualitatively new levels of Plan funding at all levels of tertiary education and training. Secondly, the State also has the task of providing youth with high standards of undergraduate, graduate, and research education.
123. In 2021, the State Planning Board undertook a major international consultation titled “Kerala Looks Ahead.” One of the themes in the consultation was the matter of priorities in higher education. As a consequence of this and other consultations, the following areas were identified as requiring policy attention and public expenditure.
- i) *Infrastructure, teaching, and curriculum development.* Plan funding for higher education institutions will support infrastructure development and curriculum reform. It should support capacity-building in individual disciplines/subjects; the formulation of strategies for undergraduate and post-graduate 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.
 - ii) *Institutional reform and innovation.* In the 14th Five-Year Plan, efforts will be directed towards developing administrative regulations that are flexible, transparent, and responsive to the requirements of teachers and students.
 - iii) *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 for developing online courses.
 - iv) *Networks for teaching, research, and student exchange.* Efforts are required to expand national and transnational networks for teaching, research, and student exchange.

- v) *Library development, IT on campus.* Plan funding will support the enhancement of digital infrastructure and promotion of libraries. The Plan will support efforts to share e-resources between institutions on different campuses.
- vi) *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.
- vii) *Microplanning.* The Plan will support efforts to formulate specific plans and programmes for individual universities, colleges, and related institutions as the need arises.

124. The National Education Policy (NEP) has justifiably been criticised on various grounds. The NEP does not consider education in a rights framework, that is, in terms of higher education as a right of every eligible person. It does not assert that the provision of education is the domain and duty of the State; on the contrary, it opens up new spaces for private education. With regard to what it calls civilisational lessons, it imposes traditionalist and often irrational views on the educational system. It has made recommendations and taken decisions with regard to specific educational reforms that encroach upon the rights of the States. There is ambiguity and confusion on 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.

125. The Government of Kerala is committed to academic and administrative reform of the higher education system in the State. Its higher education policy will be shaped to meet the felt needs and demands of the people of Kerala, particularly its youth.

5. NEW FRONTIERS IN PEOPLE'S WELFARE

5.1 Medical and Public Health

126. Kerala continues to attract international attention for its achievements with respect to the health of its people. It continues to lead the country in respect of indicators such as life expectancy at birth, infant mortality, maternal mortality, and the ratio of males to females in the population. All important national metrics place Kerala at the top of the table with respect to health. In NITI Aayog's Performance of States in Health Index in 2019-20, Kerala, with an overall score of 82.20, ranks at the top in terms of overall performance.
127. The approach of the 13th 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 Aardram Mission has been an important means of achieving change in the health sector. The major objectives of the Mission are: (i) patient-friendly transformation of the outpatient wings of medical college hospitals and other Government hospitals, (ii) standardisation of district and taluk-level hospitals, (iii) developing primary health centres into family health centres in a phased manner, and (iv) ensuring protocol-based treatment guidelines for patients in hospitals.
128. The 14th Five-Year Plan will support the efforts of the Government of Kerala in post-Covid management. It will continue to emphasise people-friendly preventive and curative public health care, along with increased access to health facilities and affordability in health care. The Plan will support the continuation and strengthening of the Aardram Mission. The Plan will support strengthening primary and secondary level health care institutions and super-speciality facilities in tertiary care to address the specific challenges of contemporary Kerala. It will also support the upgrading of existing government hospitals, dispensaries, and laboratories in keeping with national-level accreditation standards.
129. The 14th Five-year 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.

130. Kerala's health system is acclaimed for its inclusiveness. The 14th Five Year Plan will continue to assist programmes that address the healthcare problems of people of the Scheduled Tribes, fish workers, women, the elderly, transgenders, and migrant workers, and problems of palliative care for elderly and bedridden patients. Special attention will be given to mental health care in the 14th Five-Year Plan.
131. Health insurance will be strengthened and widened.
132. The 14th Five-Year Plan will promote research and development efforts focused on state-specific health needs, including efforts through institutes for the study of communicable diseases, advanced virology, and interdisciplinary and collaborative research. It will also support the development of the new e-health database.
133. The Plan will support research and development in ayurveda, ayurveda tourism and wellness medicine, and the cultivation of medicinal plants.
134. In the post-Covid-19 context, the State will promote "One Health" in the 14th Five-Year Plan.

5.2 Gender and Development

135. Socio-political and economic advances among women in Kerala are not commensurate with the historic achievements of women in the spheres of education and health in the State. Problems of women in the labour market include high rates of unemployment, gender differentials in wage rates, and the concentration of a substantial number of women workers in traditional occupations such as coir work, cashew processing, handloom, bamboo work, and plantation work. The representation of women from Kerala in the Parliament and in the Legislative Assembly is low. Progressive social forces have correctly emphasised the need for policy that enhances economic independence, independent participation in political and social life, and freedom in public spaces for women.

136. National official data indicate that work participation rates among women in Kerala rose during the 13th Five-Year Plan period. The 14th Five-Year Plan will support all 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 work spaces for women.
137. For decades now in Kerala there have been Plan schemes and policies specially designed for women's wellbeing. The establishment of the Department of Women and Child (WCD) in 2017 helped strengthen policies in the sphere of gender and development. The 14th Five-Year Plan will continue to support efforts to strengthen the Department and its networks with different sections of women in the State.
138. The Gender Budget is an important feature of the 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. The Planning Board will support efforts to begin a gender-sensitive audit of Plan schemes. The Board recommends that the statistical system provide more disaggregated data on women in different sectors of the economy and labour market. The 14th Five-Year Plan will encourage efforts to build capacity in gender-sensitive evaluation techniques.
139. The 14th Five-Year Plan will continue efforts to address issues of wages, safety, occupational health of and insurance for women belonging to occupational groups such as domestic workers, fish workers, and migrant workers. Specific efforts will be taken for empowering women belonging to Scheduled Castes and Scheduled Tribes.
140. The 14th Five-Year Plan will support policies and schemes to ensure safer public spaces, improve and enhance public transport facilities, ensure safer workplaces, and strengthen the mechanisms for combating violence against women.

141. The 14th Five-Year Plan will continue to support other institutions that play important parts in gender empowerment in Kerala. These include Kerala State Women's Development Corporation, Kerala Women's Commission, Gender Park, Kudumbashree, and local governments, which formulate women component plans.
142. 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. The Planning Board will encourage consultations on women's work with gender planning experts at the national and international levels.
143. A specific problem of women's health in Kerala is a persistently high incidence of anaemia, the Planning Board will support a detailed study of the phenomenon and programmes to eliminate anaemia among girls and women in Kerala.

Child Development

144. The 14th Five-Year Plan will support diverse and coordinated efforts to improve the quality of life of the children by improving opportunities for their physical, cultural, and intellectual development.
145. The quality of child care and early childhood education will be improved through modernising infrastructure of anganwadis and improving the quality of play and learning material available to children in them. The Plan will also support improving nutrition schemes in anganwadis.
146. The Plan will continue to support strengthening the implementation of the POCSO Act and improving awareness of its provisions.
147. The Plan will continue to support schemes that address health care and special needs of children with physical and intellectual disabilities

Transgender Policy

148. In 2015, Kerala became the first State in the country to approve a Transgender Policy. The Plan will continue to support measures to ensure the access of transgenders to education, employment, health care, skill training, credit, and livelihood schemes.

5.3 Scheduled Castes and Scheduled Tribes

149. The Government of Kerala is committed to the welfare of the sections of people most excluded from the development process in India. Over the last five years the State Government has worked to strengthen overall social and economic development of the Scheduled Tribes and Scheduled Castes through a host of specially designed schemes and programmes.
150. A special feature of the Plan Budget in Kerala is that the proportion of funds allocated to the people of the Scheduled Castes and Scheduled Tribes is greater than the proportion of the people of Scheduled Castes and Scheduled Tribes in the population. By way of contrast, while the proportion of the people of Scheduled Castes and Scheduled Tribes in the population of India is 25 per cent, the proportion of funds allocated to people of the Scheduled Castes and Scheduled Tribes in the central Budget of 2022 was only 6 per cent.
151. The Plan will work to end the digital divide between children and youth of the Scheduled Castes and Scheduled Tribes and the rest of the population.
152. The 14th Five-Year Plan will support all programmes to increase the access of people of the Scheduled Castes and Tribes to every level and stream of higher education, whether STEM subjects or the humanities and social sciences. It will work to promote entry of Scheduled Caste and Scheduled Tribe youth into every sector of specialised skill development that Kerala has to offer.
153. The 14th Five-Year Plan is to be a period of employment generation in all spheres of productive employment and employment in the services. The Plan envisages employment growth in salaried and wage employment as well as by means of entrepreneurship and self-

employment. The ratio of income-poverty is higher among the people of the Scheduled Castes and Scheduled Tribes than in the population as a whole. Special efforts will be made to ensure the equal participation of the people of the Scheduled Caste and Scheduled Tribe in every sector of employment and income growth.

154. The 14th Five-Year Plan will continue to support the economic development of the particularly vulnerable sections among the people of the Scheduled Castes. Many residential areas in which the majority of households belong to the Scheduled Castes are low-lying areas. 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. The 14th Plan will continue the projects under Ambedkar Village Development Scheme.
155. In significant parts of the State, household cultivation by the working people of the Scheduled Tribes, along with farming in large farms controlled by the Scheduled Tribe Development Department, can spearhead agricultural transformation in the State. Thus, providing land and promoting modern agriculture and allied practices among the people of the Scheduled Tribes is an excellent means to promote the agricultural development of Kerala.
156. The Plan will continue to strengthen its support for schemes that safeguard the Constitutional rights of the people of the Scheduled Castes and Scheduled Tribes and to fulfil the duty of the State in this regard.
157. A special area of concern is problems of delivery of preventive and curative health services to people of Scheduled Tribes, particularly those living in remote residential settlements.

5.4 Social Services and Social Security

158. Government policy with respect to the members of society with whom the Social Justice department is concerned – persons with intellectual and physical disabilities, older persons, and transgenders – must be informed by an understanding of and a commitment to a human rights perspective in this sphere. The problems faced by persons with disabilities, older persons, and transgenders, are not issues to be solved by them and their carers and loved ones,

but are problems of society as a whole. We also note the special problems of persons in these groups who are already subject to different forms of deprivation, particularly deprivation based on social discrimination and poverty.

159. Despite the financial difficulties of the State during the 13th Five-Year Plan, there was a continuous escalation in Plan allocations to schemes for the welfare of persons with disabilities and senior citizens.

Persons with Disabilities

160. The 14th Five-Year Plan will support all efforts to maintain Kerala's position as a disabled-friendly State of India. Government policy seeks to give effect to all legislation that designs, protects, and promotes the rights of persons with disabilities. As part of this effort, the Plan supports all schemes that contribute to making Kerala barrier-free in public and other spaces. The State continues to invest in the production and provision of the 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.

Senior Citizens

161. Senior citizens constitute a higher proportion of the population in Kerala than any other part of India.
162. 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 health care 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.

5.5 Housing

163. The flagship Plan programme of Government of Kerala during the 13th Five-Year Plan was the Livelihood Inclusion Financial Empowerment (LIFE) scheme. Under this scheme, high-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. The 14th Five-Year Plan will continue the implementation of the scheme. The coming five years will see a special focus on the housing needs of people of the Scheduled Castes and Scheduled Tribes, fish workers, and plantation workers.

5.6 Water Supply and Sewerage

164. Although Kerala is a water abundant State, drinking water supply systems need to be extended to reach every home. The Government of Kerala will ensure the supply of drinking water to every household. To this end, the Government will focus on the restoration, protection, and equitable distribution of water resources and the augmentation of usable water supplies.
165. The 14th Five-Year Plan will support a complete audit of the water supply system and of schemes in the sphere of water supply. 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 effectively implement the programme to provide safe piped drinking water to rural population through the Jal Jeevan Mission (JJM).
166. 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.

5.7 Food and Civil Supplies

167. The public distribution system in Kerala is the bulwark of food security in the State. During the 13th Five-Year Plan period, during times of natural disaster and pandemic it was a food-

security lifeline to the people of the State. The 14th Five-Year Plan will extend support to the different aspects of the growth and development of the public distribution system 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 new and modern warehousing facilities; strengthening the grievance redressal mechanism; and continue to ensure a hunger-free Kerala.

5.8 Eradication of Absolute Poverty

168. Although Kerala has the lowest head-count ratio of poverty among the States of India, the problem of extreme poverty among a narrow section of its population remains. Given the class commitment of the present Government of Kerala and its commitment to social welfare, the task of eliminating extreme poverty in the State in the next five years is eminently achievable. Local governments have begun efforts to identify people in absolute poverty and to prepare customised micro-plans to ensure that each person identified is provided with the means to come out of extreme poverty. The 14th Five-Year Plan will support this important programme of poverty alleviation.

6. INFRASTRUCTURE

6.1 Transport

169. History shows us that mobility is a crucial enabler of our economic and social life. Transportation is a critical aspect of economic infrastructure, and one that enhances the impact of the resources deployed in the productive sectors -- industry, agriculture, services -- of the economy. Transportation systems in their entirety should be responsive to people's needs and convenience, and to cost considerations. Speed of mobility is a foundational feature of modern industrial civilization; 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. 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" world.
170. 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.
171. The 14th Five-Year Plan will also address the immediate issues arising from current features of Kerala's transportation system. The number of vehicles per thousand population in Kerala as on March 2019 was 425, much higher than the all-India figure of 225. The length of road per 1,000 population in Kerala is 7.75 km against the all India average of 4.39 km. Similarly, the road length per 1000 sq. km in Kerala is around 6,664 km compared to all India average of 1617 km. The proportion of four-lane roads in Kerala is only around 7.6 per cent, compared to an all-India average of 22 per cent. This combination of high road density, high vehicle ownership, and low density of multi-lane roads contribute to a high level of accidents. In 2019, 41,111 crashes were reported, resulting in 4,440 deaths and 46,055 injuries. In terms of number of accidents in 2019, Kerala had the fourth highest incidence of road accidents in India.

172. The data indicate the current constraints imposed by land availability in enhancing the road capacity in Kerala. In this context, we must seriously consider the role of other modes of transport, particularly semi-high-speed rail and internal waterways, to decongest roads and create adequate capacity for future growth.
173. Long term plans and integrated transportation policy: The State Planning Board recommends a State transportation policy that provides a road map for the development of an efficient, cost-effective, multi-mode, and equitable transport system for people's mobility and the development of logistics systems to sustain trade and industries. The policy should help prioritise capital investment by balancing immediate concerns with long-term requirements.
174. *Public transport.* Public Road transport system in the State relies mainly on buses with KSRTC and private fleet operators. Covid has resulted in further deterioration of KSRTC finances and the crisis has now spread to private fleet operators as well. The 14th Five-Year Plan will support schemes to improve the efficiency of public transportation by modernising the fleet with LNG/CNG and electric buses and by using digital technologies to improve administrative and operational efficiency.
175. As mentioned, improving public transportation requires the development of other modes of travel, especially railways and inland water transport. In this context, a special focus on mass rapid transit systems (MRTS) is critical. The Plan will support Phase II and the JNL Stadium to Infopark projects of Kochi Metro as well as Integrated Water Transportation System for Kochi. The Light Metro projects in Thiruvananthapuram and Kozhikode are to be realigned with the Government of India's new metro policy.
176. The Silver Line Project will reduce travel time between Kasaragod and Thiruvananthapuram to approximately four hours. The project is crucial to the achievement of the sectoral objective of enhancing the share of public transportation in the transport system. It will contribute to redressing regional imbalances and to economic growth, employment generation, and the development of an environmentally sustainable rapid transport system. The long-term

environmental benefits of the semi-high speed railways in the overall reduction of carbon emissions are well established. A successful Silver Line can ultimately help gain access to green project finance available in the market.

177. *Ports, logistics, and hinterland development.* Kerala has a coastal length of approximately 585 km. In addition, 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. There is one major port at Kochi and 17 non-major ports. Of the 17 minor 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. 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 the intermediate ports in the State and encourage port-led industrialisation to enhance the viability of ports.

178. *Urban transport.* Adding more buses alone will not solve the transportation needs of our cities. The State Planning Board recognises the importance of developing plans for multimodal transport infrastructure along with city development plans. The Plan will support efforts by the Kerala Metropolitan Transport Authority to develop integrated city transport plans.

179. *Freight and logistics.* The bulk of freight in Kerala is transported by road. Kerala's long coastal line and internal waterways provide an opportunity to develop an environmental-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 multimode transport in the State.

6.2. Power

180. In 2017, the Government of Kerala declared the completion of its promise to provide an electricity connection to every household in the State.

181. Although the State is now fully electrified, the consumption of electricity per capita in Kerala is 826 kWh against an all-India average of 1208 kWh in 2019-20. The gap is mainly because levels of non-domestic consumption are lower than in India as a whole. India's per capita average consumption of electricity is 36 per cent of world per capita electricity consumption, 9 per cent of per capita consumption in the United States, and 25 per cent of consumption in China.
182. Global efforts to decarbonise economic activities requires policy efforts to address the following tasks, first to build an infrastructure to meet the increased demand and second, to increase the share of carbon-free sources of energy. The Government of India intends to achieve net zero greenhouse gas emissions by 2070. The State requires a road map to align the development of its electrical infrastructure with the decarbonisation targets.
183. The following are some specific focus areas of the 14th Five Year Plan.
- i) *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 electricity 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.
 - ii) *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 goes as high as 90 per cent). Dependence on short-term markets for power results in high procurement costs and involves avoidable uncertainty. The 14th Five-Year 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 also support efforts to achieve the renewable energy targets set by the Government and to identify and study the challenges in this regard.
 - iii) *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 Five-Year Plan will provide support to expedite the completion of the project.

- iv) *Distribution*. The 14th Five-Year 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 use of advanced technology and communication systems for grid management, and modernise load despatch centres.
- v) *Resilient power infrastructure*. The 14th Five-Year Plan will encourage efforts to establish a resilient power infrastructure in the State. The Plan will support programmes by 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.
- vi) *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.
- vii) *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.
- viii) *Safety*. The 14th Five-Year Plan will support a range of measures aimed at ensuring safety and eliminating accidents.

6.3. Irrigation

184. A special feature of Kerala’s geography is that 41 rivers flow westwards and through the State. The reality is that a large part of this water is unutilised and flows out to sea.

185. Two sets of efforts in the irrigation sector were initiated in the 13th Five-Year Plan period. First, the Plan supported the completion of four long-pending major and medium irrigation projects. One of them – Muvattupuzha – was commissioned. The 14th Five-Year Plan will support efforts to commission the three remaining projects – Karappuzha, Banasurasagar, and Idamalayar – during the Plan period. Secondly, resources were shifted from major and medium projects towards minor irrigation projects during the 13th Five-Year Plan period. The 14th Five-Year Plan will continue the effort to encourage minor irrigation.
186. The 14th Five-Year Plan will support efforts to repair and renovate the canals of existing irrigation projects. Specific attention will be paid to the tail-end canals of irrigation projects. The Plan will also support the dredging and cleaning of rivers, canals, lakes, ponds, and streams across the State. In special regions such as Kuttanad, efforts were made during the 13th Five-Year Plan period to implement the “Room for the River” concept. Efforts were also made to strengthen and protect embankments and the bunds around cultivated lands. The 14th Five-Year Plan will continue to support these ground-level efforts.
187. Kerala should actively explore ways of checking and storing such waters in a new set of large and small reservoirs. This will help extend irrigated area and meet drinking water requirements in the State.

7. ENVIRONMENT

7.1 Biodiversity, Climate Change, and Environment

188. Climate change is a global collective action problem. The burden of mitigating the effects of greenhouse gas emissions and the burden of coping with and adapting to the impact of global warming on different sectors are unequally distributed across countries and regions. The 6th Assessment Report of the IPCC emphasises the fact that climate resilient development is to be shaped by regional and national circumstances and by the need to ensure equity and social and climate justice. National climate policy underlines India's need for a fair share of the global carbon budget and its responsible use as a fundamental requirement for India's national development. Our commitments towards global climate action must be formulated with this framework.
189. Kerala is characterised by rich biodiversity. The occurrence of such a wide range of ecosystems in close proximity to each other is unique to Kerala. The State's biological resources are part of Kerala's rich cultural and material heritage. Climate resilience policy in Kerala must take note of the State's natural resources, its high levels of human and social development, and the need to develop the productive forces in the State.
190. In agriculture and plantations, the focus must be to maintain and enhance productivity. Relevant techniques from biotechnology and genetic engineering will need to be a part of this approach. Environmental regulation and governance, especially for coastal zones and wetlands, must take note of the imperatives of climate change and the consequent pressures on those living close to fragile ecosystems. The 14th Five-Year Plan will support coordinated action in achieving these goals. It will also support efforts to coordinate different aspects of environmental management that are currently dispersed across different agencies. The role of the Environment Department in formulating the State Action Plan on Climate Change is of particular importance in this regard.
191. Local initiatives will also be valuable in climate change mitigation and adaptation. Efforts must be made in different spheres to develop local climate resilience. These include developing sustainable infrastructure, creating local early warning systems to deal with

extreme climatic events and their impact (which include floods and mudslides), regulating construction, and protecting key local ecosystem resources.

192. Biodiversity management must not only deal 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.

7.2. Disaster Management

193. Kerala's record of social mobilisation for disaster relief and recovery is well recognised. The effort mounted by the Government and all sections of people of Kerala society, helped the State manage a series of back-to-back disasters over almost every year of the 13th Five-Year Plan. This record and capacity are valuable resources for the future.
194. The State will also pay greater attention to preventive action for disaster risk mitigation, especially to engineering solutions that integrate local environmental and ecosystem peculiarities with the demands of social welfare.
195. Science and technology remain the key to undertaking climate resilient infrastructure development and management. The State has mapped disaster vulnerabilities caused by various hazards through successive studies. These include the report (commissioned by the State Planning Board) on causes of and appropriate policy responses to repeated extreme heavy rainfall events and subsequent floods and landslides.
196. The State Disaster Management Plan (SDMP) was written in 2016 in keeping with the 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). SDMA is currently in

the process of updating the SDMP. Policy during the 14th Five-Year Plan efforts will be guided by the updated SDMP. While preparing the SDMP, the following points need to be considered:

- i) 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 to translate national strategy and policy into local actions as well as identify State-specific vulnerabilities and prepare an integrated plan for adaptive actions. SDMA needs to integrate its proposals with SAPCC while preparing the SDMP.
- ii) Lessons from Cyclone Ockhi and Kerala 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 risk mitigation and reduction experience. Lessons learnt from post-disaster management and recovery should help strengthen disaster preparedness in various government departments and agencies.
- iii) 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 Five-Year Plan will support efforts to build local community capacity through training and by providing physical and communication infrastructure.
- iv) Resilient Infrastructure: Power, transport, and communication infrastructure play a critical role in 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.
- v) 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.

7.3 Forestry

197. Even though the total land area in Kerala is only 1.2 per cent of the land area of India, its forest cover is 2.3 per cent of India's forest cover. Forests in Kerala are rich in biodiversity, a repository of rare and endangered flora and fauna, and vital for environmental sustainability. The recorded area of forests in the State is 11,521.9 sq. km or about 29.7 per cent of the State's geographical area (the area under forests may actually be higher). Data from the 2021 assessment of the Forest Survey of India (FSI) indicate that the total area under forests (these data include plantations) was 21,253 sq km, or 54.7 per cent of the State's geographical area.
198. The focus of the 13th Five-Year Plan in this sector was on forest protection and management. While this emphasis will continue, the 14th Five-Year Plan will also pay special 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.
199. The floods and mudslides of 2018 and 2019 had far-reaching effects on the forests of Kerala. They caused extensive loss of vegetative cover, landslides, and erosion of humus-rich topsoil, consequent degradation, affecting the water retention potential of the forest floor. The 14th Five-Year Plan will support the development of comprehensive action plans for watersheds that cover, from ridge to valley, forest ecosystems as well as agro-ecosystems. With regard to the conservation of biodiversity and protection of wildlife, the Plan will support efforts to discourage human habitations inside forests, to reduce the degradation of vital habitats and to clear wildlife corridors.
200. Human-wildlife conflicts are a complicated matter, and the Plan will continue to support different means to address the problem. The number of incidents of human-wildlife conflict has 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.

8. LOCAL GOVERNMENTS

201. 2021 marked the 25th anniversary of the inauguration of the People's Plan Movement in Kerala. The campaign brought about a fundamental reorganisation of local governments and changed the place and role of local governments in society and people's consciousness. Local governments played a central role in the implementation of most social welfare, social justice, and social security programmes in the State over the last 25 years. During the floods and the pandemic, local governments showed that they are repositories of the people's confidence. During these periods, they also became organisers of vast and unprecedented efforts of civic cooperation.
202. If the first People's Plan campaign helped transform local governments into instruments of people's participation and local democracy, the next phase in their history must transform them into instruments of growth. The 14th Five-Year Plan envisages an active role for local governments in enhancing production and productivity in the primary sector, creating and catalysing growth and employment generation in the secondary and service sectors, encouraging scientific natural resource management, promoting inclusive development and poverty alleviation, and enhancing the quality of service delivery.
203. Kerala is the only State that transfers more than 25 per cent share of the Plan Budget to local bodies. In fact, the local Government, rural development, urban development, centrally supported schemes implemented through local governments, and related programmes take up about 40 per cent of the Plan Budget. While the State provides untied funds to Local Governments, imposition of multiple conditionalities by the 15th Finance Commission is inimical to the process of decentralised planning.
204. Local governments play a central role in the implementation and are crucial to the success of a wide range of schemes and programmes of the Government of Kerala, only a few of which are highlighted here.

205. The 14th Five-Year Plan will support efforts by local governments to enhance production and productivity in agriculture, animal husbandry, and fisheries.
206. Local governments must facilitate the growth of employment in industry and services. Local governments are crucial to simplifying the procedures associated with investment and thus to encouraging the growth of industrial and other forms of capital investment at all levels in the State. Kudumbashree programmes will be further strengthened by integrating them with the development programmes of local governments and expanding the spectrum of development interventions and enterprises that they undertake.
207. Unemployment has been aggravated by the pandemic and large-scale return of migrants. The Plan will support local government programmes for employment, particularly programmes that focus on women.
208. A major task that local governments have set for themselves during the 14th Five-Year Plan period is to further improve public service delivery, and extend it to include doorstep delivery of a slew of services, particularly services for senior citizens and persons with disabilities.
209. Local governments plan to integrate the provisions of the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) with local level development programmes for production in the primary sector and for community asset creation. Kerala pioneered urban employment guarantee programmes in the country, and will strengthen the Ayyankali Urban Employment Guarantee Scheme (AUEGS) in the 14th Five-Year Plan period.
210. Local governments have a special duty in planning for the welfare of the people of the Scheduled Castes and Scheduled Tribes. The 14th Five-Year Plan will support the efforts of local governments to utilise scheduled caste sub-Plan, tribal sub-Plan, and local government development funds to enhance welfare, employment, and income generation in this sphere.

211. Local governments implement a range of special-sector programmes, which include programmes designed to serve the special needs of women, children, transgenders, persons with disabilities, and senior citizens, and persons under palliative care. The 14th Five-Year Plan will continue to support these measures.
212. The Government of Kerala has unified the Haritha Keralam (Green Kerala), Livelihood Inclusion Financial Empowerment (LIFE), Aardram (dealing with health), and Pothu Vidyabhyasa Samrakshana Yagnjam (dealing with school education, now renamed Vidya Kiranam) into a single Nava Kerala Karma Paddhathi (New Kerala Action Plan, or NKKP). Local governments are crucial to its successful implementation.
213. 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 from modern developments in techniques and methods of spatial planning. The Plan will support all efforts by the Government of Kerala and local governments in these spheres.
214. The task of drafting master plans for urban development is a very 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.
215. The problems of solid and liquid waste management in Kerala are of the 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.

216. The Plan will support efforts of the Kerala Institute of Local Administration (KILA) to serve local governments and to link up with institutions of higher education, research, and training in the field of local government in India and abroad. The Plan will support efforts to undertake technical studies of revenue enhancement by local governments.
217. Local development planning requires comprehensive and reliable data. Information Kerala Mission (IKM) is the largest and most comprehensive local body computerisation initiative in the country. The three main applications developed by IKM are Sulekha, an MIS for monitoring the development plans by Local Governments; Sevana, which deals with civil registration and service delivery; and Sankhya, which deals with accounting and finance management. The 14th Five-Year Plan will support efforts to improve the data available through IKM and other components of the database for local-level planning and efforts to integrate software applications used by local governments.
218. The 14th Five-Year Plan will support efforts by local bodies to sustain and improve the accomplishments of the State with respect to the Sustainable Development Goals (SDGs) of the United Nations.

9. ART, CULTURE, AND SPORTS

9.1 Art and Culture

219. The 14th Five-Year Plan is committed to support progressive, democratic, plural, and secular cultural values and institutions and a vibrant ecosystem for the arts in the State. It will support efforts to improve public cultural services for the people.
220. Cultural events in the State that are now known in India and internationally include 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). The Plan will continue its support to these events.
221. The Plan will support training programmes to encourage creative talent in different cultural spheres, and the participation of leading figures in the arts as mentors in that effort. It will support programmes to invite performing artists from different parts of India and the world to visit and perform in Kerala. It will support programmes of cultural exchange and people-to-people contact between Kerala and other parts of the world.
222. The Government will support integrated programmes of cultural development and tourism.
223. 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 their incomes.
224. The Plan will encourage the promotion and development of Malayalam, within the State and among the diaspora and others.
225. 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 throughout the State.

226. The Plan will encourage efforts to preserve and conserve monuments, cultural artefacts, and archaeological sites and remains in the State. With regard to museums, the Plan will continue to support infrastructure and efforts to improve visitors' museum experiences. In the 14th Five-Year Plan period, the Government of Kerala aims to complete modernisation efforts in and reopen several important museums. These include the Raja Ravi Varma Art Gallery, Thiruvananthapuram; Pazhassi Raja Museum, Kozhikode; Sakthan Thampuran Palace Museum, Thrissur; Krishnapuram Palace Museum; and Napier Museum, Thiruvananthapuram. Among the new museum projects to be undertaken in 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.
227. 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 at the Kerala University Campus, Thiruvananthapuram. It will promote research and facilitate the exchange of ideas on archival studies and administration.

9.2 Sports

228. The 14th Five-Year Plan will encourage and promote a vibrant culture of sports in the State. The major new initiatives are in the spheres of infrastructure development, establishment of special training academies, and linking tourism and traditional sports.
229. The 14th Five-Year Plan will support efforts to build sports complexes in all districts and sports facilities in all panchayats and municipalities. Plan will support schemes that encourage physical fitness and participation in sports of people of all ages with special attention to persons with disabilities. It will support programmes for early detection of sports talent and to upgrade the capacities of coaches and other sports personnel in line with international standards.
230. An important new proposed area of effort in the 14th Five-Year Plan period is the development of highly specialised "elite academies" for training in selected sports (the

proposed areas include football, badminton, basketball, tennis, volleyball, and athletics) with private partnership.

231. The Plan will support greater coordination between the Departments of Sports, General Education and Higher Education and it will encourage collaboration with universities in the field of sports sciences.

10. NON-RESIDENT KERALITES

232. 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. Remittances constitute a very 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.
233. 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 manifest over many events in the 13th Five-Year Plan period. During the 13th Five-Year Plan period, the creation of a unique forum, 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 the migrants and migration. The 14th Five-Year Plan will continue to support this institution.
234. 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.
235. During the pandemic, more than 15 lakh migrants, mainly from GCC, returned to Kerala. The economic condition of return migrants is of the 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 Kerala Pravasi Welfare Board will be scaled up.

236. 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.
237. Presently, the numbers on non-resident Keralites come from the periodic Kerala Migration surveys. While these studies fill in a major gap in the information 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 online database is intended to provide a real-time assessment of the number of NRKs and to help the Government in formulating policies for their welfare and support.

11. ADMINISTRATION AND GOVERNANCE

11.1 Land Records

238. An objective of the 14th Five-Year Plan is that all poor landless households are provided with land or homes; that all legal landholders are provided with title deeds; and that all title deeds are digitised.
239. The resurvey of all land in the State is an important objective of the 14th Five-Year Plan. Reliable, up-to-date, and digitised land records are necessary for economic development. They are necessary to ensure people's titles to land, to provide a record of ownership, and to integrate information on all kinds of land ownership and control with information on land use. Reliable, accurate, and up-to-date land records are thus necessary for land use planning. Good land records are one of the important components 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 digitised are a crucial component of the efforts to simplify investment procedures. A fully digitised 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.
240. 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 are already out-dated.
241. The State of Kerala requires a system of updated land records, automated and automatic mutation, integration between textual and spatial records, and interconnectivity between revenue and registration. It should replace the present deeds registration and presumptive title systems with conclusive titling with title guarantees. Modernised and digitised land records should also be understood as being essential to land use planning, water resources management, infrastructure planning for disaster management and related objectives.

242. To complete surveys and resurveys and settlement/resettlement in 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.
243. A programme of land record modernisation, if implemented efficiently, can be completed in five years.

11.2 e-Governance

244. 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 in the State 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.
245. 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.

11.3 Statistics for Development

246. At the two-day workshop on State-level statistics organised by the State Planning Board in July 2019, the Chief Minister of Kerala 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.

247. 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.

12. RESOURCE ESTIMATION FOR THE 14TH FIVE-YEAR PLAN

12.1 Plan Resources and Outlay

248. Centre-State financial relations have been a continuous problem of India's federal polity and a matter of great concern for the Government of Kerala. The position of the States in India's federal fiscal arrangements has worsened. The Government of Kerala has for decades championed the rights of the States and the cause of a just Centre-State financial order. In 2018, the Chief Minister of Kerala wrote as follows:

The States in India today neither have the resources to fulfil their tasks as laid down in the Constitution, nor do they have the right to raise such resources. The present situation is not because of the action or inaction of the States but is directly the consequence of Central government policy.

There is thus a great asymmetry in India's federal system. The Centre's capacity to mobilise resources is far greater than that of the States, but the latter are required to undertake development expenditures that far exceed their revenue generating capabilities.

249. The framework within which revenue accrues to the State and resources are devolved from Centre to State has further altered with the Goods and Services Tax and recommendations of the 15th Finance Commission.

250. 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.

251. 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 is unlikely to continue beyond June 2022. Finally, the ceiling for borrowing as a proportion of gross state domestic product for States will be brought back to 3 per cent (it was raised to 4.5 per cent during the pandemic) in 2025-26.

252. 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. **However, the total size of the 14th Five-Year Plan is yet to be finally decided.**

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

- i) 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.
- ii) 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.
- iii) The growth in State 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.
- iv) The growth in non-tax revenue is projected to grow at 10 per cent.
- v) 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.
- vi) The trend in net borrowing for the 14th Plan is assumed to be as recommended by the 15th Finance Commission.

254. The resources of the Government will be supplemented by investments from 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.

12.2. Cooperatives

255. Cooperatives in Kerala play a vital role in mobilising people and pooling their resources to meet the common needs of members and serve society at large. Cooperatives support much of rural economic activity in the State today.
256. Cooperatives in Kerala have been supported by funds from successive five-year plans. State policy has also promoted farming by cooperative institutions with credit support.
257. 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.
258. If the cooperative movement is to establish itself as an organisational form of the future, it must attract and involve youth in large numbers. More infusion of technology, and funds for new enterprises, including startups, can help attract youth to the cooperative movement.
259. The economic relationship between the 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 the Kerala Bank. The Plan will support the introduction of common software at all levels of cooperatives. With regard to non-functioning cooperatives, the 14th Five-Year Plan will encourage improved financial performance, better supervisory structures, and coordinated efforts to understand specific issues of the sector.

13. EVALUATION OF PROJECTS AND SCHEMES

260. 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 on-going projects and retrospective evaluation of completed projects.

261. In the 14th Five-Year Plan period, evaluation of projects and schemes will be given the utmost importance. The Board will devise a mechanism for conducting such reviews in a regular and a 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 scheme design and implementation process and expedite completion of projects in a time-bound manner. Evaluation of projects and schemes will help in enhancing efficiency in planning and implementing schemes and projects and thereby promote better utilisation of resources.

* * *

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