



**GOVERNMENT OF KERALA
KERALA STATE PLANNING BOARD**

**FOURTEENTH FIVE-YEAR PLAN
(2022-2027)**

**WORKING GROUP ON
WAYANAD PACKAGE**

REPORT

**AGRICULTURE DIVISION
MARCH 2022**

FOREWORD

Kerala is the only State in India to formulate and implement Five-Year Plans. The Government of Kerala believes that the planning process is important for promoting economic growth and ensuring social justice in the State. A significant feature of the process of formulation of Plans in the State is its participatory and inclusive nature.

In September 2021, the State Planning Board initiated a programme of consultation and discussion for the formulation of the 14th Five-Year Plan. The State Planning Board constituted 44 Working Groups, with more than 1200 members in order to gain expert opinion on a range of socio-economic issues pertinent to this Plan. The members of the Working Groups represented a wide spectrum of society and include scholars, administrators, social and political activists and other experts. Members of the Working Groups contributed their specialised knowledge in different sectors, best practices in the field, issues of concern, and future strategies required in these sectors. The Report of each Working Group reflects the collective views of the members of the Group and the content of each Report will contribute to the formulation of the 14th Five-Year Plan. The Report has been finalised after several rounds of discussions and consultations held between September to December 2021.

This document is the Report of the Working Group on “Wayanad package.” The Co-Chairpersons of Working Group were Dr. Jose George and Ms. A. Geetha IAS. Dr. R. Ramakumar, Member of the State Planning Board co-ordinated the activities of the Working Group. Sri. S. S. Nagesh, Chief, Agriculture Division was the Convenor of the Working Group. The terms of reference of the Working Group and its members are in Appendix 1 of the Report.

Member Secretary

PREFACE

As part of formulation of the 14th Five Year Plan, the Kerala State Planning Board had constituted working groups of experts in all the major sectors. In Agriculture and Allied Sectors, 6 working groups were constituted viz. Agriculture and Cooperation, Animal Husbandry and Dairy, Inland and Marine Fisheries, Forest and Environment, Water Resources and Regional Packages. To discuss and frame policies in each of these sectors, the working groups were further divided into 28 Expert Sub-Groups (ESG) with specific mandates.

Each Expert Subgroup held at least three meetings beside one focused group meeting before finalising the report. We, the Co-Chairs, place our deep appreciation and gratitude to all the esteemed members of the ESG for their valuable contributions in preparing the report. We are extremely grateful to Dr. V. K. Ramachandran, the Honourable Vice-Chairperson, Kerala State Planning Board, Dr. R. Ramakumar, Member, Kerala State Planning Board and Sri. S. S. Nagesh, Chief, Agriculture Division for their consistent guidance and suggestions in preparing the report. The support provided by Dr. C Anilkumar in bringing out this report is appreciated. The drafting team put in commendable work in bringing together all the views and opinions of the members. We sincerely hope the recommendations in the report can lead to important changes in the public policy for the holistic development of Wayanad District.

Dr. Jose George
Expert Co-chairperson

Ms. A. Geetha IAS
Official Co-chairperson

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BACKGROUND

The Government of Kerala has announced a comprehensive package for the sustainable development of Wayanad district over a period of five years. The package mainly focuses on crop development, tourism, poverty alleviation, development of infrastructure and road networks, health facilities and 'carbon-neutral' Wayanad. The major thrust areas proposed in agriculture are the rejuvenation and development of pepper, tea, and coffee cultivation, branding Wayanad Coffee, online marketing of agricultural products under a 'Wayanad Organic brand', promoting value addition in jackfruit and establishing a floriculture zone in the district. The strengthening of animal husbandry activities and expansion of Pookod Veterinary University are the major programmes in Animal Husbandry Sector. The other departmental activities covered by the package include upgrading the Mananthavady district hospital to a medical college, issues of human-wild life interface, completing the Karappuzha Irrigation project, watershed-based development activity, soil and water conservation. The package also envisages taking opportunities of other potential areas such as tourism, climatic and geographical adaptability. Considering the sustainable development of Wayanad, education, tribal development, health, human resource development, information technology including connectivity, technology transfer etc. are to be focused. The approach shall be integrated through ensuring forward and backward linkages, filling of critical gap ensuring better price and market for farming community, income and livelihood, quality service delivery, eco-restoration and research and development.

Natural calamities during 2018 and 2019 followed by the Covid 19 pandemic situation severely affected the economy of the district and the livelihood of the people. The heavy rainfall washed out the top soil, deteriorating soil fertility and increasing crop diseases. Wayanad is prone to large-scale landslides and landslips, which result in disfiguring the slopes and making large tracts of land unstable. Floods have thrown normal life out of the gear in almost all parts of Wayanad. Increasing human-wildlife conflicts are also a matter of great concern in the district.

Wayanad district- an overview

Wayanad is a hilly, backward, and tribal district of Kerala having an area of 2131 sq.km. The district was formed on November 1, 1980, merging North and South Wayanad regions of Kannur and Kozhikode districts respectively. The total population of Wayanad is 8,17,420 as per 2011 Census, which is the least populated district in the State of Kerala. But, in case of the tribal population it ranks first with 31.24 percent of total tribal population in the state and 18 percent of the total population of the district. In terms of the density of population, the district stands in the second lowest (384 persons per sq.km) in the state. The literacy rate of Wayanad is 89.03 percent, which is also the least in the state.

One of the major peculiarities of the district is the concentration of tribal population. The district has shown relatively lesser progress in the social indicators that determine the human development index of the region. The district has the lowest rank (13th) in Human Development Index as compared to other districts in the State as per 2005 Human

Development Report. The generalised deprivation index- 'deprivation based on deprivation in four necessities for wellbeing'- such as housing quality, access to drinking water, good sanitation, and electricity is also highest in Wayanad. The district of Wayanad is the only aspirational district in the State of Kerala.

2. METHODOLOGY

- Detailed discussion with District Planning Committee
- Discussion with Sri. A.K Sasindran (Hon. Minister for Forest and Wild Life), Sri. M.V Sreyamskumar (Hon. Member of Parliament-Rajya Sabha), Sri. O.R. Kelu M.L.A (Mananthavady), Sri. I.C Balakrishnan M.L.A (Sulthan Bathery) and Sri. T. Siddiq M.L.A (Kalpetta)
- Discussion with Local Self Governments
- Various meetings of line departments and research institutions
- Interaction with experts and stakeholders
- Formation of Sub-Groups

3. AGRICULTURE AND ALLIED SECTORS

Economy and employment of the district depends primarily on agriculture and allied activities, which ensures livelihood for more than 80 percent of the population. Climatic and geographical peculiarities of Wayanad are ideal for almost all types of crops. The district is famous for pepper and coffee in the world market. In addition to crop production and productivity with integrated farm management, priority shall be given for ensuring the quality of primary agriculture produces through post-harvest management such as procurement, processing, value addition, branding, and marketing for ensuring better price and sustainable income. We must adopt agriculture practices and organic farming with nutrient recycling for ensuring sustainable farming and follow a policy of avoiding middlemen throughout the supply chain. Considering the topography of the district, priority shall be given for natural resource management and biodiversity conservation. Irrigation facilities must be improved for better productivity by adapting new technologies and non-conventional energy. The experience of the district proved that during the crisis, the dairy sector acted as a major source of income to the farming community. The potential of animal husbandry, floriculture, apiculture, aquaculture etc. are to be realized. Watershed-based approach can be adopted for integrated and sustainable agriculture development.

Climate change directly affects agricultural production, as the agriculture sector is inherently sensitive to climate conditions and is one of the sectors most vulnerable to the risks and impact of global climate change. Based on the regional climate change projection, Wayanad is expected to experience increases in temperature and changing rainfall patterns as well as increased frequency of extreme climate events (such as droughts and floods). There is an increase in rainfall during SW monsoon period which may lead to flooding of low-lying areas and increased risk of land slide and soil erosion. Important crops like pepper, banana, coffee, and ginger will also be affected due to prolonged dry spell and high rainfall intensity. Excessive use of pesticides and weedicides has polluted the natural water bodies and drinking water sources. The paddy field and hills are disappearing gradually through large scale filling and levelling which is affecting the eco system substantially. In the highly drought affected grama panchayaths such as Mullankolli, Pulpalli, and Poothadi requires intensive soil and water conservation measures including irrigation facilities.

Wayanad district stands first in the production of coffee and ginger. Its contribution is about 79% and 44% respectively. It also accounts for 9 % of pepper production in the state. Cool season crops like cabbage, cauliflower, carrot, beans, broccoli, strawberry, avocado, and litchi are successfully grown in Wayanad. Scented rice varieties like Jeerakasala and Gandakasala, which are certified under geographical indication, are cultivated organically. Allied activities like dairy, animal husbandry, fisheries and farm tourism have great potential and are complementary to the agriculture sector. Wayanad comes second in milk procurement and stands first in the density of milk production. Dairy sector in Wayanad often acts as the major means of livelihood during distress situations. Covid 19 has had considerable impact in the district and the employment opportunities of NRIs are also to be addressed.

Agriculture

1. The peculiarities of Wayanad such as high and low rainfall, unsuitable landscape for long term crops, unsuitable soil for all crops, climate and potential for mechanization should be considered. Restarting paddy cultivation in fallow paddy fields and converting them into reservoirs and achieving self-sufficiency in vegetable cultivation.
2. The revival of the agricultural sector requires a holistic approach that includes land and water management, optimum production and productivity, profitable and integrated farming, bio-diversity and environment conservation and community participation. The quality and productivity of agriculture crops in Wayanad is mainly due to the peculiarity of soil and climate, hence, we must give adequate importance for restoring the natural resources and climate.
3. Encourage good agriculture practices and organic farming with certification.
4. Ensure the availability of quality planting materials and seeds, agriculture inputs implements and equipment. It is to be ensured that the planting materials are suitable for agroclimatic conditions of the district with high productivity, quality, and disease resistance.
5. Rejuvenation of existing senile coffee gardens can be done through scientific management for better production and productivity through area expansion, irrigation, crop management, replanting etc. At present, 90% of the coffee cultivation is rain-fed. But the unexpected drought spells experienced especially during the flowering stage adversely affect the fruit setting and results in low productivity. High income from this sector has been generated by rehabilitating existing plantations, augmenting irrigation facilities and promoting inter-cropping, scientific crop management, shade management, and pruning. The area under coffee is about 67000 Ha. This could be expanded to bring more area under the crop benefitting more farmers by providing technical and financial support.
6. Cut and removal of diseased, senile, and unproductive plants
7. The harvesting and post harvesting management of coffee is very important. Since coffee beans are highly sensitive for absorbing odour, they should be dried and stored in proper way.
8. The name 'WAYANAD' has been derived from the expression 'VAYAL NADU' – the land of paddy fields and important yield of the district is paddy which is cultivated in about 19308 hectares. The area of paddy cultivation is decreasing continuously due to the expansion of crops like areca nut, coconut and banana. For ensuring the water conservation and food security maximum wetland has to be utilized for paddy cultivation. Cultivation of 'Nanja' and 'punja' is to be promoted with proper crop rotation.
9. Scented rice of Wayanad- Gandhakasala & jeerakasala, for which geographical Indication has obtained, is being cultivated in 350 Ha mainly by the tribal community. The crop has become less remunerative due to low productivity (1.5 T/ha against 4T/ha for HYV Rice) and high cost of production. The other traditional varieties of paddy in Wayanad like Wayanadan Thondi, mullanchanna, chomala, Valichoori etc. are premium rice varieties which can also be promoted. Paddy must be procured, processed, and marketed with premium price.

10. Production and productivity improvement of pepper by supplying high quality planting materials, rejuvenation of existing gardens through proper crop health management, control of pest and diseases especially quick wilt by supply of Potassium Phosphonate & Bio control Agents, replacement of wasp-infested standards with new live ones, need-based spraying of micronutrients, managing soil pH by the incorporation of soil ameliorants etc., are envisaged in the proposal. A cluster-based approach is aimed for effective implementation of the scheme. Plant protection operations can be effectively done by the involvement of samitis and utilizing the skilled manpower of Karshika karma sena.
11. Spices such as ginger, turmeric, cardamom, nutmeg etc play a vital role in the economy of Wayanad. There are several NGOs and FPOs doing grading, value addition and export of Wayanadan Spices. Hence area expansion of these crops and supply of quality planting materials for cultivation will help farmers to fetch additional income. The Cardamom can be raised as intercrop in pepper and coffee garden and also in homesteads for expanding the area of cultivation.
12. Coconut cultivation is comparatively low in the district, but the area shows a slight increase in recent years due to implementation of Keragramam & Supply of Quality Planting materials. Irrigation can help the farmers to improve the yield & quality of nuts. Value addition and providing climbing devices will provide employment to youth & Kudumbashree women. Pest & Disease Management of coconut especially for bud rot control is also essential for improved productivity.
13. There is a big scope for vegetable cultivation including cool season vegetables for improving the income of farmers through inter cropping as well as mono cropping. The area of vegetable cultivation has to be extended and modern technology has to be incorporated.
14. District has ideal climatic conditions for cultivation of tropical and subtropical fruits. Even though, the availability of jack fruit and mango is abundant, majority of these not utilized so far. There is tremendous scope for cultivating high value fruit crops like mangosteen, avocado, passion fruit, papaya, chikoo, litchi etc. The harvesting of high value fruit can be linked with farm tourism by permitting the visitors to collect the fruits by themselves during harvesting season.
15. Promotion of cluster based floral cultivation.
16. Cultivation of medicinal plants is advisable for ensuring the better income for the farmers. This can be linked with the medicine manufacturing companies.
17. Homestead farming, kitchen garden, terrace farming, vertical farming etc. can be promoted for ensuring food security and safe food production.
18. The scientific crop management along with traditional technology has to be promoted for the optimization of production and productivity. The over population of plants must be avoided and three tier canopy system in the case of inter cropping has to be maintained. Attention shall be given for the inter cropping of coffee plantation. The suitable local as well as improved varieties of planting materials and seeds have to be promoted.

19. Adequate infrastructure facilities have to be created in connection with procurement, processing, value addition and marketing for all primary agricultural produces. Suitable climate controlled godowns and coolers can be established for the complete storage of the produces. There should be strict protocols for quality assurance with international standard throughout the supply chain. Along with value addition in agro-processing industry, nutraceuticals product shall be promoted. Common facility centres can be established. The physical, chemical, and biological quality of the product has to be ensured. The products must be marketed locally and globally.
20. There should be adequate infrastructure facilities for the quality assurance throughout the food chain.
21. The products under agriculture and allied sector can be marketed with common brand and geo tagging. There can be a separate consortium for the pooling and marketing of products manufactured under Wayanad Package. The traditional varieties as well as geographical indicated products have to be procured and marketed separately.
22. Brand 'Wayanad Organic' - Given the specific recognition for Wayanad's commodities in markets inside and outside Kerala, like pepper and other spices, coffee, tea, aromatic and medicinal rice, fruit varieties etc, an Organic brand will not only re-establish our district as a name to trust for pure and surely organic but also create immense opportunities in agriculture production and other linkages to it. A 100 start-ups that work in the entire organic supply chain ranging from agro services to sales not excluding production, processing, logistics etc.
23. Ensure non-overlapping of ongoing schemes and fill the critical gaps with forward and backward linkages with inter and intra sector for sustainable agricultural sector.
24. Technology like zero budget farming can be promoted. The importance can be given for the utilization of crop residuals and suitable bio-degradable waste into organic inputs for the nutrient recycling.
25. Modern technology like precision farming, protector farming etc. can be adopted and promoted. Farm automation and mechanization can be given adequate importance for reducing the cost of production and increasing the quality.
26. Consider the modern technology as well as suitable traditional technologies and better input-output ratio for the betterment of the sector as well as farming community.
27. Farm Management Force at Gramapanchayath/ Municipality level can be established for ensuring the labour force for farming activity. This labour force can also be engaged in harvesting, post harvest management, maintenance of equipment and machineries and other support services. Timely maintenance & repair of Agricultural machineries is also important for efficient use of Machineries. Hence a mobile workshop of agricultural machineries, run by Group of technicians under the supervision of Agricultural Engineer can revive the machines which are kept idle due to want of minimal repair work. For this Labour Banks can be established with the help of LSGs.
28. There should be a proper and continuous channel for technology transfer from research institution to farmers. At the same time the farm level problems have to be resolved timely. The expertise of agriculture related research institutes such as MSSRF, RARS

- and KVK has to be utilised for the innovation and diversification in farm activities.
29. The service of NGOs, Co-operatives, Tribal Societies, FPOs, Farmer's groups, SHGs, Samithies, charitable institutions, reputed institutions etc. can be effectively utilized for the betterment of agriculture and allied sector.
 30. Green farming shall be promoted for the sustainable agriculture development. The environment factors must be considered throughout the supply chain. Waste management has to be considered seriously.
 31. Farm plan can be prepared for each farmer under agriculture department with the co-operation of LSGS and NGOs and the agriculture interventions can be done as per the specific farm plan.
 32. The biodiversity conservation and documentation of heritage (agriculture museum) in the field of agriculture and allied sector can be established.
 33. Opportunity of bringing wild plants into our food plate can be promoted through conservation, cultivation, consumption and commercialization.
 34. The technical expertise of research institution in the district can be utilized for research management, data collection and storage, quality assurance, entrepreneurship development, soil diagnosis, extension and skill development, product development, disease control, farmer centric researches etc. The service of scientists, research scholars and senior students has to be utilized for the benefit of farming community at filed level.
 35. Farm tourism has to be promoted for the better income of farming community along with indirect employment. A common facility for the promotion and coordination of farm tourism at district level can be established through which skill up gradation, trading and other support service can be provided.
 36. Separate strategy can be evolved in connection with Tribal agriculture and social security of the agriculture laboures of Tribal community shall be ensured.
 37. Ensure effective coordination for better utilization of resources and services of line departments, agencies, financial institutions and Research Institutions.
 38. Strengthen and diversify the existing infrastructure facilities for the better utilization, maximum out-put and less investment.
 39. Strengthening of soil testing facilities in the district. Since Wayanad has undulating topography and nutrient loses from place to place the soil testing is an important aspect for production, productivity and disease control related to nutrient deficiency. The existing soil facility has to be improved through the strengthening of the existing soil testing laboratories.
 40. Replication of successful models and practices in agriculture and allied sector for better outcome.
 41. Encourage group activity such as JLGs, SHGs, FPOs, and Agriculture Samithies etc. for the better outcome from agriculture and allied activities. Also encourage co-operatives, charitable institutions, NGOs for strengthening, diversification and better service.
 42. Information and Communication Technology (ICT) can be effectively utilized from farm to fork. New technology like block chain, robotics for the better service delivery,

easy accessibility, traceability, planning, evaluation etc.

43. Establish a single window system for agriculture and allied activities from Grama panchayath level to district level along with the facility of solving grievances.
44. Maximum utilization of non-conventional energy sources including solar energy and ensure better efficiency.
45. Man-animal conflict and animal intrusion into the cultivated lands would result in destruction of crops which would affect the food production as well as economic loss for the farmers. There should be animal friendly mechanisms has to be adopted to reduce man animal conflict. Control wildlife disturbance by placing electric / solar fences at the boundaries of the course and other possible methods.
46. Special packages for 'Pravasis' can be formulated and implemented under Labour Department.

Soil conservation

The total land area of Wayanad is 1305 sq. Km with a slope of 25%, 596 sq. km with a slope of 25% to 50% and 230 sq. Km of area more than 50% of slope. Another remarkable aspect of Wayanad terrain is the wide and nearly flat, inter-ridge or inter-mountain valleys, covered with a soil cover of variable thickness, resulting from accumulation of sediment shed by the bordering hills and ridges. Uniquely, such and other valley floors have been landscaped and terraced to form patches ideal for cultivating rice paddy or similar crops. Certainly some valley floors in the upper reaches are typically erosional in nature. Droughts are found to be frequent in the district and deficiency in precipitation is recurrent. Crop production and productivity have been affected and the effect becomes more drastic at low ground water levels and reduced recharge. A total of 270 landslide incidents were recorded inclusive of 49 major and 221 minor slides which affected 1221 families over Vythiri and Mananthavady Taluks and 20 Grampanchayats during August 2018, 2019, and 2020. Prolonged and intense rainfall or the combination of the two and the resultant pour pressure are the most important triggers of land slide. The process leading to landslides were accelerated by deforestation, blockage in the drainage course and drainage conjunction, unscientific agricultural practices, unscientific soil and water conservation practices etc.

There is only one major river in Wayanad District viz. Kabani, one of the three East flowing rivers of Kerala. Kabani and its tributaries constitute a powerful river system in the landscape of Wayanad. All major and minor river system flowing in the Wayanad District is the tributaries of Kabani.

1. Considering the topography and soil type of Wayanad the interventions regarding the soil and water conservation must be revisited. Success models of previous experiences in the districts have to be considered. Various study reports regarding the landslide/landslip can be considered under the proposal "Rejuvenation of landslide/landslip".
2. The district can be divided into various zones based on the drought conditions and suitable development strategy can be adopted for each zones. Comprehensive drought mitigation projects on watershed basis must be taken in severe drought prone areas. The border grampanchayaths like Mullankolli, Pulpalli and Poothadi requires a com-

- prehensive watershed management programme to address critical drought condition.
3. Intensive project in connection with the rejuvenation of flood affected area on watershed basis has to be considered.
 4. Scientific intervention regarding the rejuvenation of the sensitive area of landslide/landslip along with preventive measures is to be implemented.
 5. The terrain features a fragile ecosystem and population pressure which restricts the planning and construction of large reservoirs in the district. Under the above circumstances, the better option is to arrest surface runoff water in the valleys of surrounding plantations and forest by constructing small earthen embankments. There is enough scope for plenty of such structures and the planters also can contribute excess water based on water share agreement between them and local bodies. Harvested water in such mid valleys will definitely be a boost to the plantation sector as well as it will cater to the domestic needs of the downhill during the summer. Such a policy established with the involvement of government, local bodies, and planters can help to store a minimum of 5TMC of water.
 6. Conservation of the biodiversity of the district, improvement of the social conditions, use of land according to its capacity are also other focus areas that would add to the water security of the district.
 7. Drastic changes in the soil type and land use pattern, diminishing of wetland cultivation and coverage of canopy, reduction in water storage structures like 'thalakkulam', excessive use of chemical fertilizers and pesticides, climate change, unscientific soil and water conservation activities etc. resulted in increase in the velocity of runoff water, which results in the non-utilization of 80 percent of rain water. The above factors cause heavy soil erosion. So, appropriate and low-cost measures for soil conservation have to be evolved. Importance must be given for the desiltation, renovation and expansion of existing water bodies to improve the flow of water and reduce the chance of flooding
 8. A specific and scientific soil and water conservation programme has to be formulated considering the geographical peculiarity of the district. Emphasis has to be given for the low-cost water conservation measures such as earthen dam, widening of streams, and drainage line treatment with biological measures, utilization of solar energy etc. attention must be given for the regaining of soil fertility with a long term perspective.
 9. The unit of development must be on watershed basis and participatory and integrated watershed management programme have to be implemented. For this watershed plan prepared by LSGs should be taken into consideration.

Irrigation

Almost entire Wayanad is drained by Kabini river and its tributaries which come under Cauvery basin, allocation of water is governed by Cauvery Water Dispute Tribunal, which is 21TMC for the Kabini basin. There are no major Irrigation projects in the District. Two medium projects under execution are Karapuzha Irrigation Project and Banasurasagar Project. Minor Irrigation schemes like lift irrigation, check dams, diversion weirs, vented

cross bars (VCBs) and tank irrigation located widely across the entire district have good local coverage and influence. We must give adequate importance for utilizing the above projects for solving the domestic and irrigation water requirement in the district.

Major Irrigation

1. Water from reservoir and canal can be lifted and used for irrigating cash crops like coffee, pepper etc. beyond the envisaged gravity flow ayacut of the project. Fertigation also is possible in micro irrigation and thus the expenditure for fertilisers will be reduced. Due to global climatic change Wayanad also is experiencing an erratic rainfall pattern. This water source can be utilized for irrigation and drinking water purposes.
2. Wayanad requires minimum 21 TMC water including 17 TMC for 75000 hectares arable land irrigation, 2.2 TMC for the 8.50 lakhs people and 1.80 TMC for industrial and other uses. But the various storage structures already constructed including Karapuzha and Banasura Sagar Dam can provide only 5.5 TMC of water. The critical gap in demand could be compensated through harvesting the surface water available during the rainy season.
3. The scope of the original project report under two major irrigation projects is to be fully utilized. For this land acquisition for reservoirs and distributaries, construction of distributaries and branch canals, micro irrigation schemes, improvement of canal bund roads etc. are to be considered.
4. Other opportunities like solar power generation, afforestation of acquired land, tourism, fisheries etc. can be explored. For this, long term planning is required.
5. An effective information channel can be created in connection with the irrigation and related operations.
6. There should be a proper documentation on the 'Ayyakettu Area' at the planning stage for the formulation of irrigation projects with cost-benefit evaluation.
7. Proper maintenance and continues output have to be ensured by the implementing authority with the help of local self-governments.
8. Integration of line departments, water budgeting and continuous monitoring have to be ensured for the optimum utilization of water resources. Proper planning, investigation and execution has to be ensured for the better utilization of water available in the Kabiniriver.

Minor Irrigation

1. Emphasis to be given to raise puncha cultivation wherever possible as this will be a boom for water conservation in addition to food security.
2. Upland irrigation is not yet started except for small percentages in plantation sector. If cash crops such as coffee is given irrigation facility, production can be doubled and so as the income of farmers. Micro irrigation which requires only one third of the water required for conventional irrigation can be effectively used for upland irrigation. Provision for providing micro irrigation for commercial crops can be considered.
3. Renovation of the existing structure and the establishment of irrigation facilities to wet and dry land shall be considered for optimum production and productivity for various crops.

4. Implementation of projects such as Lift Irrigation, Head pond, Check dams and VCBs and other suitable methods can be adopted for effective utility of water resources.
5. Documentation of existing schemes can be done through geo-mapping. Weather forecasting along with communication channel can be established with the help of research institutions for the effective utilization water resources.
6. Investigation, design and survey shall be compulsory while formulating DPR pertaining to Minor Irrigation projects.
7. A flood control strategic plan has to be formulated. There should be removal of blockages of water flow with the help of LSGS.
8. The abandoned quarries can be utilized for water conservation.
9. Electrification along with the river side and utilization of solar energy can be considered for irrigation purposes.

Animal husbandry and dairy

Animal Husbandry

1. Animal husbandry sector is one of the suitable sectors for ensuring the livelihood for the marginal and small farmers including women and Tribal community. Focus must be given for production, procurement and marketing of egg and meat
2. Utilization of supplementary income shall be ensured. Proper housing, care and management, disease control is to be addressed.
3. Good quality young ones to be made available and preference must be given for local production and genetical up-gradation. Artificial insemination and new technologies like sex-sorted semen, embryo transfer must be promoted.
4. The possibility of egg and meat production can be tapped. The existing infrastructure facilities of meat processing in the district can be fully utilized. Similarly, the eggs can be collected and marketed.
5. Climate resilient animal husbandry and dairy activity is to be promoted
6. Comprehensive Vector Borne disease management activity for enhancing productivity and one health is to be ensured. Under this breaking the life cycle of ticks and surveillance of diseases can also be considered.
7. The veterinary service has to be reached at the door steps of the farmers. The mobile farm aid units under Animal Husbandry Department and LSGs have to be strengthened.
8. Establishment of smart veterinary centres through the computerization and networking along with software development.
9. Model veterinary service centres have to be upgraded to model institution so as to deliver quality service to the farmers and entrepreneurs
10. The young ones are to be scientifically reared into quality domestic animals and birds for the sustainable development in animal husbandry sector

Dairy Development

1. Promotion of integrated dairy farming activity with vertical and horizontal integration.

2. Ensure green dairy farming with the control of greenhouse gases and utilize the subsidiary income through the procurement and marketing of cow dung and cow urine for the promotion of organic agriculture production.
3. Strengthen the co-operative network of dairy sector through the modernization, up gradation, automation, and diversification of institutions.
4. Encourage commercial dairy farming for creating the employment opportunities and for enhancing the production.
5. Mechanization and automation of dairy farms to reduce manpower and increase the quality and productivity of milk.
6. The promotion of high yielding indigenous varieties of cow and conservation of germ plasm of local breeds of animals and birds are highly suggested.
7. Promotion of fodder production for ensuring the availability of green fodder and reduce the cost of milk production
8. Establish a hay bailing unit for the utilization of straw and nonconventional feeds produced in the district with the facilities to produce Total Mixed Ration commercially.
9. Ensure the quality of milk throughout the supply chain along with the quality assurance facilities at various level
10. Establish milk chilling facilities at commercial farms and primary dairy co-operatives to increase the productivity of milch animals and to assure safe milk. The up-gradation of existing chilling facilities also can be considered.
11. Upgrade and diversify the existing dairy plants in the district and establish the milk processing and value addition centres for the procurement and marketing of milk and milk products.
12. Establish a modern milk value addition unit with international standard to cater the surplus milk produced in the district.
13. Establish one goat milk processing unit under FPO for the processing and value addition of goat milk.
14. The cow dung and cow urine can be utilized not only for profitable dairy farming but also for ensuing quality bio input for agriculture. Similarly faecal matter of goat and poultry can also be used. It is advisable to establish bio manure manufacturing units in the district.

Fisheries sector

The only scope of fisheries sector in Wayanad is inland fisheries and is emerging nowadays. The state government had initiated the Matsya Keralam program in 2009, which was later renamed to Matsya Samridhi in 2015. The program received a rousing response from the farmers, who were exasperated by repeated crop loss and economic insecurity. The area suitable for inland fisheries in Wayanad is 2458.66 hectares including individual private ponds and water bodies under Local Self Governments. The catchment area of 20203 hectare can be effectively utilized for fish cultivation and now partially used by the consortiums of Tribal Communities. As per the information of fisheries department, the area of cultivation under Matsya Samridhi is 255.66 hectares. Availability of quality fish lings, lack of

procurement, value addition and marketing, inadequate storage facilities etc. are the major constraints in fisheries sector of the district.

1. The availability of suitable fishlings including ornamental fish has to be ensured throughout the year. For this the existing hatchery can be expanded and an ornamental hatchery can be established.
2. The quality inputs regarding fish cultivation along with the equipment can be ensured.
3. Automation and new technologies like biofloc, cage farming can be promoted for maximum production and profitability.
4. Group activity can be promoted, and a district level consortium can be organized for assuring the coordination from production to marketing.
5. Infrastructure for ice manufacturing in connection with the storage of fish can be established.
6. The procurement, processing, value addition and marketing can be promoted.
7. For better price and market, the activities like live fish outlets; fish kiosk at tourism destinations can be promoted.
8. The quality assurance is to be implemented through the formulation and implementation strict protocols.
9. Skill development and training programme can be implemented for the scientific fish cultivation and post-harvest management.

4. SOCIAL SECTOR

Wayanad is a socially backward district in Kerala. As per the 2011 census, the total population is 817420, and the sex ratio is 1035. The percentage of children below the age of 14 is 25 per cent, the aged population above 60 years is 9.83 per cent, the Scheduled Tribe population is 18 per cent, the Scheduled Caste population is 3.99 per cent, and the differently-abled is about 3.6 per cent. The female literacy rate is 87.7 per cent, and the male literacy rate is 92.51 per cent. The district holds the 2nd rank in the state total, male and female Work Participation Rate (41.6%, 56.92%, 26.8%, respectively). The district holds first place in Urban Work Participation Rate (38.13%) in the state. It also holds the 1st position in the state in the percentage of agriculture labours to total workers (29.88%) and 2nd in the percentage of cultivators to total workers (15.51%). The need of the hour is the empowerment of socially backward sections in society through efficient engagement in economic, social and political life. It has been widely recognised that economic empowerment is critical for enhancing their autonomy and full participation in society.

Scheduled tribe development

Wayanad is the land of 11 Tribal communities. The Paniyan, Kurichian, Adiyar, Thachanadan Moopan, Kanaladi, Mullukuruman, Kattunayakan, Oorali, Wayanadan Kadar, and Karimpalan are the major tribal communities in Wayanad. The Kurichians and Kurumars are agricultural communities; being agricultural communities, they owned land and enjoyed a high position in the tribal hierarchy. Oorali is the artisans' group; Paniyans, Kattunaikans, and Adiyans are lowest within the tribal hierarchy. The social situations have undergone tremendous changes among tribes, particularly in social development.

1. The living condition, culture and development status of each tribal community is different, and the development strategy shall have a long-term perspective. The effective participation of the tribal communities throughout the development process is to be ensured.
2. It is necessary to conduct a participatory and comprehensive study regarding tribal development in the district to address the development pattern of each tribal community.
3. The focus of the tribal development shall be to address land, housing, health, education, employment, and income. Prime importance is to fill this critical gap, and a stipulated time must be fixed to ensure basic amenities such as housing, safe drinking water, sanitation facility, connectivity etc., to the entire tribal communities. A project for establishing suitable model settlements in selected hamlets shall be considered.
4. Coexistence is the basic philosophy of many tribal communities with forest, where they believe that there should always be a constant interaction between them and the forest resources. Development induced involuntary displacement causing inaccessibility to the natural resources and control over the forest, which leads to loss of livelihood and employment. Resettlement should be done with adequate planning.
5. Intrusion to the privacy of the tribal communities by tourists is a major concern. The development process considering the culture and traditions, dignity and self-esteem of the tribal communities have to be given prime importance. Indigenous tourism under

strict protocols and monitoring can be promoted.

6. As per the Kerala Economic Review 2020, “The dropout syndrome is highest among the Kattunaika, Adiyar, and Panian communities of tribes”. The dropout ratio among students from the tribal communities was 1.16%, much higher than the state average of 0.11% in 2019-20. In Wayanad, 83% of the total dropouts were from the tribal communities. Different demographic, geographic and socio-economic factors such as density of population, distance and diversity in terms of topography, social-cultural and economic characteristics both within and across tribal groups result in dropout in the school and higher education level. External factors such as social location, school environment, negative attitude towards schooling, peer group influence, health issues, and gender lead to the dropout of students from tribal communities. There are internal factors that lead to the drop out of Tribal students from the education system, such as mother tongue inhibition, content and pedagogy, incentives, teacher absenteeism and attitude of teachers. The higher and technical education among the tribal population shall be ensured. These factors should be adequately addressed while formulating the tribal development programme.
7. Skill development programme shall also be incorporated along with the education for building self-confidence among tribal communities.
8. The development of women and children with special focus on health and education should be given priority for the sustainable development of the tribal communities. Nutritional problems among children and mother are another serious issue of concern. The service of ‘Hamlet Asha Workers’, para medical and medical professionals from Tribal community can be utilized. The nutritional requirements of pregnant women, feeding mother and children can be ensured. There should be special care centres in each tribal hamlet for addressing the issue. This centre can also be used as antenatal care centre.
9. Special attention must be given to assuring the health standards to the entire tribal communities at par with the general community. Health service shall be delivered at the doorstep and the mobility to the health centres should be ensured without delay.
10. Condition of many of the Model Residential schools run by the Scheduled Tribes Development Department in the district is deplorable. Higher secondary batches should be allowed in these institutions. In addition, infrastructure development needs to be adequately scrutinized for academic support, hostel facilities and administrative control to address deficiencies. The lack of accommodation facilities and other infrastructure facilities in post metric education shall be ensured. The establishment of more Model Residential Schools and pre and post metric hostels are highly recommended.
11. MRS is envisioned to provide quality education to children, but the majorities are failing to escalate to higher education. An action plan must be prepared for ensuring admissions in premier educational institutions, including Foreign Universities. A study can be conducted to understand present status of the students who have completed their academics from MRS.

12. Motivation of parents and children are very important factor for continuous education and career development of tribes. Various methods for learning can be adopted including the documentation and replication of success stories among tribes. Community learning facilities within the hamlets will catalyse the creation of a learning environment and will attract more children towards pursuing education. This centre can also be utilized for facilitating the development activities of tribal communities. The service of educated youth can be effectively utilized for facilitating the community learning centre.
13. The pre-primary learning is very important for building up strong foundation in education. For this the service of mentor teacher from tribal communities can be effectively utilized. The community learning centres can be utilized for this purpose.
14. Enabling the youth of the Scheduled Tribes to participate and succeed in the competitive examinations with confidence and excellence will help build a new generation who would like to walk together with the development. The younger generation has to be adequately trained for the competitive examination with the help of educational institutions, and Information Technology can be effectively utilized for attaining the target. Special Coaching for NEET, KEAM, UGC-NET, KAS, Civil Service exams and other competitive examinations for tribes may be started. For this purpose, a district level 'Centre of Excellence' for career advancement with residential facilities can be established. Weekly career guidance programme can be convened in MRS by utilizing the expertise of the eminent personalities, professionals, UG/PG/Research Students.
15. The entire tribal families shall be ensured with a minimum income for meeting their livelihood. For this, a comprehensive and suitable employment package is to be formulated and executed. A master plan for human resource utilization including the unwed mothers will be an effective tool for materializing livelihood support. A tribal incubation centre is can also be established.
16. The traditional craft skill of tribal communities has to be tapped for livelihood support. The skill has to be upgraded, and the product can be marketed.
17. Women empowerment is an important factor for the sustainable development of the tribal community. A master plan has to be formulated to attain gender equality.
18. Wayanad district has immense potential to develop indigenous tourism by providing traditional food and delivering traditional art forms. Indigenous-owned and curated collections of art made by artists among tribes, jewellers, bamboo crafts can be displayed and marketed in tourist destinations.
19. The social security of the aged people and destitute among the tribal community has to be ensured with the help of LSGs. There shall be measures to set up geriatric care centres at the LSGD level.
20. In order to nurture the emerging sports persons from tribal communities, necessary facilities have to be provided. Ensure to improve the sporting abilities of tribal students and make them excel at the state and national-level competitions.
21. There are some co-operatives and other institutions working for the development of the community that has to be strengthened and diversified.

22. The various products, including minor forest produce collected by the tribal communities, have to be pooled, value-added and marketed under a common brand with quality assurance. All other products manufactured by the Tribal communities can also be marketed through the above-market channel. The service of institutions like TRIFED has to be utilized for marketing these products in and outside the State.
23. There should be a mechanism for monitoring including social audit and evaluation of tribal development projects under district administration.

Scheduled caste development

The scheduled caste population in the district is 3.99 percent and the development of the section is to be addressed with adequate importance. The participation of the community shall be ensured throughout the development process.

1. The basic amenities such as land, housing, safe drinking water, connectivity, health, education, employment, income etc. must be ensured.
2. Low educational status becoming a major hindrance for development among Scheduled caste communities. To uplift the social-economic status as well as inner confidence between them, Education is an inevitable tool. Higher and technical education among scheduled caste community has to be ensured and monitored.
3. E-learning uses interactive technologies and communication systems to improve the learning experiences. It can enable every learner to achieve his or her potential, and help to build an educational workforce empowered to change. E-learning also help improving the learning skills and making our students more competent to live in this information driven age. Setting up E learning centres located inside the colonies would be beneficial for Scheduled caste students to perform better in education. The accessibility and availability of these resources will help the students to get interested and concentrated in studies.
4. The career development centres with adequate facilities, which are accessible to scheduled caste community, will help to increase employability among them. There should be a specific plan for the skill up gradation of the Scheduled Caste community.
5. There should be adequate attention for women empowerment
6. A master plan for human resource utilization will be an effective tool for materializing the livelihood support.

Women and child development

The empowerment and autonomy of women and the improvement of their political social, economic and health status is a highly important end in itself. The recognition of the demands for basic rights of women, children and transgender is important to attain the equal status in the society. In order to achieve gender equality, the society requires the policies and programmes that improve women's access to education, livelihood and resources, reduce and redistribute their responsibilities with regard to domestic and 'care' work, remove the obstacles to their participation in public life, and enhance gender consciousness in society through effective programmes of awareness on a massive scale.

1. Special focus on attaining the gender equality is to be done. This can be attained through economic autonomy, participation in social and public life etc.
2. Atrocities and violence against women and children are to be seriously addressed. Awareness and legal services are to be ensured at grass root level through various means.
3. There should be equality of wages, women friendly facilities and other facilities in public as well as in the workplace.
4. Integrated Child Development Services (ICDS) is the only major national program that addresses the needs of children under the age of six years. It seeks to provide young children with an integrated package of services such as supplementary nutrition, health care and pre-school education. Pre-school education is essential for the child because it is the building block of the child's elementary education. It provides a healthy foundation for the holistic development of the child. So creating a child friendly atmosphere is indeed to better performance of the system.
5. Anganwadicentres are the institutions through which the ICDS services are provided, so changing these centres for providing better learning and development experience is indeed.
6. Preschool-age children learn best in environments where they can have secure relationships with caring and responsive adults, where they feel safe and where they feel free to explore and learn. A well-arranged environment can help us meet preschool-age children's needs during play and routines. This lesson highlights the importance of the environment and provides an overview of what to consider when creating and maintaining developmentally appropriate preschool learning environments. Designing learning opportunities for children is important, and the classroom or outdoor environment sets the stage for most of these opportunities. Interest areas are key tools for learning in preschool learning environments. The attractive and child friendly atmosphere deliver the needs.
7. Education, health and social security of women and children has to be ensured

Social justice

The senior citizen, differently abled, social defence and transgenders are the major sections in connection with social justice. The effective engagement in economic, social and political life, where often economic empowerment has been widely recognized as a key factor for enhancing the autonomy of them.

1. Most of the differently abled people are suffering from one or another disease. This issue has to be properly addressed and solved
2. The unemployment situation among differently abled has to be considered and proper and effective interventions are to be taken. Empowering them to financially independent would be great steps in their development. Financial supports to start small scale business will help them to have a holistic development.
3. Proper and timely geriatric care has to be delivered at the door step with the help of LSGs. The experience of senior citizen can be utilized for the development activities in the district. Suitable income generating activities can be formulated.
4. There are many elderly people who live alone as their children may be away or during

day time as they are away for work. The Meaningful social interaction among their age group people can improve both mental and physical health and help to prevent or delay cognitive decline.

5. Attitude of the society towards transgender is to be changed and the self esteem of this section is to be assured. Income social security of transgenders community to be ensured.
6. The problems of the ex-prisoners and the family members of the victims are to be properly addressed. There should be special attention for the income and employment and shall create a space for social interaction as well as self-confidence.
7. There should be proper shelter and facilities for recreation of the socially excluded communities.

5.DEVELOPMENT SECTOR

Development sector in wayanad plays key role in the social and economic development in the district. The components of this sector include tourism, forest, education and health. Replete with waterfalls, historical caves, hospitality, wild life, plantations, trekking, and proximity to other tourism centres etc. are the major attractions in this sector. Still the opportunity of farm tourism is not being tapped. Wayanad wild life sanctuary comes under the world famous 'Niligiris hotspot biosphere' with richest biodiversity with splendid flora and fauna. It has an extent of 344.44 km.sq and a variety of large wild animals such as Indian bison, elephant, deer and tiger are found. There are also a quite few unusual birds in the sanctuary. Wayanad wild life sanctuary is the second largest wild life sanctuary in Kerala, which contains some of the rare and endangered species of both flora and fauna.

Education in wayanad is constantly being improved. Though primary education is well managed the higher and technical education is to be improved considerably. Situation of education of tribes is a major issue in this sector and should give prime importance in this sector. Physical and mental health is the most important factors of human resource development. The district having one district hospital, which is recently upgraded into Government Medical Collage, 36 health centres including two Taluk Hospitals are functioning. There are 40 dispensaries under homeo department and 30 institutions under ISM. Wayanad lag behind all other districts in the case of health and health facilities.

Tourism

Tourism sector in Wayanad is emerging and State Government gives strong support for the economic development through tourism sector under Covid 19 pandemic situation. Tourism and hospitality industry in Wayanad contributes a significant amount to the district's annual revenue. The number of service providers in the industry has expanded swiftly over the past few years. Wayanad is blessed with several popular tourist destinations providing a panorama of undulating mist clad hills and dales. A total of Rs 168.9 crores of revenue have been generated by the tourism and hospitality industry in 2017 from the district. Wayanad has emerged over the years as a hub between the cities of Bengaluru and Cochin which makes it an amiable location for a tourism venture. Industrial and tribal craft tourism will open a new era in the tourism map of Wayanad. Being a part of Sahyadri with wild natural beauty, wayanad is a budding tourist destination in Kerala. The Pookot lake, Kuruva Islands, Edakkal Caves, Thirunelly Temple, Pazhassi Tomb, Wild Life Sanctuaries, Waterfalls in Soojippara, Kanthanpara, and Meenmutty, Jain Temple, Sultan Bathery, BanasuraSagar, Karappuzha dam etc., are the main tourist attractions of the district.

1. Tourism has been promoting Wayanad as one among the top 50 must see destinations in the world and has found a mention in international tourism list. Unregulated tourism has resulted in harmful impact. A package of responsible tourism with strict monitoring is to be ensured.
2. The tourism value chain extends across several verticals and industries, involving lodging, travel, transportation, food industry, retail trade, and entertainment sectors. Be-

cause of its extensive backward and forward linkages, tourism also plays a major part in local economic development. The sector is important in developing economies because of its emphasis on small businesses and its potential for generating local employment and livelihoods, particularly for youth and women.

3. As far as the great potential of this district is concerned farm tourism and indigenous tourism are the major areas to be focused with strict protocols.
4. The peculiarities such as nature, historical, pilgrimage, traditional art, craft and culture, food, adventure etc. are to be utilized for the tourism promotion in the district.
5. Proper co-ordination has to be ensured for the mobilization and control of tourism activities and facilitation centre can be established for this purpose.
6. Detailed guidelines regarding the tourism activities are to be prepared and implemented.
7. The infrastructure facilities of the existing tourism destination have to be improved with proper master plan. These destinations require beautification, up-gradation, modernization and diversification. The unexploited eco-tourism destinations can also be developed.
8. Connectivity to tourism destinations is to be upgraded to international standard and the common facilities to be established.
9. There should be facilities for skill up-gradation, professionalism in hospitality, communication and well framed support service such as travel, accommodation with common pattern. For this a Hospitality Management Institute shall be established.
10. There should be a designed marketing plan in connection with tourism for ensuring livelihood and income to the farmers, tribals and other weaker sections. The employment opportunities in this sector can be improved through the skill development of authorized local tourist guides.
11. New avenues like ropeway, ecological park, circuits, dancing fountain with light, hanging bridge, heritage museum, theatre, inland water tourism and new technologies like laser show have to be explored.
12. Exploration of tourism potential of the District has to be ensured without destroying the biodiversity and natural ecosystem.
13. At present, around 46 acres of land is in the possession of the Irrigation Department near the Dam premises which is lying without any utility. This land if landscaped with hardscapes like beautiful pathways and small water bodies will definitely attract a large number of tourists. Using this land, the Karapuzha Dam and Reservoir site will transform into a strategic location for developing the District level infrastructure hub of Tourism considering the accessibility of the location. Banasura Sagar and Karappuzha shall be developed as principal destinations.
14. A botanical park with zoo is advisable for exploiting tourism opportunities in the district.
15. The scope of wildlife can be more effectively utilized through the up-gradation, modernization and redesigning of the destinations with joint forest management committee.

16. A network of farm tourism operators can be established with a consortium. This can be associated with line departments, agencies, and organization.
17. There should be different suitable tourism package for various categories including health tourism with focus on domestic as well as international tourism.
18. There should be an effective mechanism for data collection and forecasting in tourism sector.

Forest and wildlife

Wayanad wildlife sanctuary is an animal sanctuary with four ranges namely, Sulthan Bathery, Muthanga, Kurchiad, Tholpetti. It is part of the Deccan plateau and vegetation is predominantly of the south Indian moist deciduous teak forest. The sanctuary has pastures of the best-cost, semi-ever green trees. This area is under consideration by the world heritage committee for selection as a world heritage site.

1. Wayanad District is the epicentre of human-wildlife conflict as far as the State of Kerala is concerned. Though many measures have been taken to mitigate the issue, the conflict is only expected to escalate in the future. In order to solve this sensitive issue, action may be taken for the modernization of surveillance, defence, various fencing technology including biological measures and other effective remedies.
2. The availability of food and water inside forest has to be ensured for the fruitful maintenance of wild animals along with the natural afforestation.
3. Animal rehabilitation centre has to be established at each forest divisions in the district and can also be effectively utilized for the promotion of tourism and employment for tribes.
4. In the recent past, Wayanad wildlife sanctuary and adjoining forest areas have been witnessing heavy invasion of exotic weeds. The main weed which is rampantly growing is *Senna spectabilis*. This species with its very high growth rate is impeding the natural vegetation thereby affecting the ecosystem services like depletion of ground water and degradation of wildlife habitats. It is very important to ensure the protection of natural forest through the eradication of *Senna spectabilis* and other exotic weeds.
5. Social forestry activity has to be strengthened for the protection of natural resources, nourishing food basket and conversation of environment. The biological measures of soil and water conservation can be attained with low-cost and long-term technology. Focus can be given for the

Education

Wayanad district has the least educational facilities as compared to other districts in Kerala. There are 814 Anganwadis and 127 primary schools in the district. There are 286 government schools and 76 Aided Schools in which 153728 students are studying. Out of the total students around 20 percent is from Tribal Communities. Along with the improvement in the quality of education, drop out of students could also be addressed and measures have to be taken to resolve the issues.

1. There are schools that need infrastructural facilities in the distant locations of the

district. In the case of higher education, the facilities are very limited. Therefore, a significant section of the children who want higher education are dependent on other states and districts. The desire for higher education of economically backward children is therefore obscured.

2. Professional course opportunities are also very low in the district. Without resolving all these, the district will not be able to achieve significant achievements in the field of education. The educational needs of this backward district are being addressed through the development of higher education facilities. Wayanad is also making significant strides in the socio-economic sector as the conditions are conducive for qualitative transformation at all levels of human resource development.
3. The infrastructure facilities of the existing primary and secondary educational institutions have to be strengthened and maintained. Focus must be given for education along with sports and other skill for creating confidence and self-esteem among the students.
4. The government and the local self-governing bodies, the people, have formed a broad coalition and are becoming the guardians of public education.
5. The special attention to be given for a comprehensive educational development among tribal students.
6. Ensure the long-term visionary activities for human resource development in the district.
7. Ensure quality education for all by equipping teachers and students to make effective use of the existing facilities as well as provision of more advanced facilities in the educational institutions. Create new horizons in the field of arts, culture and sports, creating new opportunities in the district for higher education, especially for professional courses.
8. Currently, the research facilities are located at the Agricultural Research Center, Kerala Agricultural and Veterinary University, Pookot. There are three study centres of Calicut University at Chethalayam and Muttill near Sultan Bathery and three university centres of the University of Kannur at Thonichal in Mananthavady. The existing facilities of the above institutions must be improved and strengthened for rendering better services. The Calicut University Tribal Study Centre can be utilized for the comprehensive development of tribal communities in the district.
9. Higher and technical education is the key factor for human resource development. Various Universities are stretching their services for the public locally and this opportunity has to be considered. For this a common campus with accommodation facility is highly recommended.
10. The district does not have enough seats for all the students who qualify for higher studies from Class X in the district to study in Plus One. Seats are scarce in the subject of Humanities, which is of interest to the majority of students, including those in the Scheduled Tribes category. More commerce seats need to be allocated after the necessary inspections. And the rearrangements of batches are necessary.
11. By bringing active participation of Tribal Promoter Animator, Education Volunteers, Asha Workers, Efficient work of Mentor Teachers, Proper interventions of local

self-governing bodies and voluntary organizations etc.

12. New courses in colleges shall be sanctioned at the graduation and post graduation levels.
13. Legal awareness among the public has to be extended with the help of legal service authorities.
14. A career guidance centre with facilities for preparing competitive examination can be established along with decentralized unit. Currently, there are no exam centres for national level entrance examinations in the district. This shall be properly addressed.

Health

Health problems are common among the people especially in Tribal community. The sophisticated health facilities are also devoid to the people of Wayanad and since there is no multispecialty health care facilities in the district, people are compelled to depend on Kozhikode Medical College, which is about 80 Km away from district headquarters. The PHCs and Taluk Hospitals functioning in the district under Health Department are experiencing shortage of staff and infrastructural facilities, equipment for efficient patient care.

1. Wayanad medical college is to be establishing with full strength within a stipulated time with adequate infrastructure facilities and staffs.
2. The General hospital at Kalpetta must be strengthened with all infrastructure facilities including blood bank.
3. Now days, we can see that the number of cancer patients are increasing in the district. Early cancer detection and cancer outreach programme shall be effectively implemented and monitored. It is noted that genetic diseases like Sickle cell Anaemia is found among tribal community in the District.

Infrastructure sector

The efficiency of the transportation system is an indicator of development. Roads are important channels of movement of people, and the development of the road network in any settlement is the physical manifestation of the extent and direction of the mobility of the people to satisfy their requirement in day-to-day activities, for work, recreation and living. The road network is the most important mode of transportation in the district, connecting almost all the important nodes. The district is served with a good network of roads comprising national highways, state highways, major district roads, and other roads. National highway 212 passes through the district connecting important districts Kozhikode on western side and Mysore on the eastern side. Wayanad district has an organized public transport system and private bus operators to play as stage carriage services on inter-district and intra district routes. Jeeps are also common modes of transportation, especially in rural area. Lack of airport, Railway and good quality connecting roads are the challenges for the flow of domestic and International tourists. The other infrastructure facilities in various sectors are also to be addressed adequately.

1. A suitable strategy must evolve in connection with the infrastructure development considering the topography, soil type and heavy rain. Proper drainage has to be

ensured.

2. The widening, maintenance and new technology adaptation are required for the improvement of rural connectivity.
3. There is a heavy traffic block in the major towns; therefore ring road connectivity has to be ensured within a time frame. The Kalpetta bypass road is required urgent maintenance.
4. At present there is no railway line in the district. However, there are proposals for the railway lines Nilambur-Nanjangaud and Thalassery-Mysore (via Mananthavady), which is under consideration. This will have much greater impact on the development of the district. These proposals are to be considered seriously.
5. There is no air connectivity in the district. The nearest airports are Calicut and Kannur, which is around 150 km far from the district headquarters. Establishment of airstrip is an important tool for the development of Wayanad, especially in tourism sector.
6. The climatic condition and other factors are suitable for IT industry in the district. So, a well-established IT Park is highly recommended, and this park can be considered as a major IT development centre for Malabar region. Infrastructure facilities for start-ups can be ensured.
7. Infrastructure facilities in connection with sports along with coaching are also important aspect. For this a Sports Academy can be established with a focus on tribal community.
8. Since Wayanad is highly sensitive to natural calamities. Suitable shelters can be established at appropriate places.
9. The repair and maintenance, renovation and expansion, construction of new buildings for Government institutions are to be ensured. For this a master plan with priority shall be prepared.

APPENDIX-1

PROCEEDINGS OF THE MEMBER SECRETARY STATE PLANNING BOARD

(Present: Sri. Teeka Ram Meena IAS)

Sub: - Formulation of Fourteenth Five Year Plan (2022-27) – Constitution of Working Group on Regional Packages– Revised Proceedings - reg.

Read: 1. Note No. 297/2021/PCD/SPB dated: 27/08/2021
2. Guidelines on Working Groups
3. This Office order of even number dated 08.09.2021

ORDER No. SPB/342/2021-Agri(6) Dated:14.09.2021

As part of the formulation of Fourteenth Five Year Plan, it has been decided to constitute various Working Groups under the priority sectors. Accordingly, the Working Group on **Regional Packages** is constituted. For the smooth functioning of the Sectoral Working Group (SWG), it is decided to split the Working Groups into Expert Sub Groups (ESG). Hence the Working Group is categorized into three Expert Sub Groups as indicated in the proceedings. The names of the members of the SWG are indicated under each ESG. The Working Group shall also take into consideration the guidelines read 2nd above in fulfilling the tasks outlined in the ToR for the Working Group

1. THE WAYANAD PACKAGE

Chairperson

- Ms A Geetha IAS, District Collector, Wayanad
- Dr Jose George, Professor (Retd), Mumbai University

Members

- Mr Samshad Marakkar, President, District Panchayat, Wayanad
- Ms. Priyanka G, IAS, District Development Commissioner & Special Officer, Wayanad Package
- Mr A. N. Prabhakaran, Member, District Planning Committee, Wayanad
- Mr Sreejith Sivaraman, Scientist & Activist
- Mr A. M. Prasad, Adivasi Kshema Samithi
- Dr Ambi Chirayil, Kasalakkad PO, Wayanad
- Dr K. Ajith Kumar, RARS, Ambalavayal, KAU
- Mr V. S. Biju, DPO, Wayanad

Terms of reference

- To assess the design and performance of the Wayanad Package of Government of Kerala.
- To identify the major issues in Wayanad's rural economy and suggest measures to incorporate them better in the Wayanad Package.
- To suggest measures to better target the delivery of services under the Wayanad Package.
- To suggest measures to include the programmes of LSGIs in the Wayanad Package.
- To suggest a framework for the regular assessment of progress under Wayanad Package.
- To suggest measures to improve the system of monitoring of schemes under Wayanad Package.

2. KASARGODE PACKAGE

Co-Chairpersons

- Dr D. Sajith Babu IAS, Director, Civil Supplies Department
- Ms Bhandari Swagat Ranveerchand IAS, District Collector, Kasargod

Members

- Mr U. Kunhiraman, ex-MLA, Uduma Constituency
- Ms Baby Balakrishnan, President; District Panchayat
- Mr Bankalam Kunjikirishnan, Kasargod
- Mr C. Ramachandran, Member, District Planning Committee
- Ms A. S. Maya, DPO, Kasargod
- Mr V V Remeshan, Ex. Chairman, Kanhangad Municipality
- Mr E P Rajamohan, Govt. Additional Secretary and Special Officer, Kasargod Development Package

Terms of reference

- To assess the design and performance of the present Kasargode Package.
- To identify the major issues in Kasargod's rural economy and suggest measures to incorporate them better in the Kasargod Package.
- To suggest measures to better target the delivery of services under the Kasargod Package.
- To suggest measures to include the programmes of LSGIs in the Kasargod Package.
- To suggest a framework for the regular assessment of progress under Kasargod Package.
- To suggest measures to improve the system of monitoring of schemes under Kasargod Package.

3. IDUKKI PACKAGE

Co-Chairpersons

- Mr Jeevan Babu IAS , Director General of Education, Kerala
- Ms Sheeba George IAS ,District Collector, Idukki

Member

- Ms Gigi K. Philip, President; District Panchayat
- Mr Arjun Pandyan IAS, District Development Commissioner & Special Officer, Idukki Package
- Mr T. C. Kurian, Thanuvelil , Kadamakkuzhi PO, Vallakkadavu, Idukki
- Mr Joyce George, ex-MP, Idukki
- Ms K. Jaya, Member, District Planning Committee
- Mr C. Rajendran, Member, District Panchayat
- Dr Muthuswamy Murugan, Head, Cardamom Research Station, Pampadumpara
- Dr Sabu Varghese, DPO, Idukki

Terms of reference

- To assess the design and performance of the Idukki Package of Government of Kerala.
- To identify the major issues in Idukki's rural economy and suggest measures to incorporate them better in the Idukki Package.
- To suggest measures to better target the delivery of services under the Idukki Package.
- To suggest measures to include the programmes of LSGIs in the Idukki Package.
- To suggest a framework for the regular assessment of progress under Idukki Package.
- To suggest measures to improve the system of monitoring of schemes under Idukki Package.

Convener

Sri. S S Nagesh, Chief, Agriculture Division, State Planning Board

Terms of Reference (General)

1. The non-official members (and invitees) of the Working Group will be entitled to travelling allowances as per existing government norms. The Class I Officers of GoI will be entitled to travelling allowances as per rules if reimbursement is not allowed from Departments.

2. The expenditure towards TA, DA and Honorarium will be met from the following Head of Account of the State Planning Board "3451-00-101-93"- Preparation of Plans and Conduct of Surveys and Studies.

The order read as reference 3 is modified to this extent.

(Sd/-)
Member Secretary

Forwarded By Order


Chief,
Agriculture Division

To

The Members concerned

Copy to

PS to Vice Chairperson
PA to Member Secretary
CA to Member (Dr.Ramakumar.R)
Economic Advisor to VC
Chief, PCD,SPB
Sr. A.O, SPB
The Accountant General, Kerala
Finance Officer, SPB
Publication Officer, SPB
Sub Treasury, Vellayambalam
Accounts Section
File/Stock File