



GOVERNMENT OF KERALA

TWELFTH FIVE YEAR PLAN

2012-17

STATE PLANNING BOARD

THIRUVANANTHAPURAM, KERALA

2013

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Foreword

Even though the process of formulation of Twelfth Five Year Plan (2012-17) of Kerala started early in 2011, there was a delay in finalising the Plan. At the national level there was delay in bringing out the Central Twelfth Five Year Plan document owing to various reasons, which invariably resulted in delaying the process by the State, since the Central Plan ordinarily forms the basis for the broad approach and perspectives of the State Plan. The process of formulation of Five Year Plans conventionally involves a number of steps such as constitution of Working Groups on different sectors, formulation of Approach Paper, preparation of guidelines, resource estimation for financing the Plan etc. This is necessary not only to enhance the quality and outcome of the Plan but also to consider all aspects of the economy as well as the people to ensure inclusiveness in all respects.

The approach of the Twelfth Five Year Plan (2012-17) of Kerala is people-centric based on the needs of the citizen and aimed at improving the status of each individual and group of people. The vision is *Development with Care and Compassion* and the mission is to attain the priorities set forth for the Twelfth Plan. The proposed outlay of the Twelfth Plan is ₹1,02,000 crore.

The Twelfth Plan document of Kerala contains two parts, of which Part I provides an overview and a new Chapter on Financing the Plan along with sector wise details and Part II provides sector wise analysis of the performance of the Tenth and Eleventh Five Year Plans. In order to have a clear understanding of various aspects, the following details are included in each sector, namely, (a) recommendations of the Working Groups, (b) approach, strategy, thrust areas and outlays, (c) key initiatives of the first two years of the Twelfth Plan, (d) major initiatives of the Twelfth Plan of Government of India, (d) critical gaps to be addressed in the next three years, and (e) physical targets and deliverables of the plan.

It is expected that this document will be helpful to all in general and the Departments and various implementing agencies involved in Plan formulation and implementation process in particular.

K.M.Chandrasekhar
Vice Chairman

Contents

	<i>Chapter</i>	<i>Page</i>
<u>Part I</u>		
1.	Twelfth Five Year Plan - An Over view ...	1
2.	Financing the Plan ...	13
3.	Agriculture and Allied Sectors ...	25
4.	Rural Development ...	66
5.	Energy ...	70
6.	Industry ...	78
7.	Infrastructure ...	101
8.	Science, Technology and Environment ...	130
9.	Education ...	151
10.	Medical and Public Health ...	170
11.	Urban Development ...	179
12.	Social Inclusion ...	183
13.	Social Security ...	214
14.	Tourism & Culture ...	225
15.	Other Services ...	234
16.	Decentralised Planning ...	239
17.	Plan Monitoring and Governance ...	242
<u>Part II</u>		
18.	Performance of Tenth & Eleventh Five Year Plan	255
<u>Appendix</u>		
I.	<i>Sector/Sub sector wise proposed outlay for Twelfth Plan and Outlay for 2012-13 & 2013-14</i>	313
II.	<i>Eleventh Five Year Plan (2007-12) – Year/Sector/Sub Sector wise Outlay and Expenditure</i>	315

LIST OF TABLES

Sl. No.	Item	Page No.
Table 1.1	Eleventh and Twelfth Five Year Plan – Outlay	7
Table 1.2	12 th Five Year Plan and Annual Plans - Sector wise Proposed Outlay	12
Table 2.1	Projected vis-à-vis Realized Financing Pattern of the Eleventh Plan (2007-12) Outlay of the State	15
Table 2.2	State's Own Tax Revenue (SOTR) and its Components (₹ crore), Kerala 1990-91 to 2012-13	17
Table 2.3	NPRE and its Components	18
Table 2.4	Gross Fiscal Deficit of the State	19
Table 2.5	Projected Financing Pattern of the Twelfth Plan (2012-17) Outlay of the State	20
Table 2.6	Financing Pattern of the Eleventh Plan (Projected vis-à-vis Realized) and Twelfth Plan outlay of the state	20
Table 2.7	Balance from Current Revenue in the Twelfth Five Year Plan	21
Table 3.1	Key indicators of the agricultural sector of the State and India	26
Table 3.2	Five Year Plan wise growth rate in Agriculture and Allied sectors	27
Table 3.3	Average Annual Growth rates of GSDP from Agriculture and Allied sectors (%)	27
Table 3.4	Yield gaps in major crops in selected AEU's in Kerala	30
Table 3.5	Average productivity of major crops	38
Table 3.6	Proposed outlay for Twelfth Five Year Plan and Annual Plan 2012-13 & 2013-14	42
Table 3.7	Major Physical Production Targets for Twelfth Five Year Plan, 2012-13&2013-14	47
Table 3.8	Subsector wise outlay during 2012-13 and 2013-14	48
Table 3.9	Average Annual Growth Rate of Milk and Egg Production	50
Table 3.10	Source Wise Outlay and Expenditure 2012-13 & 2013-14	52
Table 3.11	Outlay and Expenditure during Twelfth Five Year Plan	63
Table 3.12	Target set for 12 th plan	65
Table 5.1	Demand Supply Position during 12 th Plan	73
Table 5.2	Sub sector wise details under Energy Development	75
Table 8.1	Funds earmarked during 12 th Five Year Plan	140
Table 15.1	Twelfth Plan – Tentative Outlay	238
Table 18.1	Sector wise Outlay and Expenditure during 10 th & 11 th Five Year Plans	256
Table 18.2	Outlay and expenditure for Tenth and Eleventh five year plan	260
Table 18.3	Sub Sector wise Outlay and Expenditure	261
Table 18.4	Financial Performance of Crop Husbandry sub sector during 11 th Plan	261
Table 18.5	Physical targets and achievements during 11 th Plan	263
Table 18.6	Outlay and Expenditure during 11 th Five Year Plan	264
Table 18.7	Outlay and expenditure of the sector during 11 th Five Year Plan	265
Table 18.8	Milk and egg production during 11 th Five Year Plan	265
Table 18.9	Year wise budgeted outlay and expenditure of Dairy sector during 11 th plan	266

Table 18.10	Sub sector wise financial achievement during the Tenth Plan	268
Table 18.11	Sub sector wise outlay and expenditure during Eleventh Plan	269
Table 18.12	Co-operatives under the control of Registrar of Co-operative Societies during the last year of Tenth & Eleventh Plan Periods	270
Table 18.13	Outlay and Expenditure for Irrigation & Flood Control during Tenth Plan	271
Table 18.14	Physical Targets and Achievements under Irrigation during the Tenth Plan period (gross)	271
Table 18.15	Outlay and Expenditure for Irrigation & Flood Control during Eleventh Plan	272
Table 8.16	Physical Targets and Achievements under Irrigation	272
Table 18.17	Outlay and Expenditure of Rural Development Sector under 10 th Plan Period	274
Table 18.18	Outlay and Expenditure of Rural Development Sector under 11 th Plan Period	274
Table 18.19	Physical Achievements	276
Table 18.20	Physical Target and Achievement	277
Table 18.21	Outlay and Expenditure of the 11 th Plan	286
Table 18.22	Outlay and Expenditure of 11 th Five Year Plan	287
Table 18.23	Outlay & Expenditure on Housing during the 11th plan	288
Table 18.24	Outlay & Expenditure of Ecology & Environment sector during 2007-12	290
Table 18.25	The Year –wise and sub sector-wise Outlay and Expenditure for 11 th Five Year Plan	293
Table 18.26	The Year- wise and department-wise Outlay and Expenditure for 11th Five Year Plan	294
Table 18.27	Tenth Five Year Plan (2002-2007) – year wise Outlay and Expenditure	298
Table 18.28	Annual Plan (2004-05) - Performance of Selected Schemes	298
Table 18.29	Annual Plan (2006-07) - Low Expenditure Schemes	298
Table 18.30	Eleventh Plan - Year wise Outlay and Expenditure	299
Table 18.31	Eleventh Plan - Implementing Agency wise Financial Achievements	299
Table 18.32	Eleventh Plan - Performance under OCA	300
Table 18.33	Year wise financial achievement of KSUDP (EAP)	300
Table 18.34	Tenth Plan - Outlay and Expenditure of SCP	301
Table 18.35	Eleventh Plan - Outlay and Expenditure of SCP	302
Table 18.36	Tenth Plan - Outlay and Expenditure of TSP	303
Table 18.37	Eleventh Plan - Outlay and Expenditure of TSP	303
Table 18.38	Outlay and Expenditure of OBC Plan	304
Table 18.39	Outlay & Expenditure under Art & Culture during the 11th plan	308
Table 18.40	Eleventh Plan - Department / Agency wise Outlay & Expenditure	308
Table 18.41	Outlay and Expenditure during the 10 th & 11 th Plan	309

Part I

TWELFTH FIVE YEAR PLAN – AN OVERVIEW

...the approach of the twelfth five year plan of Kerala is, people-centric based on the needs of the citizen and aimed at improving the status of each individual and group of people... at the heart, the strategic intentions: to lay the foundation for productive, competitive, sustainable and inclusive economy... this chapter provides a brief account of the process of plan formulation, macro-economic frame work, broad approach of the twelfth five year plan, an overview of sector wise priorities...

1.1 The Process of Plan formulation

1.1.1 The Twelfth Five Year Plan (2012-17) is formulated against the backdrop of a dismal growth trajectory that affected the economy at the global, national as well as subnational levels. The trend in most of the important economic factors such as economic growth, budget spending, resource availability, financial situation, expected resources for financing the plan etc. delayed the process of finalizing the 12th Five Year Plan at the national level which invariably resulted in delaying the process by the state governments. The State Government and State Planning Board have initiated advance steps for the formulation of the 12th Five Year Plan (2012-17) of Kerala, even though there happened to be a little delay in finalizing the plan. The process of formulation of Five Year Plan conventionally involves a lot of steps not only to enhance its quality but also to consider all aspects of the economy as well as the people so as to ensure inclusiveness in all respects. A brief account of various steps that followed for formulating the 12th Five Year Plan of the State is elucidated in the following paragraphs.

Working Groups

1.1.2 The process of formulation of 12th Five Year Plan started early in 2011 by constituting 47 Working Groups on different sectors / Areas. Resource persons including Professionals, Administrators and Experts in the relevant subject / sectors were identified as Chairperson / Members of the Working Groups. The Terms of Reference *inter alia* included the following viz. (i) to review the development of the sector during the XIth Plan period (ii) to evaluate achievements with regard to plan schemes implemented in the sector (iii) to examine the potential and strategies for the sector in the 12th Five Year Plan (iv) to critically evaluate all the ongoing schemes and weed out irrelevant and unproductive schemes, and (v) to suggest new innovative and sustainable projects. All the Working Groups held extensive deliberations and finalized their reports. The 12th five Year Plan programmes reflect the recommendations / suggestions of various Working Groups.

Approach Paper

1.1.3 The Approach to the Five Year Plan determine the future course of development of the State. Eventually, the schemes proposed in the Plan will have a direct link with the suggestions and views narrated in the Approach Paper. The schemes in the subsequent Annual Plans will therefore reflect the flavor of ideas and aspirations included in the Approach Paper. The Approach paper to the 12th Five Year Plan (2012-17) of Kerala was formulated following a well-conceived methodology taking into account past initiatives and the present state of the economy in general and future development needs and potential in particular.

1.1.4 An exhaustive and participating approach was followed for the formulation of the Approach Paper. As a first step, the draft outlines of Approach Paper was discussed in the Planning Board meeting held on 07-10-2011. As decided at this meeting, 15 public consultations were held in November 2011 on various sectors / subjects at different places. These consultations opened up a new platform for sharing views and novel ideas collectively aiming at the development of the society. Public consultations were held with M.P's and M.L.A's, representatives of political parties, Trade Unions, Youth Organizations, LSGIs, SC/ST Organizations, NGOs and Others. Consultations were also held with sectoral groups representing Industry, Agriculture, Tourism and Other areas. Media representatives, Economists and Central Commodity Boards were also consulted. Apart from this, to ensure public outreach and to give all people an opportunity to participate in the plan formulation process, the draft outlines to the Approach Paper was also circulated to all Local Bodies most of whom devoted time and energy to discuss various issues as outlined in the document. The Approach Paper to the 12th Five Year Plan (2012-17) was published in March 2012.

Expert Committees

1.1.5 Soon after the release of the Central 12th Five Year Plan document, 9 Expert Committees on different areas were constituted with specific Terms of Reference. The Expert Committees were mandated to examine in detail the respective sectors / areas in the Central 12th Five Year Plan document and to suggest measures to be taken by the concerned Development Departments in the state to avail maximum central assistance for various Central Sector/ Centrally Sponsored Schemes. The findings of these committees also enriched the formulation of schemes in the initial years of the 12th Five Year Plan.

Guidelines

1.1.6 Detailed Guidelines were issued to ensure uniformity in the overall presentation of the 12th Five Year Plan. All the development departments and implementing agencies have submitted proposals after considering the Working Groups Reports, Approach Paper, Expert Committee recommendations etc. The Annual Plan 2012-13 and 2013-14 were formulated after having extensive discussions at various levels including HoD, Govt. Secretary and Minister levels. On the whole, the 12th Plan document is formulated considering various aspects such as (i) recommendations of the 12th Plan Working Groups (ii) Approach, Strategies and thrust areas (iii) major initiatives in the Central 12th Plan and (v) Critical gaps to be addressed in the next two years.

1.2 Macro Economic Framework

1.2.1 During the Eleventh Plan period (2007-12) the State economy registered an average growth rate of 7.7% at constant prices. The growth rate is 8 per cent in

2012-13 (quick estimate) and 8.2 per cent (provisional) in 2011-12 at factor cost at constant prices. At current prices the growth rate is 13.4 per cent in 2012-13 showing a decline from 16.7 per cent in 2011-12. The State income (NSDP) has recorded a growth rate of 8.4 per cent at constant prices and 13.7 per cent at current prices in 2012-13 and for the previous financial year (2011-12) the corresponding figures are 8.15 per cent and 16.6 per cent. Even though the rate of growth is not remarkable, there is reason to be optimistic as this level of growth could be achieved especially when the national economy has been striving hard to recover from the economic sluggishness with a growth rate hovering around 5 per cent. The per capita State Domestic Product at constant (2004-05) prices recorded a growth rate of 7.5 per cent in 2011-12. At current prices it is 12.7 per cent over the previous year. The significant fact to be noted is that the per capita state income at constant prices is higher than the per capita national income.

1.2.2 The rate of growth of 8.4 per cent in 2012-13 is the highest among southern states and much above the national average. Karnataka posted 6.4 per cent growth rate, Andhra Pradesh 5.6 per cent and Tamilnadu slightly above 4 per cent. The All India average was 4.4 per cent, according to provisional figures available with the Central Authorities. Kerala and Karnataka have shown a higher growth in 2012-13 than in the previous year.

1.2.3 As per the Kerala Fiscal Responsibility (Amendment) Act 2011, the State Government was committed to achieve a Revenue Deficit target of 0.9 per cent and a fiscal deficit target of 3.5 per cent of GSDP to restrict the state's total liabilities to 32.3 per cent of GSDP in 2012-13. States total debt liability relative to GSDP for the financial years 2011-12 and 2012-13 was 28.37 per cent and 28.5 per cent respectively. Thus the target of 32.3 per cent and 31.70 per cent set by the KFR (Amendment) Act 2011 with respect to debt liability for the financial years 2011-12 and 2012-13 was achieved. But deficit targets have not been met.

1.2.4 The Sectoral Distribution of Gross State Domestic Product reveals that during 2012-13, the contribution from primary, secondary and tertiary sectors at constant prices (2004-05) is 9.3 per cent, 23.9 per cent and 66.7 per cent respectively. At current prices, the primary, secondary and tertiary sectors contributed 15.1 per cent, 25 per cent and 59.9 per cent respectively to the GSDP during 2012-13. This difference in sectoral share between constant and current prices shows that the inflationary trends in the primary sectors are much higher than in the secondary and tertiary sectors. The sectoral distribution also reveals that the contribution from primary and tertiary sectors are decreasing where as secondary sector is increasing (from 21.8 per cent to 23.9 per cent). The annual sectoral growth rate of GSDP shows that secondary sector recorded the highest rate of growth of 18.83 per cent in 2012-13 at constant prices followed by tertiary sector (5.46 per cent) and primary sector 4 per cent. The push factor for the growth of the secondary sector is mainly because of the growth in the construction sector which shows an increase to 25.3 per cent in 2012-13 from 9.21 per cent in 2011-12. At current prices, the secondary sector recorded a growth rate of 25.5 per cent, tertiary sector 11.2 per cent and primary sector 5.3 per cent in 2012-13.

1.2.5 The District wise distribution of GSDP at factor cost at current prices shows that Ernakulum District continues to have the highest income with a growth rate or slightly over 15 per cent and at constant prices 9.77 per cent, followed by Kozhikode district at 14.86 per cent and 8.62 per cent respectively. The lowest rate of growth is in Wayanad district with 11 per cent and 7.37 per cent respectively.

1.2.6 Regarding district wise percapita income distribution, Ernakulum district stands first with a growth rate of 9.77 per cent, followed by Kottayam with 8 per cent. Malappuram district continue to remain in the 14th rank in percapita income distribution. Similarly, the districts of Wayanad, Kollam, Palakkad and Idukki showed much lower growth in percapita income than the state average.

1.2.7 Kerala is better off than most other states in terms of average poverty estimates. The poverty ratios for the period 2004-05 and 2011-12 based on Prof. Suresh Tendulkar method on Mixed Reference Period of estimation pertaining to Kerala are 19.7 per cent in 2004-05 and 7.1 per cent in 2011-12 which is far below than the national ratios of 37.2 per cent and 21.9 per cent respectively. The Kerala situation is far better than the neighboring states of Andhra Pradesh, Karnataka and Tamilnadu.

1.2.8 The rapid rate of urbanization is another significant factor as far as Kerala economy is concerned. Kerala positioned in the 19th rank in the level of urbanization among the states of India as per 2011 census. The urban content of population of Kerala has reached to 47.72 per cent in 2011. The rapid expansion of urban population necessitates the creation and maintenance of critical urban infrastructure facilities strengthening of urban governance, long term strategic urban planning, addressing the basic needs of the urban poor etc. In addition to this, more effort is needed to keep the cities and towns environmentally sustainable.

1.2.9 Both GSDP growth and percapita income growth in Kerala are at levels higher than that of All India as a whole. However, high inequality between regions and communities within Kerala and the lack of adequate land, labour and quality infrastructure continue to a problem giving rise to social tensions, inflationary trends and rampant out unemployment. Though not debt stressed, the state finances are not enough to provide relief to all those sections of the society, who need welfare measures. After accounting for committed expenditure in the form of salaries, pensions and interest payments, the Government is forced to rely on borrowed funds for public expenditure. Since there are legal limits on the amount that can be borrowed, there appears to be no option but to reduce unproductive expenditure, reduce evasion and administrative costs in revenue collection and encourage the private sector to provide some services at a regulated costs and quality of service. It would be the interest of the National Government to provide adequate assistance to Kerala to face various second generation challenges such as preserving the environment, ageing population, high educated unemployment, mounting lifestyle diseases and migration related concerns. This is because the challenges faced by Kerala today and the efforts made to mitigate them will serve as a model for other states, who are likely to face similar problems in coming years.

1.3 Development with Care and Compassion

1.3.1 The Approach of the 12th Five Year Plan (2012-17) of Kerala broadly will be, people-centric based on the needs of the citizen and aimed at improving the status of each individual and group of people. At the heart, it is a strategic intent: to lay the foundation for creating an economy which is productive, competitive, sustainable and inclusive. The benefits arising from a set of core initiatives being planned across the different sectors of the economy, if implemented with a high sense of urgency and passion, will be spread beyond the next five years. Such benefits, if nurtured well, will reinforce each other and put the state's economy on firm footing to harness the opportunities that national and international development will offer. The approach to

the 12th Plan in a way should be looked at as the first step towards the achievement of the vision capturing the goals indicated above for the development of the State by 2030. The vision is ‘*Development with Care and Compassion*’ and the mission to attain the priorities set forth in the Approach paper for the 12th Five Year Plan of Kerala (for details please refer Approach Paper to 12th Five Year Plan (2012-17), March 2012). The following are the broad approach to the Twelfth Plan.

Approach, Strategy and Thrust Areas

1.3.2 The broad approach as laid down in the Approach Paper is as follows:

- 12th Plan will be people-centric, based on the needs of the citizen and aimed at improving the status of each individual and each group of people.
- Focus will be on a bottom-up approach, starting from the people in the lowest strata to achieve the objective of inclusive growth.
- The 12th plan must build on the gains of the past, retaining such policies and programmes as are beneficial and making changes where necessary.
- Investment of Plan resources in the 12th Plan will be so targeted as to act as catalyst for attracting more resources, be it private or external, including funds from banking and financial institutions so that the sum total of investment is far greater than the amount of Government Plan investment.
- Monitoring of implementation will be a key objective, so as to make most effective use of resources within given time frames.
- The 12th Plan also aims at ushering in a strong, focused modernized and result oriented governance.
- Strong and modern infrastructure is *sine qua non* for rapid development. The 12th Plan will strive to lay the foundation for a sound and durable infrastructure at par with international standards.
- Improving the quality of higher education and skill development will receive greater emphasis. Public education will be revamped to enhance the quality of education and infrastructure.
- Employment generation will be a focus area and will be secured through higher and more dispersed investment, development of infrastructure, higher standards of education, particularly vocational education at school and college level and skill development.
- Top priority will be given to improve the status of Public health since the shine of the Kerala model has been diminishing of late. Waste management and provision of drinking water will receive the highest priority so that there is overall improvement in hygiene all over the state.
- Panchayat Raj institutions will be strengthened to make them capable to take the ‘Next Step’ issues in decentralization. The complexities of plan formulation, vetting and approval will be simplified.
- Poverty alleviation programmes will be co-ordinated to transform Kerala into a no poverty State.
- The economic and social status of the marginalized sections like SCs, STs, Fisherfolk, Artisans and others will be improved with more focused State spending and effective interventions.
- Appropriate mechanism will be developed for public- NGO partnership in developmental activities.

- Setting up of incubators in Educational Institutions and Parks for encouraging entrepreneurship in Agriculture, Industry and other sectors.
- Thrust will be given to correct regional imbalances through special projects/packages.
- Traditional knowledge in all areas will be preserved, encouraged and put to use.
- More resources will be set apart for addressing disability related problems.

Thrust Areas

- Agriculture with the special focus to vegetable cultivation
- Soil and Water Conservation
- Irrigation focusing on Minor Irrigation and Micro Irrigation
- Animal Husbandry and Dairy Development focusing on Self-sufficiency in milk production and veterinary care
- Special packages
- Science & Technology
- Education with particular emphasis to higher education
- Medical and Public Health
- Infrastructure
- Urban Development
- SC/ST Development
- Tourism

Twelfth Plan Outlay

1.3.3 Based on assumption of real GSDP growth; inflation; expected change in Balance from Current Revenue; growth of States Own Tax revenue and Non-Tax Revenue; Non-plan Grants at the same level as provided in the 13th Finance Commission Report; growth in Non-Plan expenditure, expected growth rate of plan grants; and borrowings at the level prescribed in the revised roadmap for fiscal consolidation, an outlay of ₹1,02,000 crore is proposed for the 12th Five Year Plan.

Projected Growth Rate

1.3.4 The State will aim at an average growth rate in GSDP of 9.50 per cent (at constant prices) during 12th plan.

1.4 Sector wise Priorities

1.4.1 The sector wise Eleventh Five Year Plan (2007-12) outlay and proposed outlay for the Twelfth Five Year Plan (2012-17) are given in Table 1.1. The Eleventh Plan approved outlay was ₹40422 crore against which the actual outlay was ₹45606 crore. When compared to the Eleventh Plan approved outlay, Twelfth Plan outlay of ₹1,02,000 crore is above by 152%. The sector wise increase in outlay in the Twelfth Plan over previous Five Year Plans shows that there is substantial increase in Special Area Development (512%) which is mainly due to making provisions for Hill Area Development, Wayanad Package, Sabarimala Master Plan and Kasaragod Package (Fig. 1.1). The increase in Social Service sector is 243% and the Agriculture sector is 279%. Similarly the increase in Industry, Transport and Science & Technology are 244%, 251% and 202% respectively. The LSGI's outlay during the Twelfth Plan is 115% above the Eleventh Plan outlay.

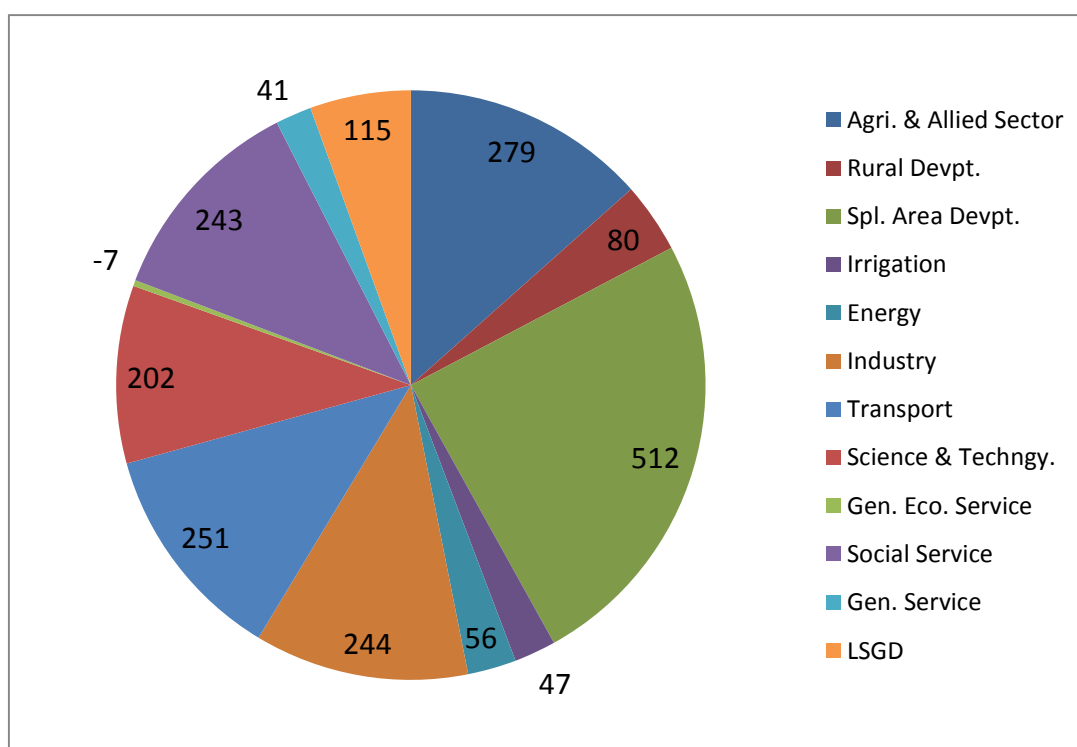
Table 1.1
Eleventh and Twelfth Five Year Plan – Outlay

(₹ Crore)

Sectors	11 th Plan	12 th Plan	Increase (%)
Agriculture and Allied Activities	2331	8831	279
Rural Development	1857	3339	80
Special Area Programme	332	2031	512
Irrigation and Flood Control	2259	3327	47
Energy	5347	8323	56
Industry and Minerals	1138	3912	244
Transport	2433	8540	251
Science & Technology and Environment	1055	3189	202
General Economic Services	2118	1975	-7
Social Services	9692	33207	243
General Services	231	326	41
LSGI	11629	25000	115
Total	40422	102000	152

Fig. 1.1

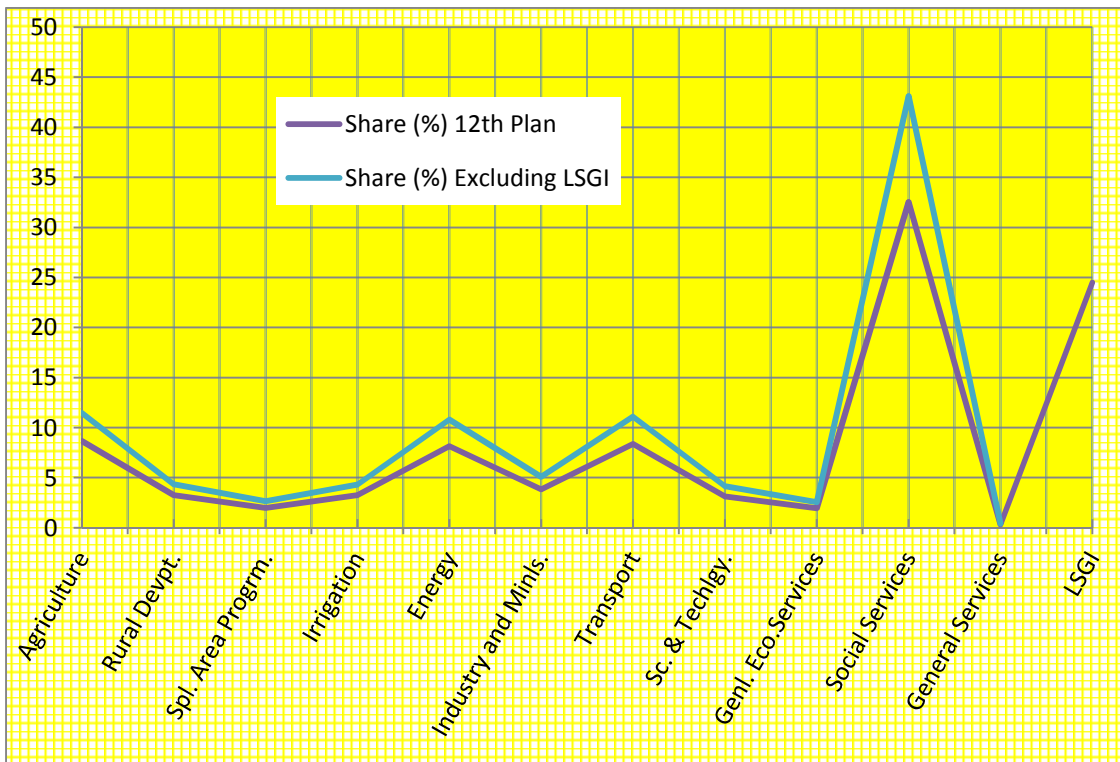
Twelfth Five Year Plan – Sector wise increase over Eleventh Plan (%)



1.4.2 The major share of the proposed outlay of the Twelfth Five Year Plan is earmarked for the social services sector which includes important areas such as Education, Health, Water Supply, Housing, Urban Development, Welfare of SC/STs/OBC/Minority, Labour and Employment, Social Security etc. 32.55 percent of the outlay is set apart for this sector, as shown in Fig. 1.2. Excluding the share of LSGI, the share of this sector is 43.12%. Agriculture and allied sectors which includes Crop Husbandry, Soil and Water Conservation, Animal Husbandry, Dairy Development, Fisheries, Co-operation etc., is given top priority by sharing 8.66 per cent of the proposed outlay and excluding LSGI the share of the sector is 12 per cent. With a focus on bringing in quality infrastructural facilities, Transport sector which include Port, Roads and Bridges, Road Transport, Inland Water Transport and Other Transport Services is given high priority by providing 11 per cent without LSGI share. Energy Sector also shares the outlay of 11 per cent with the aim of increasing power production during the plan period.

Fig. 1.2

Twelfth Plan outlay – Sector wise Share



Major Deliverables of the Plan

Agriculture and Allied Sectors

- Achieve a targeted growth rate of 1% in Agriculture and Allied sectors.
- Self-sufficiency in vegetable production to about 60% in the 12th Plan period.
- Self-sufficiency in milk production.
- Inland fish production to 2 lakh tonnes.

- Complete registration of farmers and institutionalization of e-Payment system of direct transfer of benefits.
- Establishment of service delivery centres in all blocks for the farmers.
- Door-step veterinary services in all blocks in selected Panchayats.
- Total housing for fisher folk.

Rural Development

- Micro Enterprises at the family level will be encouraged through Self Help Groups/Neighbourhood Groups (SHG/NHG) under NRLM.
- Establishment of burial grounds/crematorium with the help of Local Self Government Institutions
- Effective mechanism for solid liquid waste management

Energy

- Aggregate Technical & Commercial (AT&C) losses shall be brought down to a sustainable level of 15% and below.
- Implementation of Supervisory Control and Data Acquisition (SCADA) in major cities and pilot implementation of smart grid
- To establish the feasibility of “Waste to Energy” using MSW, under Kerala conditions, by installing ten pilot plants in the major cities and towns
- To achieve an installed capacity of 500 MW using wind energy, through Public as well as private Wind Energy Generators (WEGs)
- To achieve an installed capacity of 500 MWp in Solar Photovoltaics
- To achieve an installed capacity of 250 MW in Small and Medium Hydro, through KSEB, Jilla Panchayaths, as well as Private investors

Industry

- Development of MSME sector and traditional industries in PPP mode through construction of industrial part, skilled man power, cluster development and product diversification
- Modernisation of Handloom Societies, Hantex, Hanveev, Powerloom Societies and promotion of value added products and providing Margin money loan/grant.
- Establishment of Clusters and Integrated Handloom Village
- Cluster Development programme in Coir sector is proposed for setting up and strengthening the existing and ensuing clusters
- Increase the production in Khadi & Village Industries sector by 25%
- Modernisation of Cashew sector including Brand Building

Infrastructure

- Construction and improvements of Bridges and Culverts in State Highways and Major District Roads
- Railway Safety Works including construction and renovation of Railway over Bridges in PWD Roads
- Road Safety works
- Feasibility study for new schemes/projects upto 500 Nos.
- Construction of 75 kms of road to Sabarimala under Sabarimala Road Project
- State Road Improvement Project envisages strengthening, widening and rebuilding major bridges, minor bridges and culverts.

Water Supply

- Increase the number of household connections to 20 lakhs by 2017
- 10 Large and 3330 Small water supply schemes
- 330 water treatment plants and installation of 150 plants for improving water quality
- Installation of 150 plants for improving water quality

Forest & Wildlife sector

- Improve forest productivity, production and sustainable management of biodiversity
- Building capacity of Village Forest Committee/Joint Forestry Management Committees for management of Forest Resources including ecotourism
- Promotion of ecotourism and participatory eco-development support livelihood of local population

Education

- Additional Skill Acquisition Programme
- College quality improvement programme
- Centres of Excellence in 10 selected colleges
- Educational Resource Centres in all Engineering Colleges

Health

- Modernization of the functioning of health care institutions by computerization, providing internet facilities, better methods of human resource development etc. will be given due importance.
- Modernisation of 14 Departments of Government Ayurveda College, Tvpm. Providing sufficient teaching aids and equipments, construction of new building for classrooms and library, new ladies hostel for PG students, construction of auditorium, renovation works of laboratories, development of Govt. Ayurveda College Hospitals with sufficient infrastructure facilities and introduction of modern equipment in theatres and laboratories.
- Standardization of 30 District and other Homoeo Hospitals

Urban Development

- Under JnNURM it is expected to complete 36 Water Supply Schemes, 21 Sewerage Schemes, 5 Solid Waste Management Schemes, 18 Surface Water Drainage Schemes and 7 Traffic and Transportation Schemes

Scheduled Castes/Scheduled Tribes Development

- Construction of 25000 houses to Scheduled Caste families
- Land for construction of house to 50000 Scheduled Caste families
- Construction of 10000 houses to houseless Scheduled Tribes families
- Treatment assistance grant to 50000 Scheduled Tribes families per year

Women Development

- Setting up of Nirbhaya homes in all districts for sexually abused women
- Shelter homes for the victims of domestic violence in each district in Kerala

Child Development

- Assistance to 6500 child patients for cancer treatment and 1500 children for cochlear implantation surgery and free treatment to 5000 children who are suffering from life

Persons with Disabilities

- Model Rehabilitation Centre for paraplegic patients will be established
- Rehabilitation facilities and welfare measures to 70,000 deaf and hard of hearing persons

Senior Citizens

- 14 NGO managed Old Age homes will be started under Government-NGO partnership

Tourism

- Strengthening major existing tourist centres, developing lesser known areas, special emphasis in Malabar region.
- Promotion of private participation in infrastructure projects, multi stakeholder mechanisms involving public, private and local community in tourism planning and development.

Art & Culture

- Conservation and preservation of 145 protected monuments in the State
- Phase to digitization of records in the archive repositories

Plan Monitoring

- The online Plan Monitoring System – *planspace* will be strengthened and extended to the District level

1.4.3 The sector wise proposed outlay for the 12th Five Year Plan and the first two years (2012-13 and 2013-14) are given Table 1.2.

Table 1.2
12th Five Year Plan and Annual Plans - Sector wise Proposed Outlay

(₹ Crore)

Sectors	12 th Plan	Annual Plan	
		2012-13	2013-14
Agriculture and Allied Activities	8831.00	1236.41	1409.51
Rural Development	3339.00	467.69	544.32
Special Area Programme	2031.00	284.30	265.70
Irrigation and Flood Control	3327.00	465.80	505.14
Energy	8323.00	1165.41	1222.70
Industry and Minerals	3912.00	547.70	579.36
Transport	8540.00	1195.81	1145.16
Science & Technology and Environment	3189.00	446.52	534.43
General Economic Services	1975.00	276.56	1217.24
Social Services	33207.00	4650.13	5527.77
General Services	326.00	45.67	48.67
LSGI	25000.00	3228.00	4000.00
Total	102000.00	14010.00	17000.00

1.4.4 The Sub Sector wise proposed outlay for Twelfth Plan and Outlay for 2012-13 and 2013-14 are given in Appendix 1.

1.5 Scheme of Presentation

1.5.1 The Twelfth Plan document has been formulated considering various aspects as outlined in the preceding paragraphs. Part 1 of the document contains Chapters 1 to 17 which is the main text. Chapter 1 provides an overview of the Twelfth Five Year Plan with focus on the process of formulation of the Plan. A section on Financing the Plan is re-introduced as Chapter 2. Chapter 3 to 17 deals with sub sector wise analysis from Agriculture to Plan Monitoring and Governance and each Chapter is generally presented in the following pattern viz. (i) Recommendation of the Twelfth Five Year Plan Working Groups (ii) Approach, Strategy and Thrust Areas and Sectoral Outlays (iii) Key Initiatives of the first two years of the Twelfth Five Year Plan (iv) Major Initiatives of the Twelfth Five Year Plan of the Govt. of India (v) Critical Gaps to be addressed in the next three years, and (vi) Physical Target and Deliverables of the Plan. Part 2 (Chapter 18) forms a brief analysis of the performance of Tenth and Eleventh Five Year Plans.

Chapter

2

FINANCING THE PLAN

...kerala depends very heavily on market borrowings to finance its plan... market borrowing account for close to three quarters of the gross borrowings... greater efforts at resource mobilisation, better tax administration, curtailment of wasteful expenditure and an institutional mechanism to ensure optimum level of borrowings of repayment loan help in strengthening planned development in the country... a new chapter on financing the plan is re-introduced in this document...

2.1 Introduction

2.1.1 The 12th Five Year Plan began at an extremely difficult time. Global and National economic environment combined have placed the State in a difficult situation and therefore some hard decisions have to be taken to give a boost to private investment and mobilize public resources.

2.1.2 The global financial crisis of 2008-09 dented the high GDP growth of India. Fortunately, it was short-lived as growth climbed back to 9.3 per cent during 2010-11. However, the decline, which began during 2011-12 with growth falling to 6.2 per cent, continues with the growth rate falling to 5.0 per cent in 2012-13 and 4.6 per cent in the first half of 2013-14. The fall is largely on account of significant reduction in the growth rate of industry from 9.2 per cent to 3.5 per cent to 2.1 per cent respectively in the three years. In particular, mining and quarrying and manufacturing, both of which showed growth rates close to zero in 2012-13, have not returned to positive growth territory.

2.1.3 The services sector has the highest sectoral contribution in global GDP with a share of 67.5 per cent in world GDP of US\$70.2 trillion in 2011, as per UN National Account Statistics. While the growth of world economy decelerated in 2012, the services sector growth in some major countries also decelerated and this trend is continuing in 2013 with the growth deceleration of US consumption expenditure on services at 0.1 per cent in Q3 of 2013 as compared to 1.2 per cent in the previous quarter. In India also, the growth of services sector has decelerated to 6.6 per cent in Q1 of 2013 -14 from 7.7 per cent in Q1 of 2012-13 and 5.9 per cent in Q2 of 2013 -14 from 7.6 per cent in Q2 of 2012-13.

2.1.4 World services export growth which increased by 12.5 per cent in 2008 (as per WTO data), fell sharply by 9.5 per cent to USD 3.5 trillion in 2009. It bounced back in 2010 with 9.7 per cent growth and 11.5 per cent in 2011. However, in 2012, world services export growth rate was a tepid 2 per cent. India is the most dynamic exporter

of commercial services in the world, the highest among the top 10 exporters. It ranks 6th among the leading world exporters of commercial services in 2012 with a value of \$ 148 billion and a share of 3.4 per cent and growth of 8 per cent. While world exports of commercial services grew by 5.0 per cent in Q2 of 2013 compared to 1 per cent growth registered in Q2 of 2012 and while, the exports of commercial services registered a growth at 4.0 per cent in both US and EU during Q2 of 2013, the exports of commercial services growth from India registered a low growth of 2 per cent.

2.1.5 Overall, the Indian growth trends have shown decline during the last 10 quarters with both services and manufacturing dragging the GDP growth down. Agriculture that had been contributing little to growth in the recent past has the potential to do better in the ensuing quarters following a good monsoon and record food grains production. The other sectors too are expected to pick up boosted by an uptick in global demand and domestic investment. The World Bank has projected GDP growth in India to rise to over 6 per cent in 2014-15 and then to increase to 6.6 per cent in 2015-16 and to 7.1 per cent in 2016-17.

2.1.6 The Tenth Five Year Plan achieved a GDP growth rate of 7.6%. Whereas the Eleventh Five Year Plan projected a growth rate of 9.5% the achieved growth rate was around 7.9%. During 2003-07, growth in emerging market and developing economies accelerated. The high growth and optimistic environment led the planners to project a higher growth rate for the Eleventh Five Year Plan. However, the global crisis of 2008-09 pulled the growth rate back but during 2010-11 many of these economies grew at or above pre-crisis rates. India too showed similar trends. But the growth deceleration witnessed since then has not shown signs of taking the economy back to the levels seen earlier. Weaker external demand will dry Indian growth. Inflation too is not at comforting rates being one of the highest in the world.

2.1.7 Kerala, although one of the better performing Indian states, faces some grave risks. While Kerala might grow at around 14 percent in nominal terms, growth in real terms looks less encouraging. Agriculture has been performing poorly over a long period and cannot be expected to make a quick turnaround. The secondary sector growth has been fluctuating and it will continue to do so. The worry is, however, the tertiary sector, which has been the bulwark of growth, has stalled since 2007. Added to it is the continued high rate of inflation of the last few years.

2.1.8 This Chapter presents projections of the public sector resources for the Twelfth Five Year Plan period given the target Gross State Domestic Product (GDP) growth rate of 9% in real terms (14.50% in nominal terms). The estimates show that the state can sustain a Plan size of ₹102, 000 crore during the Plan period. These projections imply that the public sector resources for the Plan will be at 4.23 per cent of GSDP in the Twelfth Plan as against 4.01 per cent realized in the Eleventh Plan. However, the outcome will depend critically on achievement of buoyancy in tax revenue, and effective control of non-plan revenue expenditure.

2.2 Public Sector Resources in the Eleventh Plan

2.2.1 This section presents an overview of the resources of the State in the Eleventh Plan period.

State's Plan Resources

2.2.2 The Gross Budgetary Support (GBS) in Eleventh Plan was projected at ₹24753.26 crore at 2006-07 prices. This included ₹3421.53 crore of Central

Assistance (CA) to the State. With the Eleventh Plan resources of Public Sector Enterprises (PSEs) projected at ₹4780 crore, total resources available for the State Plan was fixed at ₹40422.00 crore.

2.2.3 As shown in Table 2.1, the realized GBS for the Plan was 87.44 per cent of the projected amount. The realized Central Assistance to the State at ₹6619.53 crore was 193.47 per cent of the projected level. As a percentage of GBS, this increase from 13.28 percent to 30.58 per cent reflected the stimulus packages offered by Government of India as a countercyclical measure, resulting in increased resource transfer to States through centrally sponsored schemes in health, education and rural development, which expanded well beyond what was originally projected. But Public Sector Enterprises achieved just 25.95 per cent of resources projected in the Plan. The poor resource realization of the Public Sector Enterprises in effect negated the gains of larger Central Assistance.

2.2.4 The total resources available for the State Plan, consisting of GBS for the State Plan plus resources of the local bodies worked out to 81.73 per cent of the projected level, that is, ₹33037.81 crore at 2006–07 prices. Whereas the realisation is lower by about 20 percent of the projection, it is achieved by much higher Central Assistance as a stimulant to come out of the crisis and higher borrowings. The balance from current resources every year were not only negative but of a large magnitude. As a result BCR for the 11th plan was 100% lower than the projected amount. The returns from Public Sector Enterprises too continue to be low. Thus, the Plan realisation was largely dependent on central assistance and borrowed funds. The factors contributing to such a situation are many, such as lower taxable capacity due to dominant share of services (mostly unorganized) in the GSDP, relatively low levels of non-tax revenue, high levels of revenue expenditure on account of salaries, wages, pensions and interest payments and so on.

Table 2.1

Projected vis-à-vis Realized Financing Pattern of the Eleventh Plan (2007-12) Outlay of the State
(₹ Crore at 2006–07 Prices)

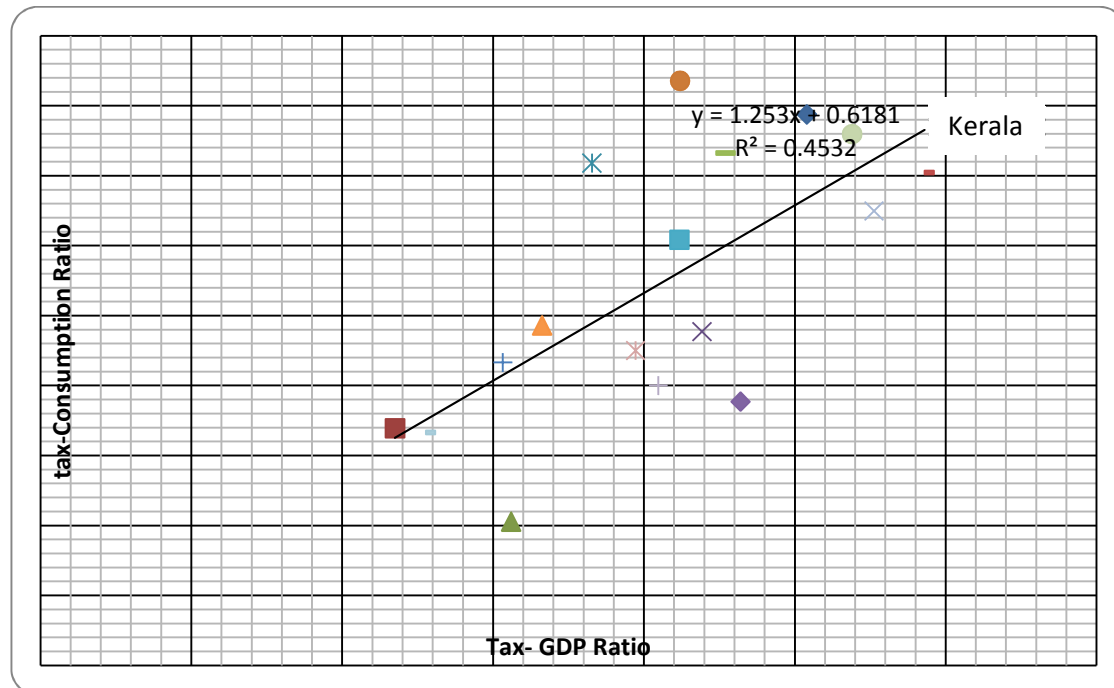
Item	Projection (2006-07 Prices)	Realization (Constant Prices)					Realization Total	% Realization
		2007-08	2008-09	2009-10	2010-11	2011-12		
A. State Govt. (1+2+3)	24753.26	3544.12	3974.49	4498.69	4451.56	5176.22	21645.08	87.44
1. State's Own Resources of which BCR	-6553.41	-2998.68	-4649.67	-2578.79	-1792.41	-2644.31	-14663.86	-223.76
	-8662.43	-2583.82	-1972.41	-1652.98	-631.72	-2093.42	-8934.35	-103.14
2. Borrowings	27885.14	5201.90	6775.86	5904.14	5350.17	6457.34	29689.41	106.47
3. Central Assistance (Grants)	3421.53	1340.90	1848.30	1173.34	893.80	1363.19	6619.53	193.47
B. Resources of Public Sector Enterprises	4780.00	133.00	265.16	295.21	281.19	266.05	1240.61	25.95
C. Resources of Local Bodies	10888.74	1671.00	1917.71	1939.60	2228.76	2395.05	10152.12	93.24
Total Plan Resources (A+B+C)	40422.00	5348.12	6157.36	6733.50	6961.51	7837.32	33037.81	81.73
State Plan Outlay	40422.00	5348.12	6157.36	6733.50	6961.51	7837.32	33037.81	81.73

Source: Finance Department, GoK, Budget in Brief (Various Issues)

Revenue Receipts

2.2.5 Kerala is in the forefront of collection of taxes for financing growth and welfare (See Figure 2.1). In terms of both Tax-GSDP as well as Tax-Consumption ratios, Kerala ranks fairly high. It is expected that the State being a consumption State will be able to improve its performance with the new tax regime in the coming years.

Figure 2.1
Tax-GDP and Tax- Consumption Ratios of Indian States, 2009-10



Source: Reserve Bank of India

2.2.6 State's own tax revenue consists of commercial taxes, stamp and registration duties, state excise, and tax on vehicles. While the shares of the different components have broadly remained the same during the last twenty years (see Table 2.2), the largest gains have been recorded by the sales tax on liquor and revenue from stamps and registration. Two important changes have come about with regard to the Excise Department over the last 20 years. First is the ban of arrack shops with effect from 1 April 1996 and second is the entrusting of the sale of Foreign Liquor with the state owned Kerala State Beverages Corporation from 1 April 2001. Currently, about 26% of the total revenue comes from the sale of liquor and state excise revenue. Put another way, the share of sales tax on liquor in total sales tax/ VAT has steadily increased from about 7% in 1990-91 to 14% by 1996-97 and to 24.52% in 2011-12. However, this will have to come down in the long term health interests of the population of the State.

2.2.7 While the overall tax mobilisation by Kerala compares well with the other Indian States this has largely been on account of the large increases in the revenue from sales tax on liquor and the buoyancy of the land market of the last two decades and the related performance of the Registration Department. It is doubtful whether this would continue in the years to come as the land market buoyancy has already begun to show a flattening tendency. Thus, if the tempo of tax collection has to be maintained some major efforts need to be made in the commercial taxes sector, which contributes over 55% of the own revenue of the State.

Table 2.2

State's Own Tax Revenue (SOTR) and its Components (₹ crore), Kerala 1990-91 to 2012-13

Year	Sales Tax/VAT	Stamps and Registration	State Excise	State Excise plus ST on Liquor	Motor Vehicle Tax	ST/VAT excl ST on Liquor	SOTR
1990-91	897.44 (66.96)	121.99 (9.10)	175.41 (13.09)	238.52 (17.80)	74.14 (5.53)	834.33 (62.25)	1340.35
1995-96	2285.96 (67.58)	353.79 (10.46)	449.29 (13.28)	689.89 (20.39)	222.87 (6.59)	2045.37 (60.47)	3382.68
2000-01	4344.33 (74.01)	341.10 (5.81)	688.94 (11.74)	1420.47 (24.20)	394.85 (6.73)	3612.80 (61.54)	5870.26
2005-06	7037.97 (71.97)	1101.42 (11.26)	841.00 (8.60)	2263.13 (23.14)	628.51 (6.43)	5615.84 (57.43)	9778.62
2010-11	15833.11 (72.89)	2552.49 (11.75)	1699.54 (7.82)	5500.30 (25.32)	1331.37 (6.13)	12032.35 (55.39)	21721.69
2011-12 RE	19427 (73.46)	3120.42 (11.80)	2087.84 (7.89)	6820.84 (25.79)	1419.48 (5.37)	14694.53 (55.56)	26446.28

Note: Percentage share of SOTR in brackets. RE- Revised Estimates

Source: Department of Excise, GOK; Commercial Taxes Department, GOK; Budget in Brief of Kerala, various issues.

2.2.8 The challenge before the Commercial Taxes Department is the smooth transition to the GST regime and that of building a robust infrastructure and responsive tax administration. The success of the implementation of GST would depend on efficient e-governance practices. Indeed, a reliable and robust IT infrastructure is the pivot of administration for the implementation of Goods and Services Tax. The IT infrastructure should ideally be effective, efficient and in place well in advance of its rolling out. In the GST scenario, for all inter-state transactions, both the Centre and the States will be following the "IGST model". The Centre would levy IGST (CGST plus SGST) on taxable goods and services bearing inter-state transactions. The exporting State will transfer the credit of SGST used in the payment of IGST to the Centre. The Centre will transfer to the importing State the credit of IGST used in the payment of SGST. The importing dealer can claim credit of IGST while discharging his tax liability in his own state. The central agency will verify the claims and intimate the respective government agencies on the matter of transfer of such funds. It is necessary to maintain an uninterrupted input tax credit chain on inter-state transactions on a robust e-platform for ensuring greater transparency, state-of-art- anti-evasion measures and excellent taxpayer services. The State has to prepare itself to be part of this nationwide e-governance network.

2.2.9 Turning to the non- tax revenue of the state, one of the sectors that has increased its share in the total considerably is lotteries. Kerala has taken the lead in directing the lottery into two socially useful avenues. A large unskilled labour force is dependent on the incomes from the sale of lottery tickets. Welfare measures have been taken to ameliorate their lot. In recent years, certain specific lotteries have been devoted for meeting specific humanitarian needs. The lotteries are run in the State adhering to the regulatory framework instituted by the Central government and the State rules maintaining full transparency and accountability.

2.2.10 The draw process which was largely manual is sought to be transformed into an automated mode bringing down costs and offering wide publicity. Information management systems are being developed to facilitate sale and speedy disbursement of prizes. But the challenges are many. Fake lotteries and unlawful trade continue to be a menace which needs to be checked. Systems need continuously be developed to face these challenges.

2.2.11 Overall, the tax revenue mobilised by the State has more or less realized the estimates made at the time of the Eleventh Plan. But the bulk of the tax has flowed from just a few commodities. Liquor and petroleum goods have accounted for about 50 percent of the total Sales Tax/VAT collection in the state. What additional tax will be collected will depend on the tax system that is going to be installed with the new regime. What goods and services are taxed, at what rates and what goods are exempted will all be decided jointly by the States and the Centre. The States have given up many of these powers and hence tax mobilisation will depend on how broad the base is and how efficiently the State collects the taxes. On the efficiency front too the National e-Governance plan and the network backbone will play a crucial role. How quickly the State integrates the existing system with the national system and how exactly the specificities of the State are incorporated will decide the efficiency of tax collection.

Non-Plan Revenue Expenditure

2.2.12 The Non-Plan Revenue Expenditure (NPRE) as a percentage of GSDP showed a sharp decline (1.91 percentage points) in the first four years of the Eleventh Five Year Plan (Table 2.3). However, the last year of the Plan period showed an equally large increase. One of the main reasons for such a trend is the situation where pension and salary together, which had declined by 1.12 percent points over four years, showed a large increase of 1.78 percent points in one year (2011-12). The effect of the Ninth Pay Commission award on the NPRE of the state is large and that has erased the gains of the previous four years consistently high growth of GSDP and tax mobilisation is not able to change this scenario much. In fact, interest, salary and pension together is larger than state's own revenue throughout this period. It was 113% in 2007-08 and at 110% in 2011-12 has shown hardly any decline.

Table 2.3
NPRE and its Components

(₹ Crore)

Items	2007-08	2008-09	2009-10	2010-11	2011-12
Interest	4329.65 (2.47)	4659.69 (2.30)	5292.48 (2.45)	5689.66 (2.05)	6293.60 (2.00)
Pension	4924.53 (2.81)	4686.43 (2.31)	4705.50 (2.02)	5767.49 (2.08)	8700.30 (2.76)
Salary	7693.66 (4.39)	9063.81 (4.47)	9800.20 (4.22)	11068.38 (4.00)	16083.25 (5.10)
Other NPRE	5666.51 (3.24)	6602.07 (3.26)	7155.14 (3.08)	7943.54 (2.87)	9640.26 (3.06)
Total NPRE	22614.35 (12.91)	25012.00 (12.33)	26953.32 (11.60)	30469.07 (11.00)	40717.41 (12.92)

Source: Budget in Brief 2012-13

Note: Figures in parentheses are percentages of GSDP.
GSDP figures adopted are those furnished by the CSO.

Fiscal Deficit

2.2.13 The gross fiscal deficit of the state, as a per cent of GDP, decreased from 3.48 per cent in 2007–08 to 2.79 per cent in 2010-11. However in the very next year it increased to 4.16 per cent (Table 2.4). The reason for the large increase in 2011-12 is the significant increase in salary and pension payments referred to in Table 2.4.

Table 2.4
Gross Fiscal Deficit of the State

(₹ in Crore)

YEAR	FISCAL DEFICIT
2007-08	6100 (3.48)
2008-09	6346 (3.13)
2009-10	7872 (3.39)
2010-11	7730 (2.79)
2011-12	12815 (4.16)

Source: Budget in Brief 2012-13

State Public Sector Enterprises

2.2.14 The turnover of Public Sector Enterprises in Kerala account for about six percent of the GSDP of the state (share of value added will be lower). More than half the number of PSEs do not earn any profit and are dependent very heavily on budgetary support. The return on capital too is well below the bank rate most of the years. Few PSEs declare dividends and the contribution to financing the Plan is low. In order to boost the performance of the PSEs, the Eleventh Five Year Plan projected a contribution of 11.83 percent to the Plan outlay. The poor performance of the PSEs, however, led to the realization of only 3.76 percent of the total plan outlay. Considering the poor realization in the Eleventh Five Year Plan, the Twelfth Five Year Plan has projected an outlay of 5.69 percent of the total plan outlay which looks reasonable.

2.3 Public Sector Resources in the Twelfth Plan

State's Resources

2.3.1 The Twelfth Five Year Plan projects a growth target of 14.5 percent in nominal terms for Kerala. To achieve the planned growth the projected plan outlay is ₹102000 crore in current prices (Table 2.5). The outlay is distributed among the State Government (₹73541.40 crore), Public Sector Enterprises (₹5801.93 crore) and Local Governments (₹22656.68 crore). The Plan is largely financed by borrowings which evolve over the five years taking due account of the evolution of BCR and MCR. Borrowings are proportionately low in the first three years and rise in the last two years as BCR shows a sharp jump. The outlay of the Public Sector Enterprises is almost constant throughout the period and that of the Local governments is governed by the award of the State Finance Commission.

Table 2.5
Projected Financing Pattern of the Twelfth Plan (2012-17) Outlay of the State

(₹ Crore at Current Prices)

Item	Projection (₹ Current Prices)	Annual Plan (₹Current Prices)				
		2012-13	2013-14	2014-15	2015-16	2016-17
A. State Government (1+2+3)	73541.40	9682.01	11904.57	14928.72	17631.54	19394.57
1. State's Own Resources of which BCR	-13961.31 -10369.85	-4540.37 -3214.35	-2315.05 -450.03	-1646.31 110.25	-2003.93 -1022.26	-3455.65 -5793.47
2. Borrowings	74118.55	12556.63	12156.81	14018.72	16467.25	18919.15
3. Central Assistance (Grants)	13384.16	1665.75	2062.81	2556.31	3168.22	3931.07
B. Resources of Public Sector Enterprises	5801.93	1100.00	1129.70	1160.20	1190.48	1221.55
C. Resources of Local Bodies	22656.68	3228.00	3777.73	4421.08	5173.98	6055.89
Total Plan Resources (A+B+C)	102000.00	14010	16812	20510	23996	26672
State Plan Outlay	102000.00	14010	16812	20510	23996	26672

2.3.2 The realization of 11th Five Year Plan projections for the Public sector Enterprises and Local Governments suggests that the projections for the 12th Five Year Plan are realistic (Table 2.6). But the projections for the State Government need to be taken with great caution. The 11th Five Year Plan projection of ₹100 spending required ₹112.65 of borrowing despite ₹13.82 of Central Assistance as ₹26.48 went for financing the negative balance from current revenue. The realization during the 11th Five Year Plan was drastically different from projections largely because ₹67.75 out of ₹100 went for financing the negative balance from the current revenue. And despite higher central assistance at ₹30.58 the State had to borrow ₹137.17 for the plan spending of every ₹100. Given the realization of the 11th Five Year Plan, the 12th Five Year Plan projection of borrowings are on the lower side; this would only be realizable with tight control on the balance from current revenue.

Table 2.6
**Financing Pattern of the Eleventh Plan (Projected vis-à-vis Realized)
and Twelfth Plan Outlay of the State**

Item	11 th FYP Projection	11 th FYP Realization	12 th FYP Projection
A. State Government (1+2+3)	61.24 100	65.52 100	72.10 100
1 State's Own Resources of which BCR	-26.48 -35.00	-67.75 -41.28	-18.98 -14.10
2 Borrowings	112.65	137.17	100.79
3 Central Assistance (Grants)	13.82	30.58	18.20
B. Resources of Public Sector Enterprises	11.83	3.76	5.69
C. Resources of Local Bodies	26.93	30.73	22.21
Total Plan Resources (A+B+C)	100	100	100
State Plan Outlay	100	100	100

Source: Finance Department, GoK, Budget in Brief (Various Issues)

Balance from Current Revenue

2.3.3 State's own resources consist of balance from current revenue, miscellaneous capital receipts and plan grants from Government of India (Thirteenth Finance Commission). As may be seen from Table 2.6 among the three the key components, BCR could be controlled to a great extent by the actions of the State. Non Plan Revenue Receipts is expected to grow at 15 percent throughout this period (Table 2.7). Non Plan Revenue Expenditure, however, is estimated to grow at less than 15 percent per annum during the first three years of the Plan period. But during the last two years of the Plan period it is expected to increase at 18 and 23 percent respectively. Such large increases are estimated to arise owing to the Pay Commission awards. With such increases in expenditure, the BCR which had reached positive territory by 2014-15 again slides to large negative territory and crosses ₹1000 crore. The next year it reaches close to ₹(-)6000 crore. Thus, out of the ₹(-)10369.85 crore almost 66 percent of the BCR is accounted for by the last two years.

Table 2.7
Balance from Current Revenue in the Twelfth Five Year Plan
(₹ crore current prices)

Item	12th FYP Projection	2012-13	2013-14	2014-15	2015-16	2016-17
Non-Plan Revenue Receipts	281257.12	40521.54	47979.50	55279.16	63774.34	73702.58
Share in Central Taxes	49489.94	7082.21	8225.99	9554.48	11288.62	13338.64
State's Own Tax Revenue	206459.53	30259.69	34884.87	40359.29	46747.12	54208.55
Non Tax Revenues	18931.70	2156.17	3641.35	3987.27	4366.07	4780.84
Non Plan Grants From Centre	6375.95	1023.47	1227.29	1378.11	1372.53	1374.54
Non Plan Revenue Expenditure	291626.97	43735.88	48429.53	55168.91	64796.60	79496.05
Interest	47494.00	7509.38	8297.02	9326.92	10506.17	11854.51
Pension	57454.92	8170.23	9314.06	10618.03	12316.92	17035.68
Salaries	104850.18	15503.43	17929.01	20070.58	23491.41	27855.75
Others	51107.18	8202.85	8018.34	9079.82	11376.65	14429.52
Statutory Transfer to Local Bodies and PSEs	30720.69	43499.99	4871.10	6073.56	7105.45	8320.59
BCR	-10369.85	-3214.35	-450.03	110.25	-1022.26	-5793.47

Note: Salaries include salaries under Non Development Expenditure as well as Development Expenditure and Pay/Pension and DA Revision.

Miscellaneous Capital Receipts

2.3.4 In the discussion of State's Own Resources (= BCR+MCR+Plan Grants) the role of MCR cannot be ignored as it throws important light on fiscal management in the State. The two main sources of financing are internal debt and public accounts, the

latter bringing a new dimension: “Since public accounts reflect the operations of a government acting more or less like a bank, financial safety requires that if money is taken out of it in any year, it should be replenished as early as possible – draining the public accounts is against financial integrity. The funds in the public account are not meant to be a regular source of financing the government’s day-to-day expenditures. In practice, the state government has withdrawn substantial amounts from the public accounts in every year since 2005-06, except 2006-07; the amounts have also been rather hefty in the last three years” (Sen, 2012: p 12). The amounts drawn have to be put back and during the Twelfth Five Year Plan large amounts (average ₹1750 crore in the first four years) are set apart for this purpose. To that extent it is a drain on borrowing and strain on financing the Plan.

Effect of Fiscal Responsibility and Budget Management Act (FRBMA)

2.4.5 Kerala, like the other Indian states, passed the Fiscal Responsibility and Budget Management Act in 2003 following which efforts were being made to bring down the revenue deficit and the fiscal deficit. But the global crisis necessitated the state government to come up with a stimulus package pushing up the government expenditure. Revenue deficit which had come down from 2.29 per cent (of GSDP) in 2005-06 to 1.72 per cent in 2006-07 went up to 2.16 per cent in 2007-08. The fiscal deficit which had come down by 0.6 per cent to 2.5 per cent in 2006-07 reached 3.5 per cent in 2007-08. Since 2010-11 the state went back to the fiscal correction path but to no avail. By 2011-12, the revenue deficit had gone up to 2.61 per cent and the fiscal deficit continued to climb reaching 4.16 per cent.

2.4.6 The Thirteenth Finance Commission recommendation for Kerala is revenue deficit of 0.9 per cent, 0.5 per cent and 0 per cent for 2012-13, 2013-14 and 2014-15 respectively. The fiscal deficit for the corresponding years is 3.5 per cent, 3 per cent and 3 per cent respectively. The budget estimates of revenue deficit of 0.9 per cent and fiscal deficit of 2.7 per cent for 2012-13 and the actuals of 2.68 per cent and 4.29 per cent and the Revised Estimates for 2013-14 of 1.54 per cent and 3.26 per cent and the Budget Estimates for 2014-15 of 1.53 per cent and 3.10 per cent show that Kerala is failing to meet the targets set by the Commission. However, the projections for 2015-16 and 2016-17 had already shown that Kerala will not be able to sustain a balance or surplus in the revenue account. This would largely be on account of the higher outgo of salary arising out of the expected Pay Commission award. Unlike the central government, which makes awards every ten years, the state constitutes pay commissions every five years and the shock of the award leaves little room for management of the deficits. Thus, the fiscal situation is grave and will not be able to meet the financing needs of the State.

Effect of Service Tax and GST

2.4.7 The introduction of service tax has widened the tax base of the central government. It is expected that the transition to GST would provide a promising source of revenue for the states as well. But there are some caveats which have to be kept in mind before making projections for the Twelfth Plan for the state. The service sector share of Kerala in the national service sector GDP is 4.73% but its share in the nation’s service sector tax is only 1.57%. Both for Karnataka and Gujarat, the two shares are fairly close. Such a huge difference in the case of Kerala could have come about because of the lower share of taxable services in the total in the state or higher share of the informal sector compared to the national average. The latter is the case of the

preponderance of small service providers below the taxable limit of turnover constraining the scope of revenue mobilisation beyond a certain level. Thus the scope for mobilizing service tax revenue in the state looks bleak.

2.5 Issues in Plan Financing

2.5.1 Kerala is one of the states with a fairly high Tax-GSDP ratio. But in recent years the better performance in mobilizing tax revenue is largely led by the higher yields from the sales tax on liquor as is evident from its share in the tax revenue going up from around 12 per cent in 2000-01 to 15 per cent in 2005-06 and to over 17 per cent in 2010-11. The buoyant sector is being used for youth welfare schemes, setting up of youth banks and youth development reducing the scope for generating finances for the Plan. Perhaps a portion of this may be used for Plan schemes as well.

2.5.2 Liquor has overtaken petroleum products as the top tax mobilizer by 2009-10. Since then as the prices of petroleum products have gone up tax has been sacrificed to protect the consumer. In this process resources that would have otherwise gone into the exchequer to finance the Plan have been distributed among the large consumers of petroleum products.

2.5.3 Kerala along with Karnataka, Tamil Nadu and Maharashtra report lower share of non-tax revenue in total revenue among the Indian states. In Kerala, the share of non-tax revenue in the total revenue has been coming down. It was over 10 per cent of the total in 2000-01 but came down to about 8 per cent by 2010-11. It is not expected that this trend is going to change to any significant extent. But among the constituents of non-tax revenue, revenue from lotteries has seen a surge in recent years. The net income from lotteries was less than 2 per cent of the non-tax revenue of the state till 2002-03. Since then it has been increasing at a rapid pace crossing 7 per cent of the total non-tax revenue by 2009-10, largely owing to controls on lotteries of other states and improvements in the lottery department. This trend has been continuing since then.

2.5.4 Lotteries could have been a major source for financing the Plan. But schemes such as Karunya Benevolent Fund are dependent on lotteries for its funding. As a result only the residue is left to fund Plan programmes. The last four years have seen concerted efforts by the state to streamline the Rashtriya Swasthya Bima Yojana (RSBY) and extend the benefits to about 35 lakh families. And since 2011, CHIS Plus enlarged the benefit package to ₹100000 (RSBY covered only up to ₹30000). RSBY and CHIS Plus have been able to manage with a lean administration and could control the rates paid for medical and surgical procedures.

2.5.5 Turning to the NPRE, the award of the next Pay Commission is going to add to the outgo on salary and pension in the last two years of the Twelfth Five Year Plan. The interest payment shown earlier is on the conservative side as the projections are based on the average cost of the stock of debt. The average cost had shown a decline owing to the low inflation during 1999-2008. Since then the rising inflation has increased the cost of debt which would have a bearing on the interest payment.

2.5.6 The poor mobilization of tax and non-tax revenue and the surging NPRE, despite the implementation of the Fiscal Responsibility and Budget Management Act, will generate little budgetary surplus from current revenue throughout the Plan period. So the entire plan financing has to be done through borrowings.

2.6 Strategy for the Twelfth Plan

2.6.1 Indian states depend to a sizeable extent on the central government for financing their five year plans. In the case of the Eleventh Five Year Plan it was projected that the Central Assistance would finance 8.46 per cent of Kerala's Plan. But there could be considerable gap between the projected assistance and the realized assistance. For the general category states as a whole the realization was almost equal to the projection at 95.7 per cent. The variation, however, was from 64.5 per cent for Kerala to 143.6 per cent for Goa. As regards the Twelfth Five Year Plan of Kerala, Central Assistance is projected to be 13.12 per cent of the Plan outlay. Given the experience of the Eleventh Five Year Plan and the realized assistance from the Central Government Kerala will have to relook at its strategy for effective utilization of the Central Assistance.

2.6.2 The Kerala situation is one where the Balance from Current Revenue is in the negative, the utilization of Central Assistance is sub-optimal and the dependence on borrowing for financing the Plan is total. But the total borrowing is not available for financing the Plan as a substantial part of it goes for the repayment of old debt. During the Twelfth Five Year Plan period, 10.99 per cent of the Gross Borrowings would go for repayment.

2.6.3 Kerala depends very heavily on market borrowings to finance its Plan. Market borrowings account for close to three quarters of the Gross Borrowings. Market borrowings attract market rates of interest and hence are influenced by the inflationary situation in the economy. As the price situation continues to be worrisome the pressure on the resource position would be high.

2.6.4 Greater efforts at resource mobilization (tax mobilization), better tax administration, curtailment of wasteful expenditure (through efficient public administration), and an institutional mechanism to ensure optimum level of borrowings of repayment loan help in strengthening planned development in the country.

AGRICULTURE AND ALLIED SECTORS

...the approach to Agriculture in the Twelfth Plan will focus on raising incomes of farmers through increasing productivity, subsidiary occupations, better marketing and through promotion of value added products.... agro-ecological zone and agro-ecological unit based approach for the development of livestock sector will be followed for augmenting income of farmers.... setting up of clusters of food processing unit and promotion of foot paths will get priority... holistic fisher folk centred development approach will be adopted in the fisheries sector.... it is proposed to increase gross area under irrigation by 30% from base level by the end of the Twelfth Plan period.... this chapter deals with the following seven sub sectors viz. (i) agriculture (ii) soil conservation (iii) animal husbandry (iv) dairy development (v) fisheries (vi) co-operation and (vii) irrigation.

3.1 Agriculture

3.1.1 The Agriculture in Kerala has undergone significant structural changes in the form of decline in share of GSDP, indicating a shift from the agrarian economy towards a service sector dominated economy. The contribution of agriculture to the GSDP of the State has been declining steadily from 36.99 percent in 1980-81 to 8.95 percent in 2012-13. The share of food crops in gross cropped area was 37.46 percent in 1980-81, but dropped to 10.30 percent in 2012-13. The share of cash crops in gross cropped area however increased from 44.59 percent to 62.5 percent in 2011-12.

3.1.2 The contribution of agriculture to the GSDP of the state has been steadily declining from 36.99% in 1980-81 to 9.14 % in 2011-12. The share of irrigated area in Gross Cropped Area (GCA) which was 13.20% in 1980-81 increased slightly to 18.43% in 2011-12. The cropping pattern has undergone significant changes over time. The share of food crops in GCA was 37.46% in 1980-81 which dropped down to 11.50% in 2011-12. Share of major cash crops in GCA was however increased from 44.59% in 1980-81 to 62.51% in 2011-12. The Key indicators clearly depicts the shift in cropping pattern from the food crops to cash crop based economy. Key indicators of the agricultural sector of the State and India is given Table 3.1

Table 3.1
Key indicators of the agricultural sector of the State and India

Sl. No.	Indicator	Kerala	India
1	Share of agriculture and allied sectors in GSDP, 2012-13(%)	8.95	14.50
2	Share of food crops in GCA, 2012-13	10.30	63.07
3	Share of irrigated area in GCA, 2012-13(%)	17.67	42.86
4	Percent of farmer households indebted (NSSO report No.498)	64.40	48.60
5	Average monthly household farmer consumption expenditure (Rs) (NSSO report 497)	4250	2770
6	Average monthly income per farmer household (Rs) (NSSO report 497)	4004	2115
7	Share of Tenth plan expenditure for agriculture and allied sectors in total plan expenditure	5.60	3.90
8	Share of Eleventh Plan Expenditure for Agriculture and allied sectors	6.2	6.58

3.1.3 The Kerala agriculture is characterized by marginal and fragmented land holdings. There are about 68.31 lakh operational holdings in the State during 2010-11 possessing about 15.11 lakh ha land with an average farm size of 0.22 ha. During 1966-67 the percentage of marginal holdings in the state was only 81.8% which increased to 96.32% in 2000-01 and 2010-11 respectively. The average size of marginal holdings which was 0.28 ha in 1966-67 declined to 0.13 ha in 2010-11. Adequate efforts should be put in place to strengthen delivery of public services in favour of marginal farmers along with building capacity that encourages group formation and collective effort for improving bargaining power. The elements of social organization of these holdings in the structural form of social capital facilitate in particular lowering transaction costs and probability of adopting income/productivity enhancing technologies.

3.1.4 Agricultural land-use changes in Kerala during the past half-century were marked by an initial increase in gross cropped area followed by shifts in the coverage of individual crops. The total area under cultivation increased by 24.87% from 1960-61 to 1970-71 in the state and reached 30.21 lakh ha in 2000-01. However the last decade witnessed a reduction in the total area under cultivation in the state and the trend still continues. One of the major reasons for the decline in GCA was due to decline in area under paddy over the years.

3.1.5 The share of rice was 33.2% of GCA in 1960-61 which declined to 29.4% in 1975-76 and again dropped down to 17.6% in 1992-93. At present (2012-13) rice occupies only 7.61% of the GCA in the state. The share of tapioca was 10.3% of GCA in 1960-61 and it got declined to 2.8% in 2011-12. Share of coconut increased from 21.3% in 1960-61 to 30.8% in 2011-12. The share of rubber crop to GCA increased steadily from 5.2% in 1960-61 to 20.3% in 2011-12.

3.1.6 Kerala witnessed fluctuating growth performances in agriculture across plan periods. The growth rate of agriculture during 11th plan was -1.32% while the achievement at National level was 3.3%. During 9th and 10th plan periods against the

achievement of -4.13% and 1.80% respectively in Kerala the corresponding achievement at National level was 2.5% and 2.4% respectively. The target fixed for Kerala in agriculture is 1% growth in 12th plan and at national level it is 4%. The plan wise growth rate in Agriculture and Allied sectors is shown in Table 3.2.

Table 3.2
Five Year Plan wise growth rate in Agriculture and Allied sectors

Five Year Plan	Target		Achievement (%)	
	Kerala	India	Kerala	India
9 th Plan	3	3.90	-4.13	2.5
10 th Plan	3.05	3.97	1.80	2.40
11 th Plan	-	4.0	-1.32	3.30
12 th Plan	1	4.0	-	-

3.1.7 The growth performance of the agriculture sector has been fluctuating across the Plan periods. It witnessed a negative growth rate of -1.32 percent in Eleventh Five Year Plan while a positive growth of 1.8 percent was recorded for the Tenth Five Year Plan Period. The provisional estimate of GSDP in agriculture and allied sectors in 2011-12 indicated a negative growth rate of -0.06 percent over the previous year. The trend was reversed in 2012-13 and the quick estimate showed 4.39 percent increase over 2011-12.

3.1.8 The 8th Five Year Plan was targeted to achieve a growth rate of 2.5% and the state could achieve a higher rate of 3.10 %. During the 9th Plan though it was targeted at 3% growth rate the achievement was -4.13 %. During 10th Plan period, the growth rate was targeted at 3.05 % and the achieved growth rate was 1.80%. Again the achievement was negative in 11th plan period. During the Twelfth Plan period the growth rate of Agriculture and Allied sectors in the state is targeted to be 1.00%. The crippling growth rate in agriculture as against a reasonably robust annual growth rate of GSDP of the State is a cause of concern.

3.1.9 The annual growth rate of GSDP from the agriculture and allied sectors over the last three decades are given in Table 3.3. The growth rate of GSDP from Agriculture and allied sectors in Kerala which was 3.2% in 1981-82 - 1993-94 declined to 1.9 % in 1994-95 - 1995-00 . At National level the growth rate did not vary much during this period. The growth rate again declined from 1.7 in 2000-01 - 2004-05 to a negative growth rate of -0.2 in 2005-06- 2011-12 in the state while the same at National level improved to 3.7%.

Table 3.3
Average Annual Growth rates of GSDP from Agriculture and Allied sectors (%)

State/ Country	1981-82 to 1993-94	1994-95 to 1995-2000	2000-01 to 2004-05	2005-06 to 2011
Kerala	3.2	1.9	1.7	-0.2
India	3.4	3.3	1.7	3.7

Source: Twelfth Five year plan, Government of India

3.1.10 The National Survey on consumption expenditure of farmers conducted by NSSO has share highest monthly percapita expenditure (MPCE) for the farmers of Kerala. The monthly expenditure was ₹901, while the national average was only ₹503, in 2003. The percapita monthly medical expenditure was also the highest in Kerala. Human development and welfare measures needs focused attention to minimize agrarian distress as well as to make farming an attractive proposition. A farmer oriented approach to address the agricultural development and human development issues in an integrated manner can go a long way in addressing the agricultural development in Twelfth five year plan period.

Twelfth Five Year Plan

3.1.11 The Twelfth Five Year Plan provides an opportunity to consolidate the gains that have been made in the previous plans and also to correct the deficiencies that have been observed. Much higher levels of agricultural development can be achieved through a reorientation of the planning approach and existing technologies with improved delivery systems. Most of the gains in 12th plan will have to come by exploiting the potential of existing technology.

3.1.12 The deceleration in agriculture which began in nineties and continued in Eleventh Plan has been a major area of concern for agricultural development. It is necessary to put agriculture on a higher growth trajectory. The supply side responses based on productivity increases through appropriate changes in policy and well directed public efforts are required while maintaining prices and profitability. Most of the growth is possible merely by narrowing the yield gap between the actual yields and those obtained in the best farmers' fields. Region wise strategies are required to identify the constraints that have resulted in these yield gaps. In order to tap the potential, it is necessary to revive and improve the whole range of support systems to farmers.

3.1.13 Reviving the agriculture sector require a quantum increase in productivity from the current levels. This in turn requires technological breakthrough given the limited supply of land and other structural rigidities, addressing low level of mechanization, shortage of irrigation facilities, treatment of soil acidity and multiple nutrient deficiencies, plant health management, remunerative prices and poor extension services.

3.1.14 The technological changes, public investment, natural resource management, diversification of farming system and risk management are the most important proximate determinants of agricultural growth. Increased vulnerability of world commodity price volatility of cash crops following trade liberalization added uncertain farm income. Low farm income due to inadequate productivity growth has often combined with low prices of output and with lack of credit at reasonable rates to push many farmers into crippling debt. One of the major challenges of the 12th plan will be to revive the agricultural growth.

Agro ecological approach

3.1.15 The core approach in agricultural planning is driven by recognition that growth to a new plateau of performance cannot be achieved by continuing existing practices in 12th plan. A basic change of approach in agriculture in 12th Five Year Plan is proposed towards exploitation of regional potential in a broader framework of agro ecological planning. The state has been divided into 5 Agro Ecological Zones (AEZ) and 23 Agro

Ecological Units (AEU) based on climate and soil in a recent study coordinated by the State Planning Board. It is essential to prepare strategies and action plan for each AEZ and AEU for the development of agriculture and allied sectors. Each district has been divided into agro ecological units on panchayat basis within the overall framework of technical parameters. The yield gaps as well as the potential and issues in AEZ/AEU have to be addressed separately considering the socio economic setting. There are several region specific gaps which limit the opportunity of realising higher yield of the crops/livestock/fish potential. Future crop yields and food security may hinge on the ability of farmers to narrow the gap between the current yields and yield potential ceilings. The Agro Ecological Unit wise and consolidated district level yield gaps for various crops, technology adoption index for various practices, occurrence of pests and diseases, soil fertility, constraints like labour availability, marketing, mechanization, irrigation and researchable issues are to be addressed on AEZ/AEU wise for the growth and development of agriculture in the state. During 12th plan, it is proposed to divide the state level targets among different Agro ecological units based on the potential, constraints and possibilities. The linkage of resource allocation on zonal basis would result in realization of outputs in a time bound manner.

Yield Gaps in Selected Agro Ecological Units of Kerala

3.1.16 An Agro Ecological Unit (AEU) is a homogenous geographical area which has the production environment in terms of agro-climate, resource endowments and socio-economic conditions is homogenous, and majority of the farmers have similar production constraints and research needs. The agro ecological methods can be utilized in efficient land use planning, determining suitable crops and varieties in a region, risk analysis of climatic hazards, analysis of production potential, optimum resource use and in developing appropriate intervention strategies.

3.1.17 Realising wide agro Climatic variability of Kerala the National Bureau of Soil Survey and Land Use Planning (ICAR) , Regional Centre, Bangalore has delineated the State in to 23 Agro Ecological Units. (*NBSS & LUP, 2012*). Each AEU has distinct soil and climatic features which permits the cultivation of different types of crops. There are inter zonal variations in the productivity of crops among AEUs owing to the distinct features of the unit. However gap in productivity is noticed within the AEUs . If this could be properly addressed, it would enhance the productivity levels of the AEU as well as the state. Productivity gaps in major crops of the state in selected AEUs are indicated in Table 3.4. The Onattukara sandy plains which generally have the lowest productivity in rice has an yield gap of 145.28 %. This low productive zone also has an yield gap of 207.69 % in coconut. An yield gap of 76 % in the yield of paddy and 628.86 % in coconut is observed in case of coconut in Kuttanad. In Kole lands yield gap of paddy is 112.53 % and in Pokkali the gap is 254.61%. The average productivity of Pepper in Kerala is very low. However the appreciable yield gap is existing in Northern Laterites (KZD 3) and Northern Hills (WYD 1) which are 385 and 346% respectively. There exist an yield gap of 45.49% in Northern Hills and 150 % in Central Plateau in case of Coffee. The Wayanad Central Plateau has reported a pepper yield as high as 3500 Kg/ha making an yield gap of 500 % in the unit. In case of cashew the yield gap in Northern Coastal Plains of Kannur District is 63.64 % . The yield gap of rice is to the tune of more than 100 % in Kaipad lands in the district. In Northern Laterites of Kannur District the banana crop has an yield gap of 197.03%. In Southern High Hills of Idukki the Rubber is having an yield gap of 25% and

cardamom is having an yield gap of 67.74 % . In South Central Laterites of Alappuzha District, the Tapioca crop is having an yield gap of more than 300 %.

Table 3.4
Yield gaps in major crops in selected AEU's in Kerala

Name of AEU	Crop	Productivity in zone	Productivity in district	Best farmer yield	Productivity gap in %
Onattukara sandy plain (ALP 2)	Paddy(t/ha)	2.65	3	6.5	145.28
Onattukara sandy plain (ALP 2)	Coconut(nuts/palm)	52	40	160	207.69
Kuttanad(KTM-1)	Paddy (t/ha)	4.26	2.58	7.50	76.06
Kuttanad(KTM-1)	Coconut (nuts/palm)	41.16	29	300	628.86
Kole lands(TSR3)	Paddy (t/ha)	4.47	2.50	9.50	112.53
Pokkali lands(EKM 1)	Paddy (t/ha)	1.41	1.94	5.00	254.61
Northern laterites(KZD 3)	Pepper (Kg/ha)	567.6	98	2750	385.0
Northern Hills (WYD 1)	Pepper Kg/ha	199	217	888	346
Northern Hills (WYD 1)	Coffee	1031	705	1500	45.49
Central Plateau(WYD 2)	Pepper Kg/ha	583	217	3500	500.0
Central Plateau (WYD 2)	Coffee (Kg/ha)	1200	705	3000	150
Northern Coastal (KNR 1)	Cashew (Kg/ha)	1100	1071	1800	63.64
Kaipad lands (KNR 2)	Paddy (t/ha)	2.90	1.73	6.0	106.90
Northern laterites (KNR 3)	Banana (t/ha)	20.2	7.8	60	197.03
Southern High hills (IDK 2)	Rubber (Kg/ha)	1600	1499	2000	25.0
Southern High hills (IDK 2)	Cardamom (Kg/ha)	387.50	137	650	67.74
Southern Central laterites(ALP 5)	Tapioca (t/ha)	23	29	100	334.78

Source : CSRC, Karamana, Kerala Agricultural University and Kerala State Planning Board

3.1.18 Future crop yields may hinge on the ability of farmers to narrow the gap between the current yields and Yield Potential Ceilings. Improving crop yields at a pace commensurate with growth in output demand will require significant reduction in current yield gaps. A wide range of yield gaps are observed in various AEU's. Many rainfed cropping systems appear to have relatively large yield gaps that could be closed with existing technologies, but persist largely for economic and development reasons. These gaps have basically emanated due to ecological distortions i.e., soil & water, availability of inputs particularly certified/quality seeds of improved varieties and imbalanced use of fertilizers across the regions and inadequate incentives. Over several plan periods the wide gap in target and achievements are reported in growth, production and yield levels. There is no concerted effort to divide the target across agro climate/agro ecological units of the state. A comprehensive exercise has to be initiated at state level to implement developmental interventions at various agro ecological units with well-defined physical targets. In each agro ecological unit resource based plan including the yield gap could be addressed in a time bound manner.

3.1.19 The agro ecological zone and Agro ecological unit based approach for the development of livestock sector is essential for augmenting income of the farmers. Livestock sector is extremely livelihood intensive in Kerala and represents the livelihood of majority of the poorest among the farmers. It is essential for the state to develop and expand the livestock sector primarily to sustain, enhance and generate livelihoods. The Plan imperatives need to be towards enhancing and generating livelihoods using livestock as an instrument for development. Raising the productivity of livestock through breeding, feeding and management needs priority in the State. Livestock extension needs to be treated differently from crop related extension activities focusing more on livestock management and veterinary services. Enhanced and sustainable productivity through improved animal health should be one of the major strategies for livestock development. Technology supported livestock development will be a key element that ensures nutritional security, livelihood of rural poor and women empowerment. The disease diagnostic facilities need to be upgraded. Further strengthening of veterinary services is essential to meet the growing requirement of veterinary support. The expansion of the door step veterinary services is essential for the development of animal husbandry and dairy sector in the state. The strengthening of feed and fodder production is a prerequisite for the development of livestock sector in the state. Attention is needed for large scale cultivation of fodder crops to improve animal nutrition. Adequate availability of quality fodder is essential for enhancing livestock productivity. Back yard poultry rearing is having good potential which needs to be further consolidated. The dairy cooperative society based dairy development strategies need to be strengthened. Small ruminants play an important role in the rural economy of the state. Sustainable and financially, viable livestock farming which will generate income and self-employment through entrepreneurship development is essential for the growth of the livestock sector.

3.1.20 The development of farms and farmer group based production systems are essential to augment supply of inputs. The key infrastructure support for strengthening hospitals, laboratories, development of milk routes for procurement, hatcheries and feed plants are essential pre requisites for livestock development. Public sector lending in livestock sector is abysmally low and inadequate credit support leads to poor capital formation. The availability of low cost credit has to be ensured. Risk management through insurance as well as marginal support to human development dimension of livestock farmers will insure against risk and uncertainties in income.

3.1.21 Holistic fisher folk centered development approach need to be adopted in the fisheries sector. A comprehensive coastal area development project is proposed to be launched covering the infrastructure, housing, sanitation, drinking water and livelihood. Coastal fisheries are under pressure of high fishing intensities. Resource conservation and regulation initiatives need to be strengthened for the sustainability of fisheries development. In inland fisheries the yield gaps are significant and need to be improved in order to realize the full potential. The improvement of production potential of reservoirs is essential through institutional and technology support. It is possible to extend fish farming to more reservoirs with the support of other departments for augmenting fish production and livelihood. Strengthening of post-harvest infrastructure like better fish landing and handling facilities, cold chains, storage facilities as well as marketing facilities is a key requirement for the development of the sector. Seed being the critical input for successful capture practices needs a focused attention with regard to strengthening of the existing infrastructure for

production, rearing with quality control. The expansion of mussels, oyster farming and cage culture are required for the development of the sector. The improvement in the production of value added products, micro enterprises, low cost credit support and expanded coverage under social security schemes are required for the livelihood security of fisher folk.

Recommendations of the Working Groups

3.1.22 A basic change in approach in agriculture in 12th five year plan is proposed towards the exploitation of regional potential in a broader framework of Agro ecological planning. It is proposed to prepare strategies and action plan for each AEZ and AEU for the development of agriculture and allied sectors. Each district has been divided into Agro ecological units on Panchayat basis within the overall framework of technical parameters. The yield gaps as well as the potential and issues in AEZ/AEU have to be addressed separately. The state level physical targets are proposed to be divided among the AEU's in order to realize the achievement more realistically.

3.1.23 Bringing additional area under progeny gardens in farms, setting up of full-fledged nursery infrastructure, strengthening tissue culture laboratories as well as strengthening existing tissue culture laboratories for the production of tissue culture planting materials, and regular training programmes

3.1.24 Reorganization of Soil testing services in the state taking into consideration the soil conditions, agro-ecology and crop production systems with the help of an expert committee, analysis of secondary and micro-nutrients on a regular basis for all soil samples in addition to major plant nutrients. With the current level of evolution of biological methods for evaluation of soil health the incorporation of the techniques in soil testing programme need not be considered. District soil testing labs may adopt one panchayat in each district and demonstrate the benefits of soil test based fertilizer recommendations for enhancing crop productivity. A scheme for correction of the strong soil acidity can be launched immediately.

3.1.25 Setting up of Farmer Welfare Board, Enhancement of various pension amount - eg family pension (by ₹500/), marriage assistance (by ₹25000/), educational scholarship, cremation assistance (by ₹5000/), medical treatment (₹50000/), disability assistance (₹1000/), etc.

3.1.26 Regarding strengthening food security programmes- Launch an integrated programme for Strengthening of KCPM at Moncombu to cover the entire Kuttanad region, Development of Integrated Management package for Wild Rice control, Fully subsidized Supply of seeds through LSGIs, popularization of Need based Fertilizer application on the basis of Soil Health Cards, Supply of fertilizer at subsidized price, Standardization and Quality Control of Agricultural inputs. Development of Programmes for achieving regional yield targets like Periodical joint visit of multi-disciplinary faculty, cultivation of Pulses in Summer Rice Fallows, promotion of Location Specific Integrated Farming System, development of Programmes for strengthening organic farming, development of Region wise Location Specific programmes, enhancement of production incentive to paddy from ₹300/ha to ₹1000/ha, Promotional programme for tuber production, procurement of paddy from all districts, Programme for scaling up of straw baling units, Programme for Farm Mechanization.

3.1.27 Regarding Organic Farming recommended a separate nodal agency for effective implementation of organic farming, Capacity building Programme. Production of quality organic inputs, Integrated pest and disease management (IPDM) – Use of bio pesticides, bio-control agents etc, Organic Certification, Training on Quality Control, Enhance organic resource generation in the farmers fields/on community basis, establishment of Crop wise farmers field school, encourage mixed farming approach for livelihood security and ecological sustainability— Livestock/Poultry rearing should be encouraged, provision for exposure visits for farmers/officers to successful models of Organic farms within and outside the state, Establish domestic markets/sale outlets for quality for organic produces as well as quality organic inputs ensuring premium price for farmers. Establish facility for quality control of organic inputs. Documentation and publication of success stories.

3.1.28 In order to improve involvement of Women in Agriculture recommended at least one comprehensive scheme for farm women is to be introduced in each of sectors of agriculture - for crop, livestock and poultry and fisheries, Initiation of a strong linkage and technical facilitation for the Kudumbasree like women groups from the concerned departments and R&D institutions like KAU, KVKs and ICAR agencies, channelizing mechanism (convergence) of the available funds and schemes for farm women and establishing strong linkage between Kudumbasree like women farmer groups is to be emphasized to avoid duplication of efforts. Promotion of women friendly machines, easy credit, and development of value chains.

3.1.29 A separate Marketing Department as in the neighbouring states like Tamil Nadu, Karnataka exclusively to take up marketing activities in the State or establishment of a Marketing Board, promotion of agmark certification and strengthening of agmark laboratories and strengthening of infrastructure of EEC markets, enhancement of market intervention fund, regular procurement of copra, paddy and vegetables, strengthening of farmers market established by VFPC, and development of market intelligence system in the state.

Plan Implementation

3.1.30 Two subgroups were constituted for the preparation of recommendation on plan implementation. The suggestions include Preparation and sanction of schemes well in advance, formulation of LSGD schemes for a period of five years, Schemes for the promotion of Homestead farming, classification of schemes as Awareness creation, Crop production, Processing, Value addition and Marketing and Services, merging of schemes on crop wise. The assistance/ subsidy can be divided as Area incentive - 30%, Input incentive - 30% and Production incentive- 40%. And all the crops may be compulsorily insured and the insurance premium may be met from the assistance/ subsidy. Rate of assistance to crop loss may be enhanced, priority scheme to be prepared for the promotion of pulses, oil seeds, tubers etc. Paddy procurement to be extended to all districts irrespective of area of cultivation power tariff- neither deposit the amount to the board directly at state level or to insist the method of reimbursement to the beneficiary once in a year to avoid disconnection and penal interest, Agro service centers may be promoted at least one in every Krishi Bhavan level as PPP by assisting 50-60% through subsidy and motivate unemployed youths, agricultural labourers individually or in groups to take up the programme. Area expansion and rehabilitation in pepper may be introduced in the potential districts and provide assistance for spraying as done in TMOP earlier, strengthen and increase production

capacity of SBCL, Bio fertilizer lab to meet the requirement of the state or promote quality input production with the involvement of private sector as a Public Private partnership venture, Enhancing power of technical sanction and financial powers of Officers, Sanction may be accorded to credit the subsidy to the beneficiary account directly , the audit team to be strengthened and include a senior technical officer not below the rank of a DDA at district level and an ADA, Computerization and Net working at Krishi Bhavan level may be introduced, Suitable software may be developed for reporting progress and achievements, data base may be prepared at KB level. Research findings and all innovative methods may be made available to the extension officers and farmers and proper R-E F linkage may be ensured, All KB may be modified as an Information centre with electronic equipments and printed materials, An interactive web portal may be developed, Service of a data entry operator may be provided on contract basis for 3 months at the grass root level at the initial stage, KB may be strengthen with adequate man power to attend both Developmental and Extension activities, District level Quality control team may be strengthened with ADA (QC) at dist. level under the supervisory control of DDA (E&T),.All graduate officers in Agriculture working in the dept, from AO to Adl.DA may be declared as QC officers of their respective jurisdiction and may be issued with identity card., Pesticide residue testing lab may be established at region/ dist. level with modern equipments and trained personals to analyze pesticide residue in farm products and fruits and vegetables etc. arriving in the market., Staff deputed to LSGD may be reverted to the parent office and entrust the work of LSGD under the implementing Officer.

Approach, Strategy and Thrust Areas

Agriculture and Allied Sectors

3.1.31 In order to revive the dynamism in agriculture and to raise agricultural output and income the strategies for 12th Five year plan in agriculture and allied sectors will be based on the following thrust areas.

- Food crop production focusing on self-sufficiency in vegetable production in 12th five year plan through a convergence approach on project mode
- Production and distribution of quality planting materials with an appropriate certification mechanism. Focus on micro propagation and network centres for production and distribution
- Soil resource management covering chemical and biological fertility, micro, macro and secondary nutrient management, organic manure and ameliorant management
- Rehabilitation of tanks and ponds to improve water harvesting and storage. Focus on water management through engineering and agronomy measures to improve water productivity
- Scaling up of Lead farmer centred extension advisory and delivery services in more districts under the ATMA framework for improved extension along with ICT application. The project is proposed to capitalize on the innovation systems in agriculture

- Large scale mechanisation through agroservice centres focusing on wet land and garden land agriculture on self sustainable basis under the leadership of block Panchayats and cooperatives
- Rejuvenation of spices economy through regionally differentiated projects with research support
- Technology application in agriculture to narrow the regional crop wise yield gaps, promoting hi-tech agriculture, polyhouse cultivation and biotechnology including generation of location specific technologies
- State network research projects on water management, value addition, beneficial organisms, homestead farming, soil resource management, hi tech agriculture and farm mechanisation
- Organic farming in potential areas with assured backward and forward linkages
- Creation of infrastructure and institutional mechanism for marketing and development of farmers markets
- Development of value addition in fruits, vegetables and spices linked to modern logistics and packaging. Special focus in this segment by establishing incubation centres, network projects and institutional mechanism for linkage with departments, entrepreneurship development with private sector and cooperatives
- Special package to address agrarian crisis in Wayanad district
- Mechanism for addressing production and price risk focusing on insurance, risk management fund, weather advisory services
- Setting up of farmers service centres and block level agroservice centres for service delivery through the department of agriculture and cooperatives including establishing large number of mobile clinics for field level service support
- Improvement in the plan implementation and governance through convergence of schemes, IT application, improved amenities in offices, support mechanism and incentives, local database development for improved service delivery to farmers.
- Focused intervention to improve farmers welfare
- Large scale rearing of calves and small ruminants with improved veterinary services. Improved production of young ones through farms and satellite centres
- Strengthening veterinary services with a focus on door step veterinary services
- Focus on milk shed development with improved facilities in dairy cooperatives
- Development of backyard poultry production in association with LSGIs
- Development of coastal villages focusing on infrastructure and livelihood
- Augmenting inland fish production linked with hatcheries, reservoirs and water bodies

Agriculture

3.1.32 The approach to agriculture in the 12th Plan will focus on raising income of farmers through increasing productivity, subsidiary occupations, better marketing and through promotion of value added products. A basic change of approach in agriculture in 12th Five Year Plan is suggested towards exploitation of regional potential in a broader framework of agro ecological planning. The state has been divided into 5 Agro Ecological Zones (AEZ) and 23 Agro Ecological Units (AEU) based on climate and soil in a recent study coordinated by the State Planning Board. It is essential to prepare strategies and action plan for each AEZ and AEU for the development of agriculture and allied sectors. During 12th Plan, State level targets will be divided among different Agro ecological units based on the potential, constraints and possibilities. To raise productivity, a new approach will be followed, where specific packages of inputs will be designed for each of the 5 Agro Ecological Zones and 23 Agro Ecological Units jointly with Central and State research institutions.

3.1.33 Revival of coconut based systems: The threatening effect of root wilt disease of coconut on the stability of production of coconut is a matter of grave concern. The disease is rampant in all the southern districts of the state and has already affected over 30 million palms. Replanting and rehabilitation of disease affected coconut palms, diversification of farming systems, cluster development and incentivisation for the promotion of investment, mechanisms for effective procurement at remunerative prices and support mechanisms for labour are required for the development of the most important crop of the State. Unless incentive systems are encouraging, investment for scientific management of holdings may not materialize. A major revival of coconut based farming systems is proposed in 12th five year plan.

3.1.34 Revival of pepper development: India is a major producer of pepper in the world with 25 per cent share in production. Kerala continues to enjoy a near monopoly in area and production of pepper accounting for 95 per cent each in the country. However the productivity achieved is very low in Kerala which is only about 1/15th of the productivity of Vietnam which is the largest producer of pepper in the world. On the production side low yield, damage to standards, crop loss due to pests and diseases, post-harvest losses and fluctuating prices are causing declining area and production of spices in the State. Massive rehabilitation and revival programme is needed to enhance the productivity.

3.1.35 Food crop production: Rice is a socially and hydrologically important crop of Kerala. The wet humid tropical climate of Kerala is conducive to the cultivation of rice and traditionally rice occupied a prime position in Kerala's agriculture. However, area under paddy has been declining over the years, with a possibility of extinction of rice farming in the state on a long term perspective.

3.1.36 Intensive efforts need to be taken to arrest further conversion of paddy lands so as to retain the existing paddy area and at the same time, bring more fallow land under cultivation, promote lease land cultivation and also convert sizable area from single crop to double crop and double to triple crop. The current productivity of 2.30 t/ha has to be increased to 4.0 t/ha so as to achieve the production target. This increased productivity could be achieved through popularization of SRI, regional rice development projects on AEU wise, risk management, plant health and water management strategies and popularisation of appropriate rice hybrids in larger areas

and promotion of scientific rice farming through group approach coupled with remunerative procurement price.

3.1.37 The production of vegetables in the State is not sufficient to meet the requirement. The Vegetable and Fruit Promotion Council, Department of Agriculture, State Horticulture Mission and Local governments are involved in the promotion of vegetables. By the end of 12th Five Year Plan, the requirement of vegetables for the state is estimated to be 38.62 lakh tons based on population projections. Within the limitations and situations that prevail in the state, a wide variety of vegetables are grown in Kerala. Vegetables are cultivated in 31,449 ha, with 50% of the cultivation confined to Palakkad, Idukki, Malappuram and Kollam districts. The production of vegetables in the state is estimated as 8.25 lakh MT taking into account the productivity as 12 MT/Ha. Efforts are being taken to minimize the gap through concerted action on a cluster approach model, need to be more intensified to increase the vegetable production. Besides extending the area under cultivation in traditional areas, specific strategies are to be taken up to promote vegetable cultivation giving importance on safe to eat concept from the health aspect of producers and consumers, by advocating the integrated nutrient and pest management principles of cultivation.

3.1.38 Natural Resource Management: Extensive deforestation, intensive cultivation and unscientific developmental activities in the state have resulted in deterioration of natural ecosystems, accelerated run off, soil loss along with nutrients, hydrological effects and productivity loss. Intensive cultivation often with incorrect soil and crop management practices have given rise to heavy loss in soil quality. Organic manure application has been greatly neglected in the state in recent years due to lack of availability and high cost. This may have an adverse effect on soil structure thereby altering the soil quality parameters. Imbalanced or excessive use of chemical fertilizers have created imbalances in plant available nutrient status in the soil. The practices like liming which can rectify acidity are not given enough attention due to scarcity of liming materials. All these have affected the productivity of Kerala soils.

3.1.39 Kerala is blessed with 44 rivers and an average annual rainfall of more than 300 cm. Large-scale deforestation in the Western Ghats and introduction of plantation crops in highlands replacing the natural vegetation reduced the storage capacity of soil and resulted in surface soil erosion in watersheds and sedimentation in rivers. This has affected summer flow in rivers and some perennial rivers and rivulets have become seasonal in the last few decades due to large scale land cover changes. In order to conserve the soil, land and water resources, a comprehensive action plan has to be evolved for natural resource management. This should be followed up with necessary statutory regulations and institutional mechanisms to ensure the conservation of precious natural resources. It is essential to emphasis on AEU based approach for conservation and management of natural resources in a systematic manner.

3.1.40 Need for AEU wise technology packages: The package of practices recommendations developed for the state has got a general application does not often addresses the regional variations in crop production potential and constraints. Since the Agro Ecological Unit wise studies shows distinct intra unit variations with respect to crop yield specific package mitigating the yield barriers in each AEU should be developed to address the yield gap and to enhance the general productivity of the AEU in match with the highest productivity obtained from the AEU

3.4.41 Soil Resource Management is another issue to be addressed at the AEU level. Wide spread deficiency of micro nutrients and other major nutrients are observed in several Agro Ecological Units. Specific soil ameliorating strategy has to be developed and recommended for each AEU and AEU wise recommendation of manures and fertilisers need to be developed for realising this objective.

3.1.42 Technology Refinement is another aspect to be addressed while developing an AEU wise package. Though traditionally and other wise different Farming Systems are practiced in different AEU's of the state the gap in technology exist which should be addressed to reap maximum benefits. The aspects like development of varieties suited to each AEU, addressing AEU specific issues, technology package for optimum productivity in each AEU, soil resource and fertility management etc. are some of the issues to be addressed under Technology Refinement.

3.1.43 Productivity of crops: The productivity of most of the crops cultivated in the State is very low. The prevalence of the debilitating coconut root (wilt) disease, existence of a large number of senile and unproductive palms and growing of coconuts in unsuitable areas and lower investment due to inadequate incentives are the major reasons attributed to the low productivity of coconut compared to other states or countries. The productivity of coconut over the past few decades have been almost stable with slight improvement in the current decade. The productivity of pepper has improved since 1980s and the present pepper productivity is still very low compared to other countries. In the case of cashew, inspite of operating special schemes for expansion of area, the productivity has been steadily declining during the last two decades. Kerala has a substantial share in the four plantation crops, viz, rubber, tea, coffee and cardamom. In the plantation segment, rubber is the only crop which could maintain steady and stable performance in productivity. The stabilization and augmentation of productivity assume critical importance, given the limited scope for increasing area under cultivation of various crops. The average productivity of major crops over the past five decades is shown in Table 3.5.

Table 3.5
Average productivity of major crops

Name of Commodity	(Kg/ha)					
	1970-71	1980-81	1990-91	2000-01	2010-11	2012-13
Rice	1477	1587	1942	2162	2452	2577
Coconut*	5536	4618	5239	5980	6862	7265
Cashew nut	1122	580	888	718	793	728
Pepper	213	264	278	301	263	547
Cardamom	26	55	52	184	192	246
Tea	1103	1402	1827	1876	1545	2085
Coffee	430	634	475	833	773	799
Rubber	439	590	800	1222	1442	1467

Source: Department of Economics and Statistics

* nuts/ha

3.1.44 Increase in production would be possible mainly from improvements in productivity through the use of location specific technology generation and adoption and modernisation of agriculture.

3.1.45 Revitalization of agricultural extension services: Agricultural Technology Management Agency (ATMA) was established as an autonomous registered society in each district to serve as the focal institution for coordinating agricultural extension activities of line departments within each district. The diverse nature of the state with its wide variety of agro ecological units and broad range of socio economic condition requires location specific extension and development approaches. The focus of extension implemented under T&V was on transfer of technology for the improvement of productivity. Eventhough transfer of technology still has relevance, agricultural extension is seen to have wider role by developing human and social capital, organizing farmers and producer groups, promoting convergence models for livelihood security, promotion of farmer innovations for addressing local problems and delivery of services. Along with advisory services, the mechanism for delivery of services for farmers is also combined to improve the technology adoption and livelihood of small and marginal farmers in the State through the newly introduced modified extension initiatives under LEADS, ATMA plus and Agro service centres. Agricultural extension worldwide has been transforming in response to various challenges and developments. They can play the boundary spanning role and help link farmers to various technical and non-technical services and markets. It is recognized that integrating information with supporting services and inputs is important and will have a greater effect in addressing the extension gaps in Agro Ecological Units. New responsibilities of extension services in the State will demand a more inclusive paradigm for extension combining advisory services with service support.

3.1.46 Service delivery for agriculture: Extension messages are often not accompanied by the availability of physical inputs. Government extension system has been criticized since long for not delivering the production inputs in time to the places where they are needed and in the right quantities and qualities. There is inherent inefficiency in the performance of the agricultural produce marketing. The most important but limiting factors for the development of agriculture of the State comprises of inadequate services of production units, marketing of inputs and outputs, mechanization and labour support groups. The relevance, efficiency and effectiveness of the agricultural extension system are also contingent upon these factors. Agricultural service primarily addresses the farmers and activities of crop production both annual and perennial crops, animal production and their natural resource base. These activities also include backward and forward linkages. Agricultural services facilitate access to and use of factors of production. With these objective agroservice centres have been established at block level in 2012-13 in the State. Delivery of services covering mechanization, labour support, input and marketing support are expected to be addressed through the agroservice centres in association with extension delivery through ATMA and ATMA plus. It is also envisaged to set up laboratories for soil testing as well as production units for biocontrol agents through the agroservice centres. Services also contribute to strengthening the assets of farmers and hence adapting and sustaining their livelihoods in a changing context. This context changes continuously and services are even increasingly becoming important.

3.1.47 The role of co-operatives will be expanded to support agriculture development through backward and forward integration for service delivery.

3.1.48 Small and marginal farmers lack access to major agricultural services from institutional sources in the state. During 12th plan, it is proposed to establish agroservice centres under the leadership of block panchayats and co-operatives coordinated by the department of agriculture for the improved service delivery. The block level office of the Assistant Director would be equipped to implement large scale projects focusing on service delivery. Large scale mechanisation will be taken up through the Agro service centres.

3.1.49 Strengthening of Krishi Bhavans: A refocus of the functioning of the Krishi Bhavans established at the panchayat level towards improved extension activities, soil resource management, introduction and support of modern technologies, quality project preparation and local level database generation is proposed to develop these offices as technical knowledge hub of the panchayat for the local economic development.

3.1.50 New technologies: New technologies like biotechnology , high tech agriculture and precision farming will be strongly promoted and encouraged through extension.

3.1.51 Organic farming: Strengthening of organic farming covering quality control of inputs, appropriate institutional mechanism for certification and marketing would be supported. The areas suited for organic farming need to be supported for complete coverage under organic farming in a phased manner.

3.1.52 Soil health management: Based on soil studies conducted in all parts of the State, use of micro nutrients, such as Boron and Zinc will be promoted where necessary. The need based nutrients will be popularized based on the Panchayat wise nutrient management plans. Adequate soil testing facilities for micro nutrients will also be established. Special projects for food security targeting to increase rice production by 25 percent and vegetable production by 50 percent from the base level and homestead farming were launched in 12th plan. Protected cultivation techniques are now available for growing cut flowers and vegetables. It has enabled farmers to produce vegetables in off season. Scaling up of protected cultivation with appropriate backward and marketing linkages would be introduced for improving production of vegetables.

3.1.53 Risk management: The climate risk needs to be addressed for the sustainability of Agriculture. Innovative insurance products, risk management funds as well as climate change adaptation strategies are to be developed for the support of small and marginal farmers. Agro ecological zone wise weather prediction as well as advisories is essential to move towards climate adaptation. Weather advisory services are to be developed for various locations for dissemination. Mechanisms for the price risk management also needs to be put in place.

3.1.54 Basic infrastructure for inputs and marketing: Strengthening of farms, seed authority, markets, organic input production centres, laboratories and quality control systems are to be supported. The markets lack basic infrastructure at many places. Cold storage units are needed in the markets where perishable commodities are marketed. The market infrastructure, improving market information system and use of ICT, institutional mechanism and promotion of successful models of marketing are required to be strengthened.

3.1.55 Strengthening of participatory and adaptive research: The participatory and adaptive research has not received adequate thrust in the state. A suitable system with the support of KAU and other research institutions and the department of Agriculture needs to be developed for the coordination and execution of participatory research in various agro ecological zones. The involvement of farmers is essential in selected technology development.

3.1.56 Location specific technology development: The NARP system implemented in nineties has established a number of zonal stations. The revival of zonal stations is essential for the development of location specific research. The improvement in productivity is possible mainly through location specific research. Future agriculture development rests on the strength of location specific technologies

3.1.57 Credit support: Incentives for the prompt repayment of credit, credit revolving fund, credit risk fund and other low interest supporting credit assistance is required for the expansion of credit utilization. Kissan Credit Cards (KCC) may be issued to all farmers. Zero percent credit extended to paddy farmers has to be extended to all food crop producing farmers in association with Cooperation department. Interest subvention for investment credit from livelihood angle to be explored.

3.1.58 Value addition: Value-addition projects will be given special focus and existing central schemes will be used to supplement State Plan resources. It is proposed to revitalize the Small Farmers Agribusiness consortium for implementing value addition projects.

3.1.59 Human development of farmers: Apart from addressing agriculture, an integrated approach for addressing the requirement of farmers in health, education of their children and housing in combination with suitable counseling could be considered for implementation through convergence of various schemes. Compartmentalization of implementation of schemes accentuates the agrarian crisis.

3.1.60 Plan implementation: The simplification of procedures in the implementation of schemes also needs priority, focusing on simplification of procedures and transfer of subsidies through banks. Adequate emphasis is also required to address implementation issues for improved delivery of project outputs. Rationalisation of schemes and concentration in major schemes for improved delivery is required. Larger umbrella schemes are proposed to be considered in 12th plan. District and block level convergence mechanism under the leadership of Panchayati Raj institutions for improved delivery of outputs will be ensured. The farmer organizations and groups like pepper samithies, kera samithies, padasekhara samithies and other similar groups need to be revived for improving the efficiency of implementation as well as to refocus on farmer centered schemes. Subsidies and assistance will be released directly to the bank accounts of farmers and procedures simplified. Schemes under implementation in agriculture will be merged to avoid proliferation and synergized with RKVY and other Central schemes to ensure maximum flow of funds from all sources.

Twelfth Plan Outlay

Agricultural and Allied Sectors

3.1.61 The proposed Outlay for 12th Five Year Plan and Annual Plan 2012-13 and 2013-14 are given in Table 3.6.

Table 3.6

Proposed outlay for Twelfth Five Year Plan and Annual Plan 2012-13 & 2013-14

(₹ in crore)

Sl. No	Head of development	12 th FYP Proposed Outlay	Outlay 2012-13	Outlay 2013-14
1.	Crop Husbandry	1950.00	272.99	296.20
2.	Soil & Water Conservation	478.00	67.00	46.00
3.	Animal Husbandry	1508.00	211.17	260.25
4.	Dairy Development	250.00	35.00	47.65
5.	Fisheries	1014.00	142.00	157.80
6.	Food Storage & Warehousing	4.00	0.50	0.50
7.	Agricultural Research and Education	393.00	55.00	60.00
8.	Investment in Financial institutions	4.00	0.50	0.50
9.	Co-operation	443.00	62.00	75.00
10.	Agricultural Marketing & Quality Control	357.00	50.00	27.35
11.	Other Programmes	2430.00	340.25	438.26
	Total	8831.00	1236.41	1409.51

Agriculture

Key initiatives of the first two years

3.1.62 The farmer registration as well as e-payment system had been initiated during 2012-13. State had taken a major initiative to enact Right to Service Act in 2012 to notify services within which these services are available to citizens. Soil testing, planting materials, various financial assistance, extension support and other important services are included in the notified services.

2012-13

- Initiated farmer registration and E-payment system introduced for providing assistance to farmers
- Agro service centres started in 35 blocks through the Department of Agriculture and another 40 Farmer Service Centres through Co-operation department
- Hi tech agriculture focussing on polyhouse based vegetables and flower production and open farming initiated
- Steps initiated for the establishment of two rice bio parks and coconut bio park
- Comprehensive vegetable development project with focussed activities in 55 blocks. Physical target oriented implementation at panchayat level initiated.
- Mobility support provided to Krishi Bhavans and blocks
- Restructured procurement initiated for coconut

- Paddy procurement price increased and streamlined the procurement operations in all districts
- Prepared Strategic Research and Extension plan for 12th plan in all districts for streamlining implementation of restructured extension system
- Online monitoring of schemes initiated
- Physical target oriented implementation at panchayat level initiated for vegetable development
- Organic farming project launched in Wayanad and Kasaragod districts
- Pepper rehabilitation project in Wayanad was initiated
- Per hectare support for paddy cultivation increased to ₹4500 from ₹1500
- Initiated implementation of Wayanad package
- For achieving sustainable agricultural production by ensuring better remuneration for farmers, development of value addition and agro processing is a crucial area. Two incubation centres at NIIST and CTCRI for value addition and initiated implementation of value addition projects through SFAC.

2013-14

- Comprehensive vegetable production project expanded and new components like popularization of biocontrol agents, establishment of lead clusters and block level federated organizations in selected blocks and micronutrients demonstration initiated for increasing productivity.
- A new approach of Crop Health Management is initiated to bring together management towards sustainable ecosystems and peoples health through Good Plant Protection Practices (GPPP) a systematic pest surveillance project was initiated
- Hybrid coconut seedlings production initiated
- Pension for small and marginal farmers approved
- E payment system was made fully functional
- Organic farming project was expanded
- ATMA plus model of extension system was introduced by integrating ATMA, LEADS and new initiatives identified through SREP. Promotion of integrated farming systems, farmer technology development, preparation of success stories, identification of researchable issues etc. are newly introduced.
- Model Panchayat extension plan prepared for 14 Panchayats and Farmer extension organization was established in 14 blocks
- Preparation of Monthly Technology Advice was streamlined in 14 districts
- Procurement of coconut was initiated through Krishibhavans
- Nutrient management plans covering micro, macro and secondary elements was prepared for 700 Panchayats

- Panchayat adoption for soil testing was expanded in 14 more Panchayats and capacity building programme was introduced. Monitoring of soil health cards introduced
- Application of lime for correcting soil acidity was initiated in Wayanad district on pilot basis
- Hitech agriculture was expanded to more areas
- Strengthened infrastructure base of farmers markets established through VFPCCK

Major Initiatives of the Twelfth Plan of Govt. of India

3.1.63 The growth rate of GDP in agriculture is targeted at 4 percent in 12th plan against the XIth Plan achievement of 3.3%. The improvement in growth in agriculture in the country during 11th plan period is mainly due to focused plan interventions like National Food security Mission on selected districts covering rice, wheat and pulses, introduction of RKVY with an outlay of ₹25000 crore (expenditure-₹22426 crore) with complete flexibility to states, focusing on yield gaps and productivity and indirectly focusing on agro climatic planning like focus to Eastern India, consolidation of interventions in National Horticulture Mission (released ₹5840 crores to states in 11th Plan), and thrust on extension through ATMAs with an additional plan support for 21000 posts for extension to address acute shortage of manpower in states for extension after the completion of T&V system of extension.

3.1.64 However growth performance of agriculture has been weak in areas with high land productivity in Punjab, UP, WB, Kerala, J&K and HP. The high productivity of Kerala, HP and J&K where high productivity reflect high value cropping pattern based on horticulture including plantation crops. These states together contribute about 35 percent of national agricultural output from 20% of arable land. Special plan support for sustaining and improving the agriculture in high productivity areas also could be considered in 12th plan like replanting of senile gardens, technology application, pests and disease management etc.

3.1.65 Imbalances: Emerging imbalances are highlighted like subsidies Vs investment, nutrient imbalances etc. Budgetary subsidies increased from 4.1% of agricultural GDP in 10th plan to 8.2% in 11th plan, while public investment in agriculture is only 3 % in both the plan periods. Investment in agricultural research is only 0.7% of agricultural GDP. The shifting of subsidies to investment is argued for increasing land productivity. Another imbalance reported is on nutrients. The recommended national NPK ratio is 4:2:1 while significant distortions are reported which is highly detrimental to soil health and productivity. This is true for most of the states.

3.1.66 Intermediate inputs: Growth in intermediate inputs has accelerated steadily reaching 4.3 percent per annum during the Eleventh plan, which was much higher than the growth of output and over twice the growth rate intermediate input use during 1981-97. The annual growth rate in value of fertilizers and pesticides was 3.90% in 9th plan, 4.8% in 10th plan and 6.7% in eleventh plan. Agricultural growth became more input intensive. This will result in shrinkage of profitability without adequate increase in prices of outputs. It is suggested to relook policies relating to inputs especially fertilizer and power.

3.1.67 Marketing: The limited success in reforms and initiatives in marketing is admitted. The need of additional investment in infrastructure is argued. Again FDI in

retail is supported to solve some of the back end issues related to modernizing agricultural markets. The proposed RKVY window for public-private partnership for Integrated Agricultural Development (PPPIAD) for states to facilitate large scale integrated projects for aggregating farmers and integrating agricultural supply chains. This is again suggested as a concern as public subsidy to contract farming.

3.1.68 Farmer producer organizations: Strengthening of producer organizations is identified as a strategy. We have also identified this strategy and schematic support for social capital development to a very limited extent has already been included in different schemes in the State like vegetable development, pepper development, rice, coconut, ATMA etc.

3.1.69 The need of strengthening and importance of Farmer producer organizations are argued in detail. But no schematic window is provided. Social capital development and social engineering are important for the development of unorganized small and marginal farmers. This is an area where outside support is needed beyond departmental way of implementing schemes.

3.1.70 Credit: During Eleventh five year plan the achievement in credit flow in agriculture in 2011-12 was ₹5.11lakh crore and target in 2012-13 is ₹5.75 lakh crore. In 12th plan ₹8 lakh crore per year is targeted as against an achievement of ₹4.68 lakh crore in 2010-11. However agricultural credit continues to neglect investment credit and investment credit flow is dwindling despite increase in total credit flow to agriculture. Separate target for investment credit along with target for total credit flow is also required coupled with a separate interest subvention support for investment credit.

3.1.71 Missions in 12th plan: A number of missions are mentioned in the document like sustainable agriculture mission, Oil seeds and oil palm Mission etc. This is apart from Horticulture mission. More clarity is required on the objectives, funding etc. Separate missions are proposed for seeds, Farm machinery and extension are proposed under the National Mission on Extension and technology management. The following missions are proposed viz. (1) National Food Security Mission (2) National Horticulture Mission (3) National Mission on sustainable Agriculture (4) National oil seed and oil palm Mission and (5) National Mission on Agriculture extension and Technology.

3.1.72 RKVY: The outlay earmarked under RKVY during 11th plan was ₹25000 crores and the expenditure reported was ₹22426 crores in the five year plan period. An amount of ₹63246 crore is proposed for the 12th plan under RKVY. RKVY has supported state governments in a significant way through the allocation and flexibility allowed to states. However out of this outlay 40% is earmarked for RKVY infrastructure (₹25300 crores). RKVY is a 100% grant to states. Under the infrastructure component Private- public partnership is proposed for Integrated Agricultural Development (PPPIAD) for states to facilitate large scale projects led by private players. It is suggested that 50% project cost for the infrastructure part led by private sector will be funded to private sector by the state governments. Here separate state specific guidelines for the infrastructure component under RKVY is required.

Critical gaps to be addressed in the next three years

3.1.73 The critical gaps to be addressed in the remaining years of 12th plan are shown below:

- Institutionalization of vegetable clusters for augmenting vegetable production
- Strengthening farmers market as well as strengthening block level sanghamathries for the procurement and marketing of vegetables including setting up of bio pharmacy
- Sustainable cultivation of fallow lands for food crops
- Improving the adoption of hitech agriculture and open precision farming with technical and marketing support
- Infrastructure support to farms for the production of planting materials, infrastructure to agroservice centres for improved service delivery like setting of labs, nurseries, biopharmacy etc, infrastructure support to block level ADA's office and Krishi Bhavans and extension wing, laboratories and training centres
- Development of plant clinics in all the Panchayats and pest surveillance system for crop health management
- Setting up of an extension wing for the strengthening of extension system including field visit oriented extension in all districts. Improved ICT application including setting up of call centres.
- Mainstreaming soil health management in crop production
- Institutionalisation of organic farming with certification and marketing
- Strengthening market infrastructure including development of value added market intelligence service
- Social capital development for strengthening various group based activities

Physical targets and deliverables of the plan

3.1.74 The key deliverables of the plan apart from the physical targets are shown below:

- Complete registration of farmers and institutionalization of E payment system
- Revitalization of soil health management for improved productivity in all Panchayats
- Development and institutionalization of pest surveillance system for crop health management
- Establishment of vibrant farmer friendly field visit oriented extension system in all Panchayats
- Institutionalization of Good Agricultural Practices
- Popularisation of new and latest technologies in all panchayats for improving productivity and income of farmers
- Establishment of service delivery centres in all blocks
- Achieving self-sufficiency in vegetable production to about 60 % in the plan period and full self-sufficiency in 13th Five year plan
- Vibrant food crop and cash crop based agricultural economy
- Ensuring viability of farming and livelihood security of all farmers

3.1.75 The major Physical targets proposed for the Twelfth Five Year Plan, 2012-13&2013-14 are indicated in Table 3.7.

Table 3.7

Major Physical Production Targets for Twelfth Five Year Plan, 2012-13&2013-14

Sl. No	Commodity	Unit	Target Proposed 12 th FYP	Target 2012-13	Target 2013-14
1	Rice	Lakh tonnes	6.50	5.75	6
2	Coconut	Million nuts	6750	6250	6575
3	Banana and other plantain	Lakh tonnes	15	10	11
4	Vegetables	Lakh tonnes	13.50	9.75	11
5	Pepper	Lakh tones	0.80	0.60	0.65
6	Cashew nut	Lakh tonnes	0.75	0.45	0.50
7	Milk	Lakh tonnes	40	29	31
8	Egg	Million numbers	2530	1940	2100
9	Inland Fish Production	Lakh tonnes	2.00	1.50	1.65
10	Marine Fish Production	Lakh tonnes	6.00	5.5	5.8

3.2 Soil & Water Conservation

Recommendations of the Working Group

3.2.1 The following are the important recommendations of the Working Group.

- Development of model watersheds in all blocks/agroecological zones
- Implementation of watershed projects jointly with Forest department
- Implementation of block level watershed plans
- Avoiding multiple agencies in implementation, rationalizing disparities in selection of watersheds, treatments, funding etc.
- Introduction of monitoring and evaluation including impact assessment

Approach, Strategy and Thrust Areas

3.2.2 Comprehensive watershed management projects will be implemented focusing on selected blocks through a convergence approach with the support of soil conservation, LSG Institutions, WGDP, HADA, Forest Dept. and Scientific institutions for the conservation and management of natural resources for improved productivity. Model watersheds are proposed in each agroecological units during 12th five year plan. Watershed development projects are proposed for implementation jointly with Forest department so as to ensure complete coverage of treatments in the watershed.

Twelfth Plan Outlay

3.2.3 During Twelfth Plan an outlay of ₹478 crores was proposed for Soil and Water Conservation sector. The outlay proposed for 12th Plan has been increased to 211% over 11th Plan outlay.

Key Initiatives of the first two years

3.2.4 During 2012-13 an amount of ₹ 67 crore was provided under Soil and Water Conservation of which ₹ 33.42 crore (50%) was utilized. An amount of ₹46 crore was earmarked for 2013-14. The subsector wise amount earmarked is given in Table 3.8.

Table 3.8
Subsector wise outlay during 2012-13 and 2013-14
(₹ in lakh)

	2012-13		2013-14
	Outlay	Expenditure	Outlay
Soil Conservation	6200	2855.38	4148
Soil survey	150	145.92	187
Land Use Board	350	340.79	265
Total	6700	3342.09 (50 %)	4600

2012-13

- Under the RIDF assisted soil and water conservation programme an area of 7970 Ha. was covered by utilizing an amount of ₹1600 lakh
- 58 reports and 1401 maps were prepared through soil informatics and publication cell
- The detailed soil survey of panchayats of Thrissur and Wayanad were carried out during this period
- Digital Atlas was prepared for 77 LSGIs of Kottayam district. District level Data Bank on natural resources of Thiruvananthapuram and Kottayam districts were published and handed over to concerned district Panchayats. Developed EGIs based data repository for infrastructure asset management for selected 10 LACs.
- Watershed Action Plan prepared for 20 LSGIs
- A web based LRIs was developed for Palakkad and Ernakulam districts. Thematic layers had prepared for developing E-GIs of Kannur, Wayanad and Kottayam districts.

2013-14

- Prepare spatial data on Land use Land cover of 3 districts

- Land use decision model for 5 Grama Panchayats
- PRM demonstration projects in 10 LSGIs.
- Preparation of NRM Plan for Gayathri Watershed
- A web based LRIs of 95 LSGIs of Thrissur district
- Detailed soil survey in Thrissur and Wayanad district
- Pest and disease database system

Critical gaps to be addressed in the next three years

- Setting up of a model training institute for watershed based training
- Comprehensive project for protection of land slide areas
- Implementation of block level watershed plans in drought affected areas
- Development of land resource information system for all districts
- Preparation of Panchayat wise soil survey reports in all Panchayats

3.3 Animal Husbandry

3.3.1 Livestock in Kerala is one of the fastest growing sectors in the State's rural economy and is expected to emerge as an engine of agricultural growth in view of rapid growth in demand for animal food products. The share of animal products in the total food expenditure is increasing both in urban and rural areas. However for achieving a growth rate of 5 to 6% would require addressing challenges of shortage of feed and fodder, health care facilities etc.

3.3.2 Livestock sector is extremely livelihood intensive in Kerala and represents the livelihood of majority of the poorest among the farmers. It is essential for the state to develop and expand the livestock sector primarily to sustain, enhance and generate livelihoods. The agro ecological zone and Agro ecological unit based approach for the development of livestock sector is essential for augmenting income of the farmers.

3.3.3 The dairy sector in Kerala could maintain a higher growth rate of 4.2 percent in the 1990s, compared to the national level of 4.2 percent, in spite of a weak fodder base. During the period 2002-03 to 2006-07 (Xth Plan Period), a negative growth rate was recorded in the milk production of Kerala (-4.6%) from 3.7 percent in IXth Plan and at all India level the growth rate declined to 4 percent from 4.3 percent in IXth Plan period. For the period 2007-08 to 2011-12 a recovery has been marked in milk production of Kerala with an average annual growth rate of 5.1 percent. This is reasonably high rate compared to 4.4 percent at all India level.

3.3.4 Total milk production in the state was 27.18 lakh tonnes in 2001-02 (final year of 9th Five year plan) which declined to 21.1 lakh tonnes in 2004 and increased to reach 27.2 lakh tonnes in 2011-12. Contribution of Kerala to national milk production which was 2.4 percent during 2003-04 showed a declining trend and reached to 2.1 percent during 2011-12.

3.3.5 Egg production in Kerala achieved an average annual growth rate of 7.4 percent during 2007-08 to 2011-12 period. At all India level, the growth rate was 5.3 percent during the period. Details of average growth rate of Milk and Egg production are given in Table 3.9.

Table 3.9
Average Annual Growth Rate of Milk and Egg Production

Sl. No.	Year	Milk		Egg	
		Kerala	India	Kerala	India
1	2002-03 to 2006-07 (X th Plan Period)	-4.64	3.99	-4.86	5.59
2	2007-08 to 2011-12 (XI th Plan Period)	5.11	4.40	7.40	5.27
3	2011-12	2.76	4.97	1.14	5.52

Source: Animal Husbandry Department

3.3.6 The milk production was 27.18 lakh tonnes in 2001-2002 and declined to 20.63 lakh tonnes at the end of 10th plan (2005-06). During the 11th Five Year Plan it showed an increasing trend (from 21.19 lakh tonnes to 27.16 lakh tonnes).

3.3.7 The gap between the production and requirement of egg is increasing at an alarming rate. Concerted efforts of the State to increase the egg production have begun to show signs of improvement. Poultry farming for egg production with purchased feed are uneconomic in Kerala. Poultry rearing on commercial lines is therefore largely confined to broiler production. The egg production which was 2054 million in 1999-2000 continuously declined till 2005-06, but began to increase in 2006-07 and that trend maintained in succeeding years. Compared to previous year egg production increased from 1686 million numbers to 1705 million in 2011-12; an increase of 1.1 percent over the previous year. The per capita availability of egg per annum in Kerala during 2011-12 was 51 numbers compared to 50 numbers in 2010-11.

3.3.8 Though meat production is increasing over the years, it cannot cater to the demand fully. Poultry meat production increased from 16153 tonnes in 2010-11 to 1,84,000 tonnes in 2011-12 and meat other than poultry meat from 108398 tonnes in 2010-11 to 242000 tonnes in 2011-12 registering an increase of 1039.1 percent and 123.3 percent respectively over the previous year. The per capita availability of meat per day in Kerala during 2011-12 was 35 gms (Poultry meat 15 grm and meat other than poultry meat 20 grams). Kerala has not exploited the potential of meat production. Regional projects with appropriate buyback arrangement have to be prepared for the improvement of meat production in the state.

3.3.9 Backyard poultry system has good potential in the state where in the cost of production is less and also help to convert unconventional feed in to value added protein. A comprehensive project needs to be prepared in association with local governments for the promotion of backyard poultry with appropriate forward and backward linkages to achieve the full potential of the sub sector to consolidate the ongoing schemes implemented by the KSPDC and the Department of Animal Husbandry.

3.3.10 Fodder and feed development is of prime importance in reducing cost of production and optimizing economic return from the dairy activity. During 2011-12, under department programmes perennial fodder cultivation was extended to 2599 ha and short term crops were cultivated in 365 ha, resulting in the additional production of 5.5 lakh M T of fodder in the state.

3.3.11 Kerala Livestock Development Board (KLDB) is involved in the production and distribution of frozen semen. Compared to 2010-11, semen production increased from 16.9 lakh doses to 24.1 lakh doses during 2011-12. The distribution inside and outside the State increased from 17.4 lakh doses to 17.6 lakh doses and from 3.0 lakh doses to 5.3 lakh doses respectively. The number of AI centres in the state as on 31-03-2012 was 2986. The number of inseminations done during 2011-12 was 14.85 lakh and calving recorded was 4.1 lakh. This is against 3.7 lakh calving recorded out of 13.9 lakh AI during 2010-11. The average number of inseminations needed for producing one calf is 3.6. The quality of AI is not improving and so measures to improve the quality of semen supplied to be taken up immediately.

3.3.12 Special Livestock Breeding Programme (SLBP): The calf rearing programme by subsidizing cattle feed for rearing cattle up to 32 months along with health cover and insurance has been under implementation since 1976 onwards. During 2006-07 the scheme was extended to buffalo calves also as a measure to curtail the drastic reduction in the buffalo population. During 2012-13, 74371 calves were enrolled.

Approach, Strategy and Thrust Areas

3.3.13 Strengthening of veterinary services is essential to meet the growing requirement of veterinary support. The expansion of the door step veterinary services is essential for the development of animal husbandry and dairy sector in the state. It is suggested to introduce door step veterinary services in selected blocks in all districts during the plan period. Enhanced and sustainable productivity through improved animal health should be one of the major strategies for livestock development. Technology supported livestock development will be a key element that ensures nutritional security, livelihood of rural poor and women empowerment. The disease diagnostic facilities need to be upgraded. The key infrastructure support for strengthening hospitals, laboratories, development of milk routes for procurement, hatcheries and other infrastructure are essential pre requisites for livestock development.

- The agro ecological zone and Agro ecological unit based approach for the development of livestock sector is required for augmenting income of the farmers. It is essential to focus on projects for attaining self- sufficiency in milk and egg production through a convergence approach with the schemes of local governments.
- The primary focus in livestock development should be on enhancing seed production, particularly in respect of pigs, goats, rabbits and ducks, where there is a marked shortage in availability.
- The strengthening of feed and fodder production is a prerequisite for the development of livestock sector in the state. Attention is needed for large scale cultivation of fodder crops to improve animal nutrition. Adequate availability of quality fodder is essential for enhancing livestock productivity.
- Public sector lending in livestock sector is abysmally low and inadequate credit support leads to poor capital formation. The availability of adequate credit at subsidized rate has to be ensured.

Twelfth Plan Outlay

3.3.14 An outlay of ₹1508.00 crore was proposed for Animal Husbandry sector during the 12th Five Year Plan as against the approved outlay of ₹490.76 crore for the 11th Five Year Plan. There is 207 percent hike in the proposed outlay over the 11th Five Year Plan.

Key initiatives of the first two years

3.3.15 The key initiatives of the department of Dairy Development and Animal Husbandry Departments in 2012-13 are shown below.

- Door step veterinary services introduced
- Substantial increase in outlay for Special Livestock Breeding Programme (SLBP) has been provided. It increased from ₹9.3 crore to ₹25 crore apart from additional support from Rashtriya Krishi Vikas Yojana (RKVY).
- New cattle feed plants initiated in Kozhikode and Idukki
- New goat and cattle farm in Kasargod
- An amount of ₹10.42 crore has been provided for backyard poultry projects for augmenting egg production
- Establishment of hi-tech dairy complexes at Vithura, Kuriyottumala and Kolahalamedu
- An amount of ₹15.7 crore has been provided for calf protection programme under XIIIth Finance Commission Award Scheme
- Substantial increase in outlays for modernization of dairy co-operatives and milk
- Substantially increased provision for SLBP
- Door step veterinary services expanded to another 20 blocks
- Initiated establishment of cattle feed plant in Idukki

Table 3.10

Source Wise Outlay and Expenditure 2012-13 & 2013-14

Sl. No.	Source	2012-13		2013-14 Outlay
		Outlay	Expenditure	
I	State Plan			
1	NABARD	23.00	2.98	30.00
2	XIII Finance Commission	37.50	37.40	37.50
3	SS to CSS	3.75	3.56	3.00
4	State sector plan	146.92	139.47	189.75
	Sub Total – State Plan schemes	211.17	183.41	260.25
II	Outside state plan			
	CSS	18.05	23.02	16.70
	GRAND TOTAL	229.22	206.43	276.95

3.3.16 The total budgeted outlay during 2012-13 for Animal Husbandry is ₹229.22 crore and expenditure incurred is ₹206.43 crore (90.05%). Under state plan schemes, there is a short fall of ₹27.76 crore in expenditure. Details are given in Table 3.10.

Major Initiatives of the Twelfth Plan of Govt. of India

3.3.17 Livestock contributes 25 per cent of gross value added in the agriculture sector and provides self-employment to about 21 million people. Rapid growth of this sector can be even more egalitarian and inclusive than growth of the crop sector because those engaged in it are mainly small holders and the landless. Growth of livestock output averaged 4.8 per cent per annum during the Eleventh Plan recovering from an average of 3.6 per cent in the Ninth and the Tenth Plans.

3.3.18 Growth of dairying, which is the main constituent of livestock sector though slightly higher than the 4 per cent averaged since 1990, was short of demand. With over 75 per cent of cattle located in rain-fed areas, the major issue is access to feed, fodder and drinking water which is becoming increasingly scarce. The problems of the sector are compounded by growing numbers of unproductive male cattle. Developing a strong fodder base needs intensive effort and innovation in institutional aspects of pasture protection and management. Richer farmers with access to groundwater irrigation can grow irrigated fodder and increase herd size. Poorer livestock owners, dependent mainly on commons and agriculture residues, end up underfeeding the animals. This problem raises questions about the present breeding strategy.

3.4 Dairy Development

Twelfth Plan Outlay

3.4.1 An outlay of ₹250 crore was proposed for Dairy Development during the 12th Five Year Plan as against the approved outlay of ₹67 crore for the 11th Five Year Plan. There is 273 per cent hike in the proposed outlay over the 11th Five Year Plan. Annual Plan 2012-13 earmarked ₹35 crore and expended ₹35.27 (100.77 %). The outlay of Annual Plan 2013-14 was ₹47.65 crore.

Critical Gaps to be addressed in the next three years

- Mobile Veterinary Clinics may be established in needy places based on animal population to cater to the need for emergency Veterinary Care. Step should be taken to formulate Veterinary Emergency Assistance Programme at the earliest.
- The farmer of the state would be assured with livestock population free of all contagious diseases by universal vaccination and necessary step should be taken.
- The farmers of Kerala are to be provided with sex assured animals as a result of the cross breeding programme.
- Infertility of bovine is a major problem affecting the farmer's income in Kerala. Hence a comprehensive fertility management policy for bovines must be put in place.
- Fodder Cultivation should be promoted on a mission mode on a commercial scale to ensure its availability to farmers at affordable cost.
- Area specific mineral mixture for dairy cattle should be formulated and made available to the farmers in order to correct mineral deficiency and effect production enhancement.

- Portable milking machines are to be popularized. The milking machines help in extraction of milk more effectively.
- Strengthening of laboratories and training centres required. Refocussing of veterinary extension is essential for improving productivity of cattle and income of farmers

3.5 Fisheries

3.5.1 Kerala is abundantly rich with marine, brackish water and fresh water resources. These water bodies are inhabited by a wide variety of aquatic fauna and flora and the state occupies one of the foremost position in the aquatic biodiversity. In Kerala fishing industry occupies an important position in its economy and Kerala's share in the National marine fish production is about 20-25%, but its share in the inland production is not that much significant. The marine production in Kerala tended to fluctuate while the inland production showed a sign of improvement. The state has given prime attention for increasing marine fish production during the early five year plans. But the uncontrolled fishing led to the depletion of the fishing resources and it leads to economic marginalization of traditional fishermen. Geographically inland fisheries have great scope in the state have a total area of about 226274 ha of fresh water resources consisting of rivers, lakes, reservoirs, tanks, ponds etc. and a total of 143696 ha of brackish water resources. The state has a potential brackish water area of 65000 ha suitable for shrimp farming. The potential of Kerala in increasing aquaculture production lies greatly in developing cage culture in inland open water bodies and also along the coast. Also fresh water fish culture in 11 Reservoirs under the control of KSEB in an appropriate way by organizing co-operatives of SC/ST/SHGs of fishermen who are residing in the vicinity of those reservoirs. The fisher folk population in Kerala is 10.02 lakh covering 7.71 lakh in coastal area and 2.31 lakh in inland sector and about 74100 people are engaged in fishery-allied activities. The State has 222 number of fishing villages. The fishermen of the state contribute 9% of the GSDP from the Agriculture Sector which gives the significance of the sector to the State economy. The marine fish landing in Kerala during 2012-13 was 5.31 lakh tones and the total fish production in Kerala during 2012-13 was 6.8 lakh tones. Among the states, Kerala occupies the 2nd position in marine production and 4th position in inland production.

Recommendations of the Working Group

- Focused resource conservation measures
- Improvement of basic amenities of Fisher folk
- Optimum utilization of inland resources for agriculture
- Livelihood security projects
- Promotion of responsible and sustainable agriculture.
- Establishment of agriculture villages, Ornamental Fish Villages, Fishermen Villages etc.
- Explore the possibility of 90% grant from NFDB in Urban area or 50% grant from Central Government for Hygiene retail markets
- Total housing for Fisher folk in 12th plan
- Development of women micro enterprises

- Establishment of value added fish production unit
- Interest free loan
- Social awareness, social security and legal support programmes.

Approach, Strategy and Thrust Areas

3.5.2 In the last five year plan, marine fisheries sector has achieved covetous growth in its infrastructure development. Hence the vision in the 12th plan is to ensure sustainable growth of fish and fisheries for nutrition, food security and economic growth by ensuring proper utilization of infrastructure created in the last plan. Special emphasis has to be given to conservation and management of inshore fishery resources, enhancement of off shore marine fish production and maximum utilization of harvested fish and its value addition.

3.5.3 The major issues in the sector are price exploitation of selected stock, ineffective regulation, over increasing fleet size, lack of responsible fishing practices etc. The marine environment has to be revitalized with the introduction of artificial reef to enhance its productivity. Sea ranching can be done in the so designated areas to replenish the over exploited fish stock. Maximum utilization of harvested resources can be ensured for its proper storage, transportation and distribution. Effective preservation of fish quality as per international standards, promote export as well as domestic marketing legislation is needed for the assurance of hygiene and quality in domestic fish marketing. Complete insurance coverage can be provided to all the registered and licensed marine traditional fishing crafts and engines as grant.

3.5.4 The 12th plan programmes have to address areas such that cost of fishing is reduced and fishermen realize better value for their catches by providing better technology and intervention for fishing as well as in marketing. This is possible through better capacity building and the institution building process. The Hygiene condition of the harbours need to be modernized by integrated harbor management societies may be constituted for each harbor. Regarding social infrastructure provision for safe shelter and drinking water, improvement of public health and education facilities and total sanitation and solid waste management, coastal roads etc needs special care and attention. Under the new scheme Model fishing villages, the components viz, sanitation, drinking water and livelihood activities are included. It is suggested to take up the development works in the remaining villages in 12th plan. A comprehensive coastal area development project should be prepared during the 12th plan. Theeramythri and micro enterprises is a good scheme for the marginalized communities for establishing micro enterprises, livelihood venture etc. Panchayat level convergence on SHGs formed under TEAP/TRP of Tsunami Rehabilitation also is proposed.

3.5.5 To improve fish production in inland water bodies a comprehensive programme will be chalked out and implemented. It is possible through by utilizing all available resources, augmenting the aquaculture production and productivity through diversifies and intensive aquaculture practices, ensuring conservation and management of aquatic resources through responsible and participatory approaches. Reservoirs are the most important and promising fresh water resource for fish culture in Kerala. The immense potential bestowed with this could be utilized in the coming years for the enhancement of productivity and fish production of the inland sector. The potential resources of Back water estuaries and river systems are to be suitably utilized for the enhancement

of fish production of the state. In light of the success and popularity of the existing schemes for rotational farming of paddy with fish in pokkali farms and padasekharams of Kuttanadu and kole lands, the extension of this practices to more available wetland systems like Kaipadu in North circle should be encourages for the enhancement of fish production.

3.5.6 Strengthening of hatcheries and seed farms are essential at this point. But the production from the Government hatcheries is far below their installed capacity and many of these have not met with their targeted production and maintain quality of their produce. The State Government hatcheries need to be strengthened to have sustainable level of output to meet the projected demands for seed and also to assist the private hatcheries and seed farms in the 12th five year plan also. The ornamental fish industry is a much promising sector in the inland fisheries. The export potential of the ornamental fisheries may also be suitably utilized for making more income. The programme could be envisaged as an alternative livelihood venture to the fishermen and marginal farmers. Govt. have approved a master plan for increasing the inland fish production of the state to 2 lakh tones over a period of 10 years.

3.5.7 Eventhough our state has only 7% of coastline in the country, there are 11 completed fishing harbours and the works of other 10 harbours are in progressing. Management of commissioned fishing harbours are in unhygienic condition leading to erosion of fish quality and loss of fish except at Munambam. Hence some positive steps may be taken for the improvement of present condition of harbours. Inadequate chill storage facility and poor fish handling on board & at the shore leads to distress sale thereby lower value for catch. No technology adoption is practiced for value addition of trash fish. Schemes like modernization of traditional crafts, insurance coverage to fishing implements, interest free loans etc. have helped to address the specific issues faced by the fishermen in the sector. Quality of seed is another major concern in aquaculture and this needs to be ensured with guarantee and quality control facilities. A mechanism of seed certification involving Fisheries Research Institute, State Fisheries Department and entrepreneurs as a joint venture is recommended to be institutionalized. A comprehensive Coastal area development project will be launched covering infrastructure, housing, sanitation, drinking water and livelihood.

- Action plans for augmenting inland fish production to 2 lakh tones by the end of the plan from 1.17 lakh tones
- Seed production will be enhanced
- Strengthening of post harvest infrastructure like better fish landing and handling facilities, cold chains, storage facilities as well as marketing facilities for the development of the sector.
- Improvement in the production of value added products micro enterprises, credit support and coverage under social security.

Key initiatives of the first two years

3.5.8 The plan outlay during 2012-13 under the sector was ₹142 crore and expenditure was ₹141.02 crore. The outlay for 2013-14 was ₹157.80 crore. The key initiatives of the period are:

- Under the Scheme Model Fishing Villages, initiate action for developing all identified Fishing villages in the 12th Plan by providing minimum infrastructure facilities such as sanitation, drinking water, Electrification and livelihood activities.

So far 45 fishing villages were undertaken under this programme during the last two years.

- Malsya Samrudhi Scheme has launched during 2012-13 for the comprehensive development of inland fisheries covering Fish culture in tanks and ponds, reservoirs, hatchery development etc. During 2013-14 9000 ha of water bodies were brought under aquaculture.
- During the plan period, four new fishing harbors under 75% CSS viz, Arthungal, Vellayil Thanur and Manjeswaram have started.
- The activities of the scheme Theeramythri and micro enterprises have extended for the development of alternative livelihood of fisher folk. During 2013-14, 100 SHGs units and given skill up-gradation training to 1200 units.
- Strengthening the activities of newly established University of Fisheries and Ocean Studies
- Action for the establishment of a New Net Factory at Thiruvananthapuram
- Scheme for the Modernization of Fish markets and value addition. During 2012-13 and 2013-14, establishing a total number of 30 new modern hygienic fish markets.
- During 2013-14, it is proposed to produce 230 lakh fish seeds and 50 lakh shrimp seeds in Government seed farms and hatcheries
- It is proposed to promote 300 units of Ornamental fish units
- Providing safe house to 6000 number of fishermen families in different schemes
- Establishing 8200 individual sanitary latrines to fishermen

Major Initiatives of the Twelfth Plan of Govt. of India

- Inland fish production to be enhanced 2 to 4 times in rain fed water bodies, irrigation reservoirs, natural wetlands or ponds and tanks created by watershed development and Mahatma Gandhi National Rural Employment Guarantee Scheme.
- Implementation of monitoring, control and surveillance as a new programme in the 12th plan, expected to bring more discipline and regulate activities so as to maintain the growth rate in a sustainable manner.
- Providing additional and upgradation of infrastructure for landing and berthing facilities of marine fishing fleet and for domestic marketing
- To organise brood stock production and management facilities in fish seeds in the country. Setup brood banks in each state with one as the central level.
- To promote commercial fish feed mills and indigenously formulated fish seeds with locally available ingredients by supporting private players with enhanced capital subsidy
- To promote adequate infrastructure for disease diagnosis and treatment for fish disease management. There is also required a mechanism at National level with suitable regional locations and build awareness and send alerts to the stakeholders.
- Integrate the two field level agencies of Fresh water Fish Farmers Development Agency and Brackish Water Farmers Development Agency in to a single agency called Fisheries and Aquaculture Development Agency.

- The scope of NFDB would be expanded to include management of fish diseases and creation of related infrastructure
- During the ensuring plan the existing CSS on inland and marine fisheries will be merged with NFDB to facilitate expansions of fisheries through integration of a wide array of activities, focus on inland fresh water fishery.
- In future, fisheries management, proposed sustainable utilization of healthy resources and rehabilitation of threatened resources by habitat restoration and appropriate conservation measures.

Critical gaps to be addressed in the next three years

- A need based work plan from grass root level has to be developed and implemented for the fisheries/aquaculture sector to boost inland fish production and socio economic benefits.
- In view of the targeted increase in production in the state from the present level of 1.2 lakh tons to 2 lakh tons within the 12th plan period, it is essential by boosting inland fish production through increasing the productivity of reservoirs in the state, bringing an additional potential area of ponds and tanks under composite fish culture, additional area of paddy fields under river-fish culture, additional production through cage/pen culture in rivers and back waters etc.
- Aquaculture has to be given increasing attention as a potential area to increase food production and enhancement of food and nutritious security as well as livelihood.
- A liberal subsidy policy is to be adopted for the promotion of diversified aquaculture
- The comprehensive coastal area development project covering infrastructure, housing, sanitation, drinking water and livelihood need to be expanded to more villages.
- Strengthening of fisheries regulations by optimization of fishing capacity
 - Promotion of cage farming in reservoirs and pone waters
 - Total housing for fisher folk in 12th plan
 - Strengthening of post harvest infrastructure like better fish landing and handling facilities, cold chains, storage facilities as well as marketing facilities.
 - Improvement of basic amenities of fisher folk
 - Focusing on livelihood security projects
 - Time bound completion of the long pending fishing harbours

Physical Targets and deliverables of the Plan

- Inland Fish production increased from 1.2 lakh metric tonne to 2 lakh tonne
- The State Government hatcheries need to be strengthened to have sustainable level of output to meet the projected demands for seeds in the Plan period
- Maximum utilization of harvested resources can be ensured by its proper storage, transportation and distribution.

- Effective preservation of fish quality as per international standards, promote export as well as domestic marketing
- Regarding social infrastructure, provision for safe shelter and drinking water, improvement of public health and education facilities.
- Total housing for fisher folk in 12th plan
- The Plan envisages development of 15,000 ha for pen and cage culture of fish and shell fishes with an approximate production of 15000 tonnes annually
- To get fresh and quality assessed fish and fish products to consumers in reasonable price for their catch
- To reduce the production expenditure in aquaculture farms and for improving fish production
- Completion of the works of 4 ongoing fishing harbours viz, Chethi, Chettuvai, Koyilandi and Thalai.
- Strengthening of the University of Fisheries & Ocean studies and completion of the 1st phase of construction works

3.6 Co-operation

3.6.1 Co-operative movement has been identified as an instrument for achieving socio-economic transformation with special focus on rural population and livelihood. Through sustained efforts, co-operatives have made impressive progress in various segments of Indian economy particularly in agriculture credit disbursement, fertilizer distribution, procurement and distribution of agricultural commodities, promotion of consumer activities, dairy, fisheries, handloom, coir etc. The areas where the co-operative sector can play an important role and have opportunities for growth are agriculture credit and marketing, food processing, dairy, horticulture, rural development and poverty alleviation programmes, women empowerment, village and small scale industries and provision of services in rural areas..

Recommendations of the Working Group

3.6.2 The scheme on model co-operatives to be expanded to encourage success models for scaling up.

- Potential and issues of marketing and processing co-operatives needs to be examined specifically to scale up the activities
- Application of technologies in co-operatives to be intensified. Steps may be taken to speed up the introduction of core banking in co-operatives. Alternate technology application at branch level also to be promoted for hassle free credit to people.
- Specialize one Primary Agricultural Credit Society from each block for taking up innovative/large scale activities in agriculture linking with block level office of the Assistant Director of Agriculture. Involvement in block level agro processing, mechanization, procurement etc. may be examined.
- Merging of smaller schemes into larger umbrella schemes
- The role of co-operatives in procurement to be expanded. However professional management has to be ensured

- Establish high tech co-operatives for value addition and agro processing
- COINS may be strengthened to involve in insurance products after appropriate studies and prioritization of areas
- Comprehensive project may be formulated for strengthening co-operatives in the Health Sector with appropriate pro poor pricing strategies
- Reforms in co-operatives
- Human Resource Development / Capacity building
 - A capacity building programme may be developed with partnership with national level institutions for the Department of co-operation
- Large scale projects may be prepared for assistance from RIDF

Approach and Strategy and Thrust Areas

3.6.3 Concrete steps are necessary to revitalise the cooperatives to make them vibrant, democratic organisations with professional management with economic viability. In an increasingly competitive environment, cooperatives will cease to exist unless these can be ensured. The approach and strategies for twelfth five year plan are shown below

- Strengthening of Co-operatives to take up large scale marketing
- Introduction and expansion of Farmer service centres at block level through cooperatives for taking up services like labour support, mechanization, planting material production, biopharmacy, soil testing services etc.
- Reforms in Co-operative sector would be introduced in an effective way
- Restructuring of interest rates for farm loans through cooperatives at reduced rates
- Panchayat level credit plan would be prepared under the leadership of PACS
- Modernisation of cooperatives with automation and ICT application, Expansion of cooperatives in health and education sectors, Promotion of innovative activities through cooperatives.

Twelfth Plan Outlay

3.6.4 An outlay of ₹443 crores is proposed for the development of the Co-operation sector.

Key initiatives of the first two years

3.6.5 Total outlay provided for the sector during the first year of twelfth five year plan was ₹62 crores. The total expenditure incurred during this period was ₹53.92 crores. In order to augment agriculture production and encourage farmers, an amount of ₹10 crore had provided to a new scheme on Farmers Service Centre during 2012-13. During this period 40 centres were established in the selected blocks. The centre will be under the supervision of a co-operative society selected by RCS on the basis of performance at the block level.

3.6.6 The total outlay provided for the co-operative sector is ₹75 crores for 2013-14. The amount is provided for 15 ongoing schemes and one new scheme. An amount of ₹4.25 crore is provided to the new scheme on Assistance to Marketing.

Critical gaps to be addressed in the next three years

3.6.7 The critical gaps to be addressed in the remaining period of the plan period are shown below

- Expansion of farmers service centres to a minimum of 75 blocks including setting up of soil testing laboratories in about 20 FSCs
- Expansion of activities of model cooperatives
- Setting up of speciality cooperatives
- Preparation of Panchayat credit plan along with Panchayat extension plan
- Development of model SC/ST cooperatives
- Follow up and monitoring of utilization of NCDC loans
- Development of laboratories and diagnostics through a network of cooperatives

3.7 Irrigation

3.7.1 In most developing countries, in Kerala too, agriculture is the dominant user of water, accounting for more than 85 percent of all water use. In other words, irrigation plays an important role in the growth of agricultural income of the State. At the same time the greater agriculture water use raises significant issues for water resource management like issues dealing with water scarcity, competing demands from other sectors, irrigation service delivery and system management, water use efficiencies and so forth. The primary objective in coming years will be to balance water supply and demand among users to ensure adequate water for agriculture and sustainable irrigation system management while satisfying other needs. The basic premise of water resource management is that river basins are best managed and developed as an integrated whole. This is always legally and politically complex due to the challenges of allocation between users and between uses. The total annual yield of all the rivers together is 78,041 Million Cubic Meters (MCM) of which 70323 MCM is in Kerala. The surface irrigation constitute major chunk of irrigation infrastructure in the state. 67.29% of the surface water area of 3.61 lakh hectares is constituted by brackish water lakes, back waters and estuaries. There are 18 dams in the state intended for irrigation. Out of this, 13 have storages and 5 are barrages.

3.7.2 In many river basins, use of water for human purposes through investments in water infrastructure for urban, industrial, and agricultural growth is approaching or exceeding the amount of renewable water available. Such over commitment of water resources is caused by a disregard for environmental water requirements, incomplete hydrological knowledge, fuzzy water rights, and politically motivated projects with weak economic rationale. The source wise dependence by rural households for domestic water supply dependent on traditional groundwater system is 80%, 10-15 % use piped water supply systems and 5% use traditional surface and other systems. The results are overbuilt over river basins and basin closures, the situation where more water is used than is environmentally desirable or, in some cases, than is renewably available.

3.7.3 The groundwater level receding drastically during the summer months and drying up of wells are common features of the groundwater levels in many parts of

Kerala. The challenge for water management in agriculture is to do more with less water in river basins that are already stressed and to provide much stricter scrutiny by decision makers and civil society of new infrastructure development in relatively open river basins to avoid over commitment of water resources.

3.7.4 River basins are experiencing multiple constraints. Expanding water supply is constrained by the cost and potential impact of new projects and by the reduction of available renewable freshwater due to contamination, overdraft of aquifers, and climate change, which increases variability and imposes more conservative management of dams. On the demand side, non-agricultural requirements increase, irrigation often expands, and more water needs to be reserved or reallocated to environmental flow regimes.

Approach, Strategy and Thrust Areas

3.7.5 Key elements of the strategies considered for XIIth plan are given below.

- The focus in irrigation needs to be on minor irrigation covering development of tanks and ponds, lift irrigation and other minor irrigation structures with improved linkage with the agriculture sector.
- A master plan will be prepared for the development of local water resource. It is proposed to increase gross area under irrigation by 30 percent from the base level by the end of the 12th plan period.
- Water management is another neglected area. The technologies for water management and enhancing water use efficiency, including micro irrigation, will be supported with appropriate institutional and support mechanisms. The modernization of CADA canals will be linked to improve water use efficiency.
- A river basin wise water resource management plan will be evolved for identified basins
- Long pending infrastructure projects will be terminated with appropriate mechanism for optimum use of investment
- Winding up of Long Pending Projects like Muvattupuzha Valley Irrigation Project, Karappuzha and Banasurasagar Projects
- Monitoring mechanism for irrigation projects
- Master plan for local water resource development.
- Development of all tanks and ponds in a phased manner
- Expansion of area wide micro irrigation
- Development of minor irrigation structures in critical agro ecological zones for the development of agriculture
- Modernisation of CADA canals
- Monitoring mechanism for Kuttanad Project.

Twelfth Plan Outlay

3.7.6 During Twelfth Plan an amount of ₹3327 crores was proposed for the development of the Irrigation sector which includes ₹2227 crores for major and medium irrigation, ₹711 crores for minor irrigation, ₹29 crores for CAD and ₹360 crores for Flood control and antisea erosion. Details are given in the Table 3.11.

Table 3.11
Outlay and Expenditure during Twelfth Five Year Plan

(₹ in Crore)

Sub sector	Outlay 2012-13	Expenditure 2012-13	Outlay 2013-14	Twelfth Five Year Plan Proposed Outlay
Major & Medium Irrigation	311.83	83.16	375.63	2227
Minor Irrigation	99.52	63.77	75.06	711
CAD	4	3.32	4	29
Flood Control & Coastal Zone Management	50.45	20.10	50.45	360
Total	465.8	170.35	505.14	3327

Key initiatives of the first two years

3.7.7 During 2012-13, the first year of the Twelfth Five Year Plan, there are total 36 schemes are included in the Irrigation sector and 3 schemes were dropped. In 2013-14 period, irrigation sector consists of total 35 schemes.

Critical gaps to be addressed in the next three years

Long pending Infrastructure Projects

3.7.8 Karapuzha Project: Karapuzha project is the first project for irrigation taken up in Wayanad district during the fifth five year plan. The scheme is to construct an earth dam across Karapuzha at Vaghavatta with a storage reservoir and canal system to irrigate an area of 8721 ha (gross).

3.7.9 The original estimate of the project was ₹7.60 crores in 1979 and the estimate as per the 2010 schedule of rates is ₹441.50 crores. The cumulative expenditure up to Dec 2012 is ₹289.62 crores. So far net ayacut of 601 ha is achieved. The progress of implementation of the project is very slow. More proactive steps are required to complete the project in the drought affected district. The project has been included under AIBP during 2006-07. Prioritization of work and to complete the ongoing work is also required.

3.7.10 Muvattupuzha Valley Irrigation Project: Project was initiated in 1974 for implementation with an original estimated cost of ₹20.86 crores. The estimated cost of the project as per 1980 Schedule of Rates was ₹4808 lakhs and the revised estimate of which is ₹1075 crores based on 2012 Schedule of rates. The expenditure as on March 2013 is ₹842.78 crores. From 2001-02 onwards, AIBP assistance was received for MVIP. The total AIBP release for MIVP upto 2008-09 is ₹154.96 crores. Due to delay in furnishing details to CWC no assistance from AIBP was received from 2009-10 onwards. Separate provision for AIBP has already been provided to MIVP in the 11th Plan. The project was suggested to be closed during the eleventh plan itself considering the implementation of the project for more than decades. The cropping pattern in the ayacut has changed and additional investment is required to irrigate the five crops.

3.7.11 The Idamalayar Irrigation Project: The Idamalayar Irrigation project is a diversion scheme intended to irrigate an extend of 14394 ha of wet and dry lands and Cultivable Command Area (C.C.A) is 13209 ha. Fifth Plan period project and this project started with an estimated cost of ₹17.85 crore during 1981. The project is suggested to irrigate 14060 ha (net). The cumulative expenditure upto 31.03.2012 is 370.50 crore. The latest estimate of the project as per 2012 schedule of rate is 750 crores. The works of 85% of main canal, 45% of low level canal, 37% of link canal and 95% of RBMC have been completed so far. In view of the Govt. policy to complete the long term pending projects, the execution of works needs to be arranged to the project at an early phase of the plan period so as to close the project in the XIIth Five Year Plan itself. More monitoring is required for the project.

3.7.12 Banasurasagar Irrigation Project: The project was commenced during 1971 with an estimated cost of ₹11.37 crore to irrigate 2800 ha (net) of agricultural land for the second and third crops. The revised cost of the project as per 2010 SOR is ₹185.5 crore. The expenditure upto Dec 2012 is ₹42.31 crore including a part of the share cost given to KSEB. A prioritised action plan has to be prepared for the completion of the projects since most of the projects are under implementation for decades. The cropping pattern in the ayacut area has changed considerably towards cash crops while the irrigation projects are designed for irrigating paddy crop.

3.7.13 Inadequate monitoring and achievement under the National Hydrology Project: The World Bank assisted National Hydrology Project was started in the State in January 1996. The second phase of the Project was initiated in July 1, 2006. The implementation of surface water and ground water components of the project were not satisfactory. It would have been possible to develop an excellent hydrology database through this project. The objective has not materialized, as envisaged.

3.7.14 Poor utilisation of AIBP funds: The Budget provision approved during the 11th Five Year Plan and the release are far from satisfactory. The utilization certificate for the amount released during 2006-07 was not submitted to GoI for Karappuzha Project. There was no AIBP release from 2009-10 onwards for Muvattupuzha Valley Irrigation Project. The total outlay provided for AIBP during the five year period was ₹435.48Crore and the release from GoI was ₹3.812 crores. More concentrated efforts are required for utilising the AIBP funds.

3.7.15 Cost Escalation of Kuttanad Project: The original project cost envisaged for Kuttanad package under flood control measures was ₹1300 crores. The Irrigation Department have already submitted Projects to GoI for about ₹3000 crores. It is not clear how much fund is going to be released from GoI under the 75%CSS on flood management programme. Irrigation Department have submitted projects from more number of Panchayats than what are suggested under the Package.

3.7.16 Lack of Project approach on rehabilitation of tanks and ponds: The rehabilitation of tanks and ponds was given thrust after the midterm appraisal of the 11th Five Year Plan. It was envisaged to prepare basin wise projects. Instead of preparing basin wise projects, the project was implemented in a random manner.

3.7.17 Lack of Central release for CADA: Lack of Central release for CADA is another issue to be addressed.

Physical Targets and Deliverables

3.7.18 Pambar Basin Projects has been initiated during 2013-14. Comprehensive water resource development in the Pambar Basin covering minor irrigation storage structures and micro irrigation is envisaged. Target set for XIIth Plan is given in Table 3.12.

Table 3.12
Target set for 12th plan

(000'ha)

Sl. No.	Sector	Twelfth Plan Target
1	Major & Medium	25
2	Minor	100
	Total	125

3.7.19 Irrigation department has identified 13500 ponds for rehabilitation by a quick survey conducted on the status of tanks and ponds of the state. During 12th plan a major project on restoration of tanks and ponds is initiated by merging ongoing schemes, Finance Commission Award as well as with additional support including RIDF. A comprehensive development of river basin planning will be initiated in the period.

Chapter

4

RURAL DEVELOPMENT

...more importance will be given to poverty alleviation programmes, different poverty related schemes will be converged in order to make a tangible impact... this chapter covers various aspects of rural development...

4.1 Rural Development is one of the most important sectors for sustainable growth. The census of 2011 estimates that 833 million people continue to live in rural India. Agriculture contributes nearly one fifth of the Gross Domestic Product in India. In order to increase the growth of agriculture, the government has planned several programmes pertaining to Rural Development in India. Rural Development mostly aim at social and economic development of the areas and thus to achieve faster, sustainable and more inclusive growth.

4.2 The Rural Development sector in Kerala has been classified in to three sub-sectors including Rural Development for the convenience of planning. The other sub-sectors are Community Development & Panchayat and Land Reforms. Scheme/Programmes implemented by the Department of Rural Development are coming under sub-sector, Rural Development. Department of Rural Development is responsible for implementing the Centrally Sponsored Schemes including the flagship programmes for Rural Development. These programmes are focused towards, self-employment, wage employment, area development and infrastructure development in general and poverty alleviation of rural areas in particular. The major Centrally Sponsored Schemes implemented during XIth Five Year Plan are SGSY, IAY, MGNREGS, PMGSY, TSC and NABARD assisted RIDF.

4.3 Other major schemes implemented are community based schemes under the sub-sector Community Development & Panchayat. The most important programme in this sub-sector is the poverty eradication programme through women Self Help Groups under Kudumbasree mission. Other major programmes included under the sector are MLA – Local Development Fund and programmes of KILA, IKM and Suchitwa Mission. Construction of Burial Grounds and slaughter house are the mandatory responsibilities of Local Governments -namely Grama Panchayats.

4.4 Special Programme for Rural Development: Special Programme for Rural Development includes Indira Awas Yojana (IAY-25% State Share), Mahatma Gandhi National Rural Employment Guarantee Programme (MGNREGP -10% State Share), National Rural Livelihood Mission (NRLM-25% State Share), RIDF, State Support for PMGSY etc. An amount of ₹113675 lakh is proposed for these programmes during the 12th Five Year Plan

4.5 Other Rural Development Programmes: Other Rural Development Programmes consists of State Support for Sericulture, Furnishing of Swaraj Bhavan, and Strengthening of Extension Training Centre etc. An amount of ₹10925 lakh is proposed for the schemes under this category during the 12th Five Year Plan.

4.6 Community Development and Panchayats: The major programmes under Community Development and Panchayats are Special Development Fund for MLA-Area Development, Suchitwa Mission, Nirmal Bharat Abhiyan, Kudumbasree, Burial Ground, Kerala Institute of Local Administration (KILA) etc. An amount of ₹202200 lakh is proposed for these programmes during the 12th plan.

4.7 Land Reforms: National Land Record Modernisation Programme (NLRMP) 50% state share and 100% CSS are the two programmes included in this category. ₹7100 lakh is proposed for the 12th plan as the state share of the programme.

Recommendations of the Working Group

4.8 The suggestions and recommendations of working group constituted for formulating 12th Five Year Plan on Rural Development are given below.

- Emphasis should be given to CSS with special focus on demand driven programmes like MNREGS
- Rural resource mobilization and its effective distribution
- Strategies for durable asset creation should be revamped in such a way as to provide optimal scope for gainful and wage employment opportunities to uplift standard of living of the poor by way of meeting necessities of livelihood
- Stress should be given to capacity building of rural people to the extent possible
- Strengthening the mechanism for performance analysis of all ongoing programmes
- Effective implementation of flagship programmes like MNREGP, NRLM etc.
- The major programmes implemented in the state for eradication of poverty under Rural Development are centrally sponsored and guidelines governing these programmes are framed with reference to the social and economic conditions of the poor on all India basis. The regional specifications /social / economic status of states vary with in themselves and hence the Planning Commission should pay due attention to this aspect and there should be sufficient space in the guidelines of the CSS permitting the states to implement these programmes by amending the guidelines with reference to the specific problems/ hurdles/ bottlenecks/ implementation hazards experienced by the states in utilizing the allocation of CSS to ensure better economic growth with a provision for gainful/wage employment opportunities which offers better living conditions to the poor on sustainable grounds.

- 12th plan progress for eradication of poverty should aim at a comprehensive approach of Rural Development to eradicate poverty with special emphasis on broad objectives of Human Development
- A study has to be initiated to identify those buildings constructed by government/LSGs under various programmes which are now idle, but can be put in to use after maintenance.

Approach, Strategy and Thrust Areas

4.9 The approach to the 12th plan towards Rural Development and poverty alleviation are:

- As poverty is a major issue in the rural areas more importance will be given to poverty alleviation programmes, different poverty related schemes will be converged in order to make a tangible impact
- Government of India will be requested to extend MNREGS to more areas. Efforts will be made to include more activities under the scheme, entailing more outlay.
- Activities of Kudumbashree and other SHG will be extended/ strengthened
- Ashraya projects implemented by Kudumbashree will be further strengthened and extended to all the panchayats
- Projects like BUDS would be extended and schemes which are helpful to support old people would be expanded with help of Government of India and State Government

Twelfth Plan Outlay

4.10 The total outlay proposed to Rural Development sector during the 12th plan period (2012-17) is ₹3339 crore. Of this an amount of ₹1246 crore is proposed for rural development alone. The proposed outlay for Community Development & Panchayat and Land Reforms are ₹2022 crore and ₹71 crore respectively.

Key initiatives of the first two years

4.11 Keeping in live with the 12th Five Year Plan, Government of India emphasis will be given to strengthen the local level institutions to plan and implement the major schemes initiated by the Government. Importance will be given to provide more employment, creation of assets and to provide basic facilities to rural areas with the participation of rural people. Centrally Sponsored Schemes like MGNREGP, IAY, NRLM, Nirmal Bharat Abhiyan etc. will be implemented more effectively to achieve the basic objectives. Moreover, efforts will be made to bring the people belonging to weaker sections to the main stream of the society.

4.12 Total sanitation campaign is renamed as Nirmal Bharat Abhiyan (in July 2012). This programme is a continuing Centrally Sponsored Programme. Construction of individual and community latrines, institutional toilets for schools and solid and liquid waste management are the major activities of the programme. An amount of ₹4000 lakh is allotted to this purpose during 2013-14. Efforts will be taken to cover maximum areas under this programme during the 12th plan.

Critical Gaps to be addressed in the next three years

4.13 Following areas will be given due importance for filling the critical gaps in Rural Areas.

- Dwelling Units for all deserving SC/ST families and other BPL families
- Special attention will be given to enhancing employability of matriculate by importing special skills, including soft skills
- Every family should have at least one member employed in organized sector or self-employment
- Micro enterprises at the family level will be encouraged through SHG/NHG
- Efforts will be made to establish burial grounds/crematorium with the help of LSGS
- Special Grama Sabha will be convened for the families of differently able and mentally challenged persons
- Effective mechanism to be evolved for solid and liquid waste management
- Specific attention to be given to empowering women through MGNREGS, NRLM Kudumbasree etc.

Chapter

5

ENERGY

...energy saved is equivalent to energy produced concept will be aggressively pursued during the twelfth plan... the possibility of using solar power on a large scale will be explored... this subsector narrates the approach, strategy etc....

5.1 Power development plays a pivotal role in the overall development of the economy. Efficient, reliable and competitively priced energy supply is a prerequisite for accelerating economic growth and human development. During the past decade, the energy industry accounted for about 2% of GDP in Kerala. Further, it directly contributes to increasing productivity, improving quality of life and reducing poverty. Likewise, lack of access to reliable energy is a severe impediment to the process of economic growth and sustainable social development. For any developing country, therefore the strategy for energy development is an integral part of the overall economic strategy.

Recommendations of the Working Group

- Demand supply gap is increasing and is a serious concern to be addressed immediately
- Development of major hydro projects shall be taken up to tap the available potential, in addition to the small and mini hydro projects that are more eco-friendly.
- Development of Thermal and Gas based power Projects
- Development of green sources such as wind and solar shall be given more importance
- Long term power purchase through Case 1 bidding shall be considered to avoid dependence on short-term power market
- Transmission infrastructure to be developed in such a way as to transmit power to the deficit areas, especially in the northern region, and to take care of the large quantum of generation expected from renewable, which may be located in remote and scattered locations.
- Delay in execution of projects, especially in Transmission and Generation, needs attention. Better project management concepts need to be adopted for timely attention of issues related to execution of projects.

- Timely completion of the ongoing and proposed hydro projects need to be given utmost importance by using better project management concepts
- Strengthening of Management Information System (MIS) for better management and decision making
- Time of Day (TOD) tariff shall be implemented, which will aid as a measure to levellise the demand and cutting down peak demand
- Capacity building and Human Resource Development need to be encouraged
- Developing projects through joint venture mode can be explored to a great extent
- Restructuring of RGGVY programme for ensuring universal electrification
- Institution of Chief Electrical Inspector to be strengthened and liberated from unnecessary controls

Approach, Strategy and Thrust Areas

- **Capacity Augmentation:-** Kerala's installed Capacity is presently around 2680 MW but the maximum power availability is only 2090 MW. During 12th Plan, the target will be to double the installed capacity through installation of new Gas based and Super Critical Plants. The IPP concept will be encouraged to provide more resources for development of capacity of hydel power other than SHPs (300 MW) and Renewable Energy (RE) (700 MW) and also from Energy Conservation measures.
- **Reducing AT & C Losses:-** It is targeted to reduce AT & C losses to a sustainable level of 13% by the end of 12th Five Year Plan period largely through timely implementation of RGGVY and R-APDRP flagship schemes.
- **Energy Conservation/Saving/ Efficiency Activities:-** 'Energy saved is equivalent to energy produced' concept will be aggressively pursued during the 12th plan.
- **Reinventing KSEB:-** Managerial efficiency and productivity will be sought to be enhanced with the help of management institutions
- Massive utilization of Solar Energy
- Renewable energy sources like wind, solar and co-generation shall be tapped to the maximum extent possible
- Low cost generation and optimum utilization of capacity
- Control input cost
- Better fuel mix
- Hydro improvement
- Development of National Grid
- Inter State connections
- Upgradation of Distribution system
- Theft Control

- Quality, reliability and Safety
- Demand side Management and load Management
- Technology upgradation to provide energy efficient equipments
- Awareness creation
- Private participation as a strategy for AT & C Loss reduction

5.2 Capacity Addition: It is essential that increased thrust to be given to large-scale capacity addition from all possible resources during 12th Plan period. Doubling capacity is the main objective of 12th Plan. As per the 18th Electric Power Survey report, demand projection of Kerala by the end of 12th Plan period is 4669 MW. The present peak demand is 3348 MW and the availability from all sources including CGS allocation is only 3312 MW. Thus, an additional supply of 1357 MW needs to be arranged to meet the increased demand. If the costly liquid fuel stations of Kayamkulam and BSES are not considered, then the deficit will be 1804 MW. It is expected that about 874 MW power will be available from various central generating stations and UMPPs during 12th Plan. Large and medium hydro projects with a total capacity of 100 MW and small hydro projects with a total capacity of 148 MW are proposed to be added during the period.

5.3 There is increased concern over the effects of conventional power projects on climate change and global warming and the focus is shifting towards development of renewable sources of power. Thus, due importance shall be given to develop renewable sources such as wind and solar projects on a large scale. It is proposed to add 300 MW of wind power projects and 60 MW of solar power projects during the 12th Plan period.

5.4 However, considering the infirm nature of renewable power, it is necessary to add adequate back up capacity of base load stations based on coal and natural gas also into the grid. In this context, development of a coal based power project using the coal available from Baitarni coal block should be given prime consideration during the 12th Plan.

5.5 There are various proposals to develop large capacity gas based power plants within the State in the wake of availability of RLNG from the Kochi LNG terminal by Petronet and the laying of gas pipe line by GAIL. Proposals for 1026 MW gas based project at Brahmapuram by KSEB, 1200 MW gas based project at Puthuvypin by Petronet, 1200 MW gas based project at Cheemeni by KSIDC and 1050 MW gas based expansion project at Kayamkulam by NTPC are among the proposals under consideration. In addition conversion of the existing naphtha stations at BSES Kochi and RGCCPP Kayamkulam into natural gas based stations is also under consideration. However, the viability of all these projects depends upon the availability of sufficient quantity of domestic gas by Govt. of India or a pooling mechanism to soften the price of imported RLNG. Since the availability and pricing of natural gas is very uncertain, purchase of power from these gas based projects may be considered based on economic factors such as cost of generation and tariff. The demand supply position expected at the end of 12th plan period is given in Table 5.1.

Table 5.1
Demand Supply Position during 12th Plan

	Installed capacity (MW)	Capacity corresponding to energy availability (MW)
Projected Demand at the end of 12 th Plan period		4669
Present availability		
- Hydro	1924.15	1539
- Small Hydro	122.15	37
- Wind	33.68	7
- Thermal (KSEB+IPP)	791.62	667
- Central Generating Stations (CGS)	1269.47	1062
Total	4141.07	3312
Difference		(-) 1357
Expected allocation from CGS/UMPP/stations outside Kerala	874	692
Difference		(-) 665
Proposed capacity addition		
- Hydro	100	80
- Small hydro	148	44
- Wind	300	66
- Solar	60	12
- Co-generation	100	55
- Brahmapuram gas (1026 MW)	350	298
Total	1058	555
Difference		(-) 110

5.6 Hydro Projects: Development of available hydel resources to the maximum extent is very important for ensuring the energy security of the state as well as to keep the power tariff low. Timely completion of the ongoing and proposed hydro projects need to be given utmost importance by using better project management concepts. The existing project monitoring mechanism shall be strengthened for ensuring timely implementation of the projects.

5.7 Wind Projects: ANERT has conducted detailed studies of the wind potential of Kerala, which is estimated to be about 600 MW. However, only a very minor portion of this potential could be harnessed so far. As part of augmenting the wind power capacity, Govt. of Kerala has signed an MOU with NTPC to develop 200 MW wind power projects in Kerala on a build, own and operate basis. It is expected that the entire capacity can be added during 12th plan period.

5.8 Another 100 MW capacity addition is planned from wind power units during the 12th Plan period through IPPs/CPPs as well as units set up directly by KSEB. The existing land available with KSEB at various locations such as Kanjikode,

Madakkathara, Pothancode, Idukki etc. may be explored for installing wind generators after studying the feasibility.

5.9 Solar Projects: As per the renewable purchase obligation notified by the Regulatory Commission, the solar power purchase obligation is 0.25% of the total energy consumption for the year 2010-11 which will increase every year to reach 3% by 2022. A master plan need to be prepared for installing solar power plants at vacant lands available with government agencies at locations such as substations, powerhouses, rooftops of government buildings, university campuses etc. As the land requirement for generating 1 MW of solar power is about 4 acres, solar plants can be installed only if sufficient land or rooftop area is available. Substations and powerhouses are preferred as power evacuation is easy. It is estimated to install at least 60 MW of solar power during the 12th plan period.

5.10 Co-generation Projects: Efforts shall be taken to develop at least 100 MW power from co-generation plants during the 12th plan. Priority may be given to implement the projects in public sector units such as FACT, Travancore Cements, KMML, Travancore Titanium, Autocast etc.

5.11 Thermal Projects: Increasing the power generation capacity within the State has to be given top priority in view of the substantial hike in tariff for the power traded bilaterally and through power exchanges, which implies that fall back options in case of a power deficit scenario could be very costly. The options under consideration are listed below.

- Government of India has allotted about 200 MT of coal from the Baitarni West coal block in Orissa to Kerala, which is sufficient for a 1000 MW power plant. Discussions are being held with NTPC to jointly set up a power plant at their site in Ramagundam using KSEB's share of coal from Baitarni. Similar discussions are also being held with NLC for setting up a power plant at Sirkazhi in Tamilnadu. Possibility of tariff based bidding to develop the project is also being explored.
- Govt. of Kerala has accorded administrative sanction for setting up a 1026 MW natural gas based combined cycle power plant at Brahmapuram. The fuel requirement for the project is proposed to be met from the Petronet LNG terminal at Kochi through the gas pipeline laid by GAIL to Ambalamugal. The project is proposed to be set up in the balance land available at the site of existing Brahmapuram diesel power plant. It is expected that the first unit of about 350 MW capacity can be commissioned by the end of the 12th Plan period.
- Kochi Refinery is embarking on a massive refinery expansion project, which may produce as a by product about 1.4 Million Tons of petroleum coke (petcoke), which can be used as a fuel for power generation. KSEB proposes to set up a 500 MW capacity power plant adjacent to the refinery using this petcoke as fuel. Since the price of petcoke is comparatively less, a lower variable cost of power can be ensured on a long term basis.
- Proposal for setting up a 1200 MW gas based power plant at Puthuvypin in association with Petronet LNG Limited (PLL) adjacent to their LNG terminal is under consideration of the Govt. The fuel (RLNG) required for the plant is

proposed to be met from the Petronet LNG terminal. It is proposed to implement project in phases.

- NTPC is planning expansion of their existing Kayamkulam plant by adding gas based combined cycle units with a total capacity of 1950 MW. In the first phase, 1050 MW will be added using natural gas/RLNG as fuel.
- Proposal to set up a 1200 MW gas based power plant at Cheemeni by KSIDC using RLNG as fuel is under consideration of the Government.

5.12 Innovation Fund: KSEB proposes a new scheme for Innovation with State Govt. support. The components under consideration include connected roof top solar panels, solar PV plants of medium and large capacity, floating solar plants in the water bodies like reservoirs, power generation from solid waste treatment plants, Solar Powered Inverters etc. The Board is also in the process of developing and implementing various technology oriented programs such as Smart grid, Pre-paid metering, Automated metering System etc. in the plan period. Many of the renewable and smart grid technologies are on the evolving stage and further innovation and experimentation are required to customize such solutions to our need.

5.13 Roof Top Solar Photo Voltaic Power Plants: Under Non-Conventional sources of Energy ANERT proposed 10,000 numbers of Roof Top Solar Photo Voltaic Power Plants of capacity 1KW with the support of both State and Central Govt.

Twelfth Plan Outlay

5.14 The proposed outlay of the 12th Five Year Plan for Energy Sector is ₹832300 lakhs. Out of this, ₹799000 lakh is for Kerala State Electricity Board (KSEB), ₹25000 lakh for Agency for Non-conventional Energy and Rural Technology (ANERT), ₹4000 lakh for Meter Testing and Standards Laboratory (MTSL) and ₹4300 lakh for Energy Management Centre (EMC). Sub Sector wise details under Energy Development are given in Table 5.2.

Table 5.2
Sub Sector wise details under Energy Development
(₹ lakh)

Sl. No.	Department	Outlay
1	KSEB	799000
2	ANERT	25000
3	MTSL	4000
4	EMC	4300
	Total	832300

Key Initiatives of the first two years

- Roof top Solar Power Plants
- Effective Demand side management measures
- Cut down peak demand
- Natural gas projects as peaking stations

- Innovation Fund
- Conversion of naphtha stations at BSES Kochi and RGCCPP Kayamkulam into natural gas based station

Major Initiatives of the Twelfth Plan of Govt. of India

- Restructured APDRP scheme for reducing AT & C loss
- RGGVY scheme for Universal Electrification
- Role of private investment and participation in distribution
- Human resource development and capacity building
- Research and Development in power sector
- Renewable energy for rural, urban, industrial and commercial applications

Critical gaps to be addressed in the next 3 years

- Demand supply gap is increasing and is a serious concern to be addressed immediately
- Development of major hydro projects shall be taken up to tap the available potential, in addition to the small and mini hydro projects that are more eco-friendly.
- Development of green sources such as wind and solar shall be given more importance
- Long term power purchase through Case 1 bidding shall be considered to avoid dependence on short-term power market
- Transmission infrastructure to be developed in such a way as to transmit power to the deficit areas, especially in the northern region, and to take care of the large quantum of generation expected from renewable, which may be located in remote and scattered locations.
- Delay in execution of projects, especially in Transmission and Generation, needs attention. Better project management concepts need to be adopted for timely attention of issues related to execution of projects.
- TOD tariff shall be implemented, which will aid as a measure to levellise the demand and cutting down peak demand.
- Research & Development and Training in solar, non-conventional energy and energy efficient equipments
- Inhouse capacity addition to the maximum extent through hydel, wind, solar, thermal, co-generation and renewable energy projects to meet the projected demand

Physical Targets and Deliverables

- The State shall become power sufficient by the end of the 12th plan period
- Renovation and modernisation of 5 old hydel stations shall be carried out to extend their life and to augment generating capacity
- AT&C losses shall be brought down to a sustainable level of 13% by the end of 12th plan period

- 100% electrification of the State shall be achieved
- 400 kV transmission backbone across the state shall be implemented
- Implementation of SCADA in major cities and pilot implementation of smart grid
- Life extension and reducing the cost of generation by way of conversion of fuel to natural gas may be explored in the case of Brahmapuram Diesel Power Plant (BDPP) and Kozhikode Diesel Power Plant (KDPP).
- Demand side management activities shall be continued by improving efficiency of the programme
- Avoiding tariff shocks
- To achieve the goal of “Total Smokelessness” in Kerala homes by replacing the 3 million inefficient conventional firewood chulhas presently in use in the state, with high efficiency improved stoves or household type biogas plants.
- To establish the techno-economic and social feasibility of community based gasifier cum electricity generation plants, as well as community based biogas plants, with piped distribution of cooking gas, to be operated by reputed NGOs or Kudumbashree Units.
- To achieve an installed capacity of 500 MW using wind energy, through Public as well as Private Wind Energy Generators (WEGs).
- To achieve an installed capacity of 500 MWp in Solar Photovoltaics, through the following routes: (a) 100,000 residential buildings in Kerala, with grid connected roof top solar panels of minimum 1 kW capacity, and to establish the feasibility of distributed generation and differential metering. (b) 10,000 roof top systems of varying capacity, mounted on public buildings as well as large private buildings, like factories, schools and colleges. (c) Pilot float mounted Solar PV Power Plants, of 50 MWp capacity, based in reservoirs or backwaters, in order to establish their technical feasibility as well as environmental acceptability.
- To make a techno-economic evaluation of Pumped Storage Technology as a means of storing solar electrical energy in an economic way, under Kerala conditions.
- To ensure that every Electric Water Heater installed in Kerala is replaced by or is accompanied by a Solar Water Heater, by making their installation mandatory in all new buildings.
- To achieve an installed capacity of 250 MW in Small and Medium Hydro, through KSEB, Jilla Panchayaths, as well as Private investors.
- To prepare a techno-economic feasibility study as well as an EIA of possible large scale Wave Energy Conversion Plants of the Kerala coast, using the most appropriate technology.

Chapter

6

INDUSTRY

...government will endeavour to identify other land available with public sector units and with govt. departments so that a land bank is available for setting up new industrial infrastructure in the PPP mode... professional inputs will be provided to the MSME sector through appropriate institutions... with a view to ensure sustainability and to revamp the traditional industrial sectors, thrust will be given for enhancing export earnings, technology upgradation, product diversification/value addition, market promotion and skill development... the state will not encourage the setting up of polluting industries... technology and capital support will be provided for effective value addition of rare mineral resources like ilmenite, thorium and monozite... this sector present details of the following areas viz. (i) village and small scale industries (ii) handloom (iii) coir (iv) khadi (v) cashew (vi) other industries and (vii) mining and geology...

6.1 Village and Small Industries

6.1.1 Kerala is one of the main centres of MSMEs in the country with 5.62% of all India shares of MSME enterprises. The industries coming under this sector are Handicrafts, Handloom, Khadi, Food Processing Industries, Garment Making, and Textile Industries, Industries related to Coir, Wood, Bamboo, Plastic, Rubber, Leather, Clay products etc. The Handloom Industry in Kerala is mainly in Co-operative sector and concentrated in Thiruvananthapuram and Kannur Districts, by providing employment to about 50000 of which 40% are women. Whereas the Coir an agro based industry sustains a large part of rural economy of the state. It employs about 3.50 lakh of labourers of which 80% are women below poverty line. The Cashew Industry is a Kollam based Traditional Industry dominated by private sector. It is also highly labour intensive employs more than 3 lakhs workers of whom majority of the workers are women. MSMEs in the State is highly ranked in terms of number of units, employment provided, fixed assets and investment in P&M, although, the state lags behind in terms of output produced.

6.1.2 MSME, Commerce, Handicrafts: There are 205987 registered SSIs/MSMEs and 582 working Industrial Co-operative Societies in Kerala. Under Directorate of Industries and Commerce (DIC) there are 37 Industrial Development Plot / Areas (DA/DPs) and 94 Mini Industrial estates in the state.

Recommendations of the Working Group

6.1.3 The Working Group on MSMEs and Traditional Industries including Coir, Handloom, Cashew, Khadi and Village Industries discussed the key issues relating to the implementation of programmes, opportunities and initiatives and overall approach of the Twelfth Plan, and also the perspectives to MSMEs and Traditional industries in the State. As strategy of reducing the number of schemes and create flexibility in the implementation, certain ongoing programmes of XIth plan were clubbed with separate scheme titles. Recommendations include the following.

- Infrastructure – Construction of Multi-storeyed Industrial Estates in districts, Development of new DA/DPS, Upgradation of existing DA/DPs, Develop PPP mode and utilize RIDF scheme of NABARD.
- VAT exemption beyond the minimum 4% may be made applicable to all MSME sectors as a marketing incentive to attract the investors for a period of 5 years
- Consider Cluster development programme as one of the key areas for MSME promotion
- Technology Acquisition
- Transfer of Assets belonging to Industrial development plots / areas to new enterprises
- Adequate support to Employment Intensive Industries like agro based and food processing, textiles and garments, foot wears etc.
- Easier access to Finance
- Easily available licensing system for new Entrepreneurs
- Give importance for the propagation of Green and Eco-Friendly Industries
- Protection from power tariff hikes for new MSME units for a period of three years
- Target number may be increased for Prime Minister's Employment Generation Programme (PMEGP)
- Integration of Promotional Agencies - Kerala State Handicrafts Development Corporation, SURABHI and KADCO.
- Institutional Strengthening of Entrepreneurs guidance cell with ICT infrastructure

Approach, Strategy and Thrust Areas

6.1.4 Kerala's development plan views MSME sector as vibrant sector which promotes income generation and employment. MSMEs need to be looked at as one of the major areas that will help solve our unemployment problems. The plan approach on the MSME and traditional sector is promoting the sector through Programmes which encourage young/entrepreneurs to open new ventures in this sector, Providing special incentive to women/ SC/ST entrepreneurs, providing Professional inputs to the sector through appropriate institutions, more emphasis on Cluster Development, Setting up Network of multi industry incubators, and Creating such an enabling entrepreneurial eco system. And also concentration is given on Employment

Generation, Skill development, Technology upgradation, Product diversification & value addition and Domestic and Export Market promotion. Thrust areas and issues as listed below have also to be addressed.

- Programmes will be worked out for young entrepreneurs to open new ventures in the MSME sector
- Incubators – as part of development and support to the MSME sector a net work of multi industry incubators in reputed engineering and management institutions and major parks under the IT Department and KINFRA will be setup.
- The cluster development programmes will have to be strengthened and new clusters setup
- Ten new entrepreneurial units will be sought to be set up in each Panchayat every year, working jointly with Local Self Government Institutions. They will be provided with mentor support in the initial years.
- MSMEs need to be looked at as one of the major areas that will help solve unemployment problems
- Professional inputs will be provided to the MSME sector through appropriate institutions
- The MSME sector will be also provided special incentives to women entrepreneurs and those belonging to SC/ST and other weaker sections

Key Initiatives of the first two years

6.1.5 Entrepreneurship Support Scheme (ESS): Provide assistance to entrepreneurs in Fixed Capital Investment and Technology Acquisition to start new enterprises with special attention to women, SC/ST categories, Priority Industries and enterprises starting in Pathanamthitta, Kasaragod, Wayanad and Idukki Districts.

6.1.6 Infrastructure Development under MSME sector – Multi storied Galas: Development of industrial galas for the benefit of MSME entrepreneurs, with quality infrastructure like roads, power, water, waste management etc. through PPP mode. It is envisaged to construct 2 Multi-storeyed Industrial Estates at Kochuveli & Manjeri and an exhibition cum convention centre Kottakkal in the year 2012-13.

6.1.7 Capacity Building: Other than giving emphasis on skill development, the scheme provides Industrialization support/ other industrial promotion activities and creation of Business Incubation services.

6.1.8 Development of Commerce: Assistance to conduct research studies and evolve long term policy frame work for the sustained growth of commerce sector, development of infrastructure, Conduct or participate in national and international events/exhibitions and Institute awards for MSME sector.

6.1.9 Small Industry Cluster Development Programme: This is a Centrally Sponsored Scheme of cluster development for micro, small and medium enterprises and provides assistance for sourcing of raw material, mutual credit guarantee for sourcing loans, common brand creation, marketing, setting up of CFSC, training, quality testing etc.

6.1.10 Traditional Sector - Development of Handicrafts: The project envisages Development of Handicrafts and Bamboo industry through Share Capital Contribution and Margin money grant to Societies & Artisans, Entrepreneur assistance scheme,

Assistance to Apex organization in Handicrafts sector and Assistance to conduct/participate exhibitions/fairs.

6.1.11 Major Initiatives of the Twelfth Plan of Govt. of India: The Government of India anticipates promotion of MSME sector by providing Credit and Finance, access to information, simplification of loan procedures, interest subvention and strengthen Credit Guarantee Scheme for micro enterprises and Technology Upgradation and Support for Emerging Sectors for enhancing the global competitiveness with focus on developing appropriate technologies for various manufacturing processes to bring down cost, develop collaborations between private and public sector on boosting R&D, and facilitate absorption of globally competitive technologies. The Government will play the role of a facilitator in the areas of Marketing and procurement, promote Infrastructure Development as one of the key strategies for comprehensive development of industries and establish the Institutional and legal framework for promotion and development of MSME Sector. It is also planned to implement programmes for unorganised sector where more than 94 per cent of MSMEs are unregistered, most of them being in the informal/ unorganised sector.

6.1.12 Main emphasis is given to Clustering & Aggregation where Industrial clusters are increasingly recognized as an effective means of industrial development and promotion of small and medium-sized enterprises and cluster approach is a key strategy for enhancing the productivity and competitiveness as well as capacity building of small enterprises. It is recommended to set up a Cluster Stimulation Cell (CSC) at apex level to monitor the performance of clusters and share best practices and development strategies across them. The CSC is envisaged as knowledge partner to State Governments which provide assistance to them in the cluster formation and develop strategies for growing different types of clusters.

6.1.13 Consolidation of clusters of handicrafts by strengthening existing skills, harnessing design development efforts and setting up new clusters preferably in PPP mode are also considered.

Critical Gaps to be addressed in the next 3 years

- Improve Infrastructure Development activities under MSME sector and physical infrastructure of the clusters.
- Promoting cluster development activity in Kerala to attain a remarkable success level.
- Exploring new initiatives in PPP mode and provide tailor made skill development of Human Resource.
- Providing attractive environment for investment to new entrepreneurs.
- Exploring and utilizing the central schemes at the maximum.
- Technology Business Incubators where innovations can be translated into business activities.

Physical Targets and Deliverables

6.1.14 Development of MSME sector and traditional industries in PPP mode through construction of industrial galas/parks, skilled manpower, cluster development and product diversification. It is also aimed to promote research studies and evolve long

term policy frame work for the sustained growth of industry & commerce sector of the state.

6.2 Handloom Industry

6.2.1 There were 758 societies in the state by the beginning of XIth plan which was reduced to 591 by the end of March 2012. The Textile Industry in Kerala is spread over in public sector as well as in Co-operative Sector and there exist Fourteen Spinning Mills jointly in the public/ co-operative sector. In addition, 4 new spinning mills are functioning at their initial stage. The spinning mills in Kerala are supported through Kerala State Co-operative Textile Federation (TEXFED) & Kerala State Textile Corporation (KSTC).

6.2.2 State Level organizations: Procurement and marketing of handloom fabrics are being undertaken by two State level Organizations viz., Hantex and Hanveev. Kerala State Handloom Weaver's Co-operative Society (Hantex) is the apex body of handloom co-operatives established for distribution of required inputs to primary co-operative societies viz. procurement, processing, marketing of goods, process high quality yarn and raw materials for societies and explore new business opportunities by promoting Handloom products through exports.

6.2.3 Kerala State Handloom Development Corporation (Hanveev) which started functioning in 1968 is another agency for the up-liftment of traditional handloom weavers in the unorganized sector in handloom industry with its registered office at Kannur. The Corporation has three regional offices (Thiruvananthapuram, Ernakulam and Kannur) and three pre-loom processing units at Nemom, (Thiruvananthapuram), Chittur (Palakkad), and Kalliassery (Kannur).

Recommendations of the Working Group

- Broad market promotion targeted at Kerala handlooms in the domestic and international market
- Looms shall be modified as weavers friendly
- Develop & adopt new Technology for improving productivity
- Conduct skill development in the areas as and where it necessitates
- Encourage weavers to engage in weaving and to improve production
- Improvement of physical distribution system, transaction processing system and information management systems of raw materials and finished goods to avoid situations of piling of stocks at godowns and showrooms
- Easy access to institutional credit to the handloom units
- Strengthening of PHWCS, Apex societies and marketing agencies
- Equip the PHWCS to Market their products
- Provide support to capture international market
- Provide support to integrated power loom units to produce value added products and market products

Approach, Strategy and Thrust Areas

6.2.4 Twelfth plan approach on handloom industry is enhancing the industry by giving emphasis on Employment Generation, Skill development, Technology upgradation and Cluster Development. Also pay more attention to Product diversification, Value addition, as well as Domestic and Export Market expansion. For achieving the above, the State should follow a strategy of ensuring integrated and sustainable growth of Textile sector in the state by attracting new generation entrepreneurs to the sector and preventing the drop out of weavers to make the industry globally competitive. Priority should also be given for development of village clusters which develop quality products with unique innovative designs which increase market demands, both domestic as well as international including tourists. Thrust areas and issues as listed below have also to be addressed.

- Low productivity due to lack of technology intervention & poor market segmentation
- Competitions from cheap power loom fabrics and dumping of cheap fabric from outside state
- Lack of dissemination of information on quality and innovative designs of handloom products in market
- Lack of product diversification in accordance with new trends
- Difficulty in getting workers due to low wages & difficulty to avail credit facility
- Lack of working capital and Fluctuation in hank yarn & cotton price
- Weak performance of apex societies and organizations

Key Initiatives of the first two years

6.2.5 Integrated Handloom Development Scheme: There are 2 schemes. One is Development of Clusters having Loom-age 300 - 500 for the development of clusters and the other is Development of Group Approach scheme for the Handloom Weavers who are not covered by clusters will be benefited by the Group Approach.

6.2.6 Integrated handloom cluster development scheme (IHCD): This is a scheme to facilitate sustainable development to handloom weavers located in identified clusters into a cohesive, self-managing and competitive socio-economic unit.

6.2.7 Revitalisation and strengthening of Handloom co-operatives, Apex Societies and Handloom Development Corporation: The scheme is for revitalisation and strengthening of factory type PHWCS, Hantex and Hanveev for improving their Preloom/Postloom facilities.

6.2.8 Upgradation to powerloom/ modernisation of factory type societies: This scheme provides assistance for products/design development and upgradation of handlooms in to automatic, semi-automatic powerlooms in selected factory type handloom societies.

6.2.9 Establishment of mini pre-loom process centres: Under this scheme financial assistance was provided as Grant and Loan to factory type PHWCS and Private entrepreneurs to set up Mini Pre-loom Process Centres to attain adequacy in the pre-loom processing facility in the development of Handloom sector.

6.2.10 Contributory Thrift fund: Under this scheme assistance was provided to the weavers for meeting medical expenses of the subscriber or his/her family members, expenses on marriage and children's education, expenses for taking share in the society, purchase of house site, construction/ purchase/ alteration/ repairs of their houses etc.

6.2.11 Partial Mechanization of Pre-loom Processing: The scheme gives assistance to Handloom Weavers of Co-operative Societies in the form of 100% grant for mechanization of preloom processing.

6.2.12 Upgradation of Facilities for Training in Powerloom: The scheme intends to provide training in powerloom.

6.2.13 Establishment of IIHT at Kannur

Major Initiatives of the Twelfth Plan of Govt. of India

6.2.14 The vision for the handloom sector for the Twelfth Plan is to develop a strong, competitive and vibrant sector in order to provide sustainable employment to the weavers and ancillary workers, particularly belonging to the disadvantaged sections of the population and to ensure faster, more inclusive growth of the sector.

6.2.15 To achieve the vision, the emphasis in the Twelfth Plan will be on consolidation of past gains and strengthening of marketing systems, promote supply of yarn/dyes and chemicals, provide margin money and credit guarantee support to weavers/ancillary workers (with interest subvention, greater coverage of Weaver Credit Cards and linking SHGs with banks, Microfinance Institutions (MFIs)), restructuring the cluster development approach, enumerating women's contribution.

6.2.16 Also priority will be given to health and safety measures, promoting solar lighting and the Weavers' Service Centres (WSCs) and Indian Institutes of Handloom Technology (IIHTs) will be strengthened to overcome the exiting training and skill gaps and take steps to inspire and draw young people into the sector. Textile Museums to support preservation, revival, archiving and documentation of languishing handloom crafts and design and product diversity, strengthening domestic & export marketing and brand building are also included in the strategy. Major interventions include: Marketing, Exports, Brand Building and Promotion of Handloom Products.

- Development of Infrastructure and Cluster Model
- State-specific Projects and Innovative ideas
- Raw Material Availability, Credit Availability and Social Welfare Measures
- Training, HRD, R&D and Technical Processes

Critical Gaps to be addressed in the next 3 years

- Preparing accurate data based on the statistics of the sector which include details of weavers & weaver societies, raw material availability, demand of market etc.
- Exploring and utilizing the central schemes at the maximum
- Exploring the technology and machinery for weaving sector, available all over the world which is useful to the sector
- Exploring new initiatives in designs, quality production and skill development of Human Resource of the sector.

- Improving the condition of physical infrastructure of the clusters

Physical Targets and Deliverables

- Assistance to Hantex/ Hanveev /PHWCS and to participate/ conduct national and international fairs/exhibitions/ 'Regional Handloom Expos' and Buyer Seller meets
- Skill Upgradation Training for Handloom Weavers/allied workers and motivation programmes
- Assistance for propagation of Handloom and brand building
- Modernisation of Handloom Societies, Hantex, Hanveev, Powerloom Societies and promotion of value added products and providing Margin money loan/grant
- Technology Upgradation of Handloom/Powerloom societies and spinning mills
- Assistance to Master Weavers to set up Production Units and Self Employment
- Establishment of Clusters and Integrated Handloom Village
- Revival, Reform and Restructuring Package for Handloom Sector with central assistance

6.3 Coir Industry

Recommendations of the Working Group

6.3.1 Kerala is the domicile of Coir Industry; Coir today in its multidimensional manifestation touches every facet of man's life and activity-from doormats to rugs, rubberized coir mattresses, decorative rugs, and tufted carpets and from geo-textiles and garden articles to wood substitutes. Being a traditional industry, Government support is essentially for the overall development of Coir sector for the sustenance of employment and also for the welfare of the workers in the sector, directly and indirectly, by keeping a social perspective as well. The working group for 12th Five Year Plan put forward the following recommendations for the future of the industry.

- Strengthening of Husk collection and Fibre Production
- Mechanisation in Fibre Extraction, spinning and weaving sectors
- Diversification in Coir production
- Evolving State and National Coir Policy
- Focus on Coir Geo-textiles
- Skill and Technology Development for coir workers and others
- Introducing home concept in spinning sector
- Strengthening Cluster based activities in Coir Sector
- Encourage all stakeholders including private producers
- Modernisation and Technology upgradation in spinning and product development
- Improvement in infrastructural facilities further

- Strengthening support institutions and R & D
- Tourism oriented projects in coir producing centres
- Revival of dormant Coir Co-operatives
- Revival Package for Coir societies in tune with Handloom sector

Approach, Strategy and Thrust Areas

- Time bound Research & Development activities
- Working from Home Concept
- Self – sustenance of Co-operative Coir Societies
- Market – oriented manufacturing and availability
- Market development – International/Domestic
- Cluster developmental programme
- Developmental research & skill up-gradation programme
- Bank linked programmes
- Maximum Collection of husk and fibre production
- Branding and Labelling
- Forward and backward integration
- Regulated mechanisation

Key initiatives of the first two years

- Kerala State Coir Machinery Manufacturing Company was established at Alappuzha during 2013-14
- NCRMI launched an improved version of Mini Defibering Machine with crushers capable of defibering raw husk as well as dry husk with increased productivity and quality
- Marketing, Publicity, Propaganda Trade Exhibitions and Assistance for Setting up of Showrooms increased
- An International event on Coir and Natural Fibre Products' at Alappuzha
- Price Fluctuation Fund- The scheme is intended to stabilize the price of coir fibre, yarn, and coir products
- Coir Geo- Textiles Development Programme-
- Cluster Development programme in Coir Sector

Major initiatives of the Twelfth Plan Govt. of India

6.3.2 The government of India is supporting the R&D initiatives of the sector through the Central Coir Research Institute in Kalavoor and the Central Institute of Technology in Bangalore and developing innovative products for diverse uses. The government is also promoting Coir geo-textiles for construction of rural roads in nine States under the Prime Minister's Gram Sadak Yojana (Bharat Nirman). In future, the project is likely

to be extended to all the 28 States of the country. The Twelfth Plan will be focusing to infuse appropriate technology to improve quality and up-scaling the geo- textile to meet the huge requirements that will arise in the future years.

Critical Gaps to be addressed in the next three years

- Strengthening research and Development effort
- Improvement in Husk Collection Mechanism
- Viable package for maximum utilisation of husk available in the state
- Improved productivity in Yarn Sector and product sector
- Strengthening the marketing system
- Strengthening support institutions
- Modernisation and regulated mechanisation
- Services to employees and workers.
- Build Infrastructural facilities in co-operative sector
- Market expansion - both in domestic and international
- R&D to meet the threat of competition from synthetic and other cheaper substitutes
- Meet the unstable price structure of husk and frequent price

Physical Targets and Deliverables

- Additional Employment (sustainably) generation to about 25000 workers
- Creating more man days of employment
- Export market 1.5 times than that of existing and twice the domestic market

6.4 Khadi Industry

Recommendations of the Working Group

6.4.1 The sector faces many problems and some of them are very specific to particular Village industries. To achieve the objective of the 12th plan, new interventions are needed by eliminating the drawbacks. The following areas are to be given much attention in view of the peculiar nature of Khadi and Village Industries.

- Extension of marketing facilities and to develop a marketing strategy
- Cluster Model development in Khadi centres
- Diversification of products
- Khadi sector should ensure more forward and backward linkages
- Develop the sector as sustainable one by providing fair wages
- Adequate fund for renovation, maintenance and repairing of existing buildings of Khadi Board established through the State Plan Fund

6.4.2 In addition to the ongoing schemes, the following new schemes may be taken into account while formulating the 12th Five Year Plan.

- Scheme for the establishment of one Bio-Gas Plant at one House.
- Scheme for the establishment of Khadi Industrial Estates
- Construction of Shopping Complexes
- Establishment of Village Industries Cluster
- Setting up of Village Industries Training Centre
- Establishment of Khadi Cluster
- Revitalisation of Sick/Defunct Village Industries Cooperative Societies and Institutions
- Establishment of Marketing Outlets

Approach, Strategy and Thrust Areas

- To develop product-wise clusters of Khadi and Village Industries
- To develop domestic as well as export market
- Innovations in design and technology
- Creation of entrepreneurship
- Prevent migration by enhanced allocation for Prime Ministers Employment Generation Programme.

Key initiatives of the first two years

- Expansion & Modernisation of Sliver project at Ettukudukka in Kannur
- Marketing and strengthening of weaving sector including production incentive to spinners and weavers
- Establishment of silk production centres
- Special Employment Generation Programme

Critical Gaps to be addressed in the next three years

- Shortage of sufficient quantity of good quality cotton
- Better marketing mechanism
- The welfare of the workers engaged in this sector and their skill development ventures

Physical Targets and Deliverables

6.4.3 Khadi and Village Industries play a substantial role in generating employment in rural areas with minimum investment. These industries use eco-friendly, local resources and generating higher employment opportunities. The Khadi and Village Industries are popularizing the margin money scheme and by providing facilities for marketing and export. During the 12th Plan period, it is proposed to

- create 62,000 additional employments through the strengthening of weaving sector
- Implementation of special employment program
- Increase the production in Khadi and Village Industries Sector by 25%
- Strengthen the sliver and silk production
- Setting up of 3 more Khadi Clusters

6.5 Cashew Industry

6.5.1 The overall production of raw cashew nuts in India during 2011-12 was estimated at 692000 MT. Kerala produced 73000 MT which is about 11% of national production, while Maharashtra is the top among the states with 32% during 2011-12. The industry is mainly controlled by private sector. Kerala State Cashew Development Corporation Ltd (KSCDC) and Kerala State Cashew Workers Apex Co-operative Society (CAPEX) are the two state organizations involved in cashew processing sector in Kerala.

Recommendations of the Working Group

- Integration of the two state organizations affianced in cashew processing sector in Kerala KSCDC and CAPEX as one unit, to facilitate employment generation, increase production capacity.
- Rejuvenation of cashew industry: Intervention of government companies in procurement of cashew for stabilizing cashew industry. As the improvement of cashew plantations is an important aspect for the development of State, intervention is needed in Organic cashew cultivations and promoting high yielding variety of plants. We require good quality planting material, which increase both production and productivity, to replace the old trees. For this the activities required are Start procurement centres, Development of organic cashew farms, Establishment of raw nut bank, Grant reserved forests on lease for cashew plantation, Develop high yield varieties of crops and maximum number of varieties of crops, replace senile cashew trees with good planting material, Obtain remedy for pest management and Start tie up with Kerala Agricultural University for developing vide crop varieties.
- New Market Development, for profitable business in International Cashew Trade
- International brand building like "CDC" and initiate a pilot programme in Russia and China to understand the market and consumer psyche
- Develop new value added products of cashew
- Improve packaging system
- Domestic market development through product awareness
- Socio Economic importance of workers
- Since, Cashew industry is a labour oriented industry, which gives more opportunities to women, especially in Kerala, the improvement in the quality of labour, productivity, working conditions and provision of welfare and social security measures for women are targeted.

- Also, modernisation and up gradation of factories through providing canteen facility, drinking water facility and hygienic sanitation to convert them to international standards; Reconstruction of all dilapidated cashew factory sheds and providing mandatory protective garments for preventing dermatological reactions.
- More attention to Research and Development in areas like organic farming, new market development, brand building, rejuvenation of cashew industry etc.

Approach, Strategy and Thrust Areas

6.5.2 Twelfth plan approach on Cashew industry is enhancing the industry by giving emphasis on Employment Generation, Skill development and Technology upgradation. Also concentration is on Product diversification & value addition, Domestic and Export Market promotion. Mechanisation of processing cashew should be promoted and hand crafted cashew can be positioned as a value added product. Thrust areas and issues as listed below have also to be addressed.

- The rate of growth of production of raw nuts in India and Kerala is very low and the productivity per hectare is also low. Area and production under cashew crop has been declined.
- Cashew factories work at low level of capacity utilization and productivity.
- Raw nut producing countries started processing kernels and they entered the world market posing a serious threat to Kerala and global market also witnessed growing demand for substitute nuts and kernels in the place of cashew.
- The price of kernels which is controlled by market agents in New York undergoes wide fluctuations.
- The initiatives to increase Organic cashew had not turned out positively.

6.5.3 For achieving the above said goals, the State should follow a strategy of ensuring the cultivation of high yielding variety of cashew plants and increase the in house production of raw nuts. Priority should also be given to development of national/international market, R&D, Product diversification and cluster development. Majority of the workers in this industry are women who support their family and many of the workers are barely literate. More over there is no child labour reported. Hence this industry should be considered as a fair trade industry and must be protected.

Key Initiatives of the first two years

6.5.4 Modernisation of Cashew Sector including Brand Building for KSCDC & CAPEX is a scheme for Upgradation of Facilities and Modernization of Cashew Factories & Cashew Factory Sheds, Expansion of domestic market for Cashew/ Market Development and International Brand Building.

6.5.5 Cultivation of Organic Cashew and Establishment of a Raw-nut Bank: The scheme is for the establishment of cashew gardens and organic cashew cultivation in the available land and also to establish a Raw nut Bank to ensure steady supply of nuts for processing and promotion of the cultivation of organic cashew nuts.

Major Initiatives of the Twelfth Plan of Govt. of India

7.5.6 In the central plan of Government of India Cashew Industry is not highlighted. It can be considered as a food processing Industry. On food processing industries Government of India has taken following initiatives:

- Greater emphasis on decentralized process of implementation with greater involvement of states in selection of projects, beneficiaries and monitoring their implementation.
- Instead of project implementation, focus would be on policy making and coordination so as to address critical issues impacting the value chain in the sector.
- Continue existing focus on infrastructure development, with expansion of scope and depth so as to ensure sustainability of the value chains.
- Setting up of National Mission on Food Processing to improve coordination and implementation of schemes and to enable greater involvement of state governments
- Expanding and modifying existing infrastructure development schemes – Mega Food Parks Scheme, Integrated Cold Chain Scheme
- Develop and strengthening of existing and new institutions
- Taking up a nation-wide skill development programme along the lines of special projects for skill development of rural youths under SGSY of MoRD.

Critical Gaps to be addressed in the next 3 years

6.5.7 Traditional industries play a substantial role in generating employment especially in rural areas with minimum investment. To ensure sustainability and to revamp the this sector, thrust should be given to technology upgradation, restructuring of factories, infrastructure development, skill development, product diversification, value addition and in house products of raw nuts.

6.5.8 Moreover, it is visible that due to various reasons the cashew processing jobs are being transferred from Kerala to neighbouring states. Necessary initiatives should be taken to control this practice to protect the industry in Kerala.

Physical Targets and Deliverables

6.5.9 Development of Cashew sector in Kerala through technology upgradation, restructuring of factories, infrastructure development, skill development, product diversification, market promotion and enhancing export earnings. The following are the major schemes viz. (1) Modernisation of Cashew Sector including Brand Building-KSCDC & CAPEX and (2) Cultivation of Organic Cashew and Establishment of a Raw Nut Bank.

6.6 Other Industries

6.6.1 Other industries in the State play a significant role in the overall development of industry. State provides adequate infrastructure support like road, water supply, electricity and waste management facilities for starting new industrial units. Scarcity for land, high price for the land and the existing rules and regulations for land acquisition are the major problems for the implementation and expansion of large industries. Policy change is needed in land acquisition and private involvement is also needed for the development of large industries.

6.6.2 The PSU network is fairly large and varied with operations in areas like Chemicals, Ceramics and Refractory, Developmental and Infrastructure, Electrical Equipment, Electronics, Engineering, Textiles, Traditional Industries and Wood. It

calls for systematic planning, professional management, dedicated workforce, modern technology, high productivity and product quality, and the state's budgetary support. The network of SLPEs has played an evident role in propping up the manufacturing and service sector in the State. It is one of the largest employment providers in the organized sector. SLPEs provided a strong foundation for the development of small, medium and large scale industries.

Recommendations of the Working Group

- The various parks set up by KINFRA, KSIDC and the Industries Department will be restructured so that their assets can be leveraged using public funding for setting up new parks and strengthening existing parks.
- New parks will also be set up under PPP
- Government will endeavour to identify excess land available with public sector units and with government department so that a land bank is available for setting up new industrial infrastructure in the PPP mode
- Entrepreneurs are the well-spring of societal growth. Entrepreneurs create new enterprises, productive employment and therefore ensure material well-being of society.
- The most important initiative for accelerating the pace of economic expansion in the State is creating such an enabling entrepreneurial ecosystem. Components of a pro-enterprise socio-economic-cultural environment include the following: (i) Simplified procedure for start-up or expansion or closure (ii) Low administrative burdens and compliance cost (iii) Availability of quality human resources (iv) Helpful labour climate (v) Availability of different kinds of funding instruments (vi) A network of industry incubators in different industries with strong scientific support to enable young entrepreneurs to develop concepts into commercially viable projects and (vii) Close liaison will be established with successful entrepreneurs in Kerala to help them grow and diversify.
- Corporate Social Responsibility activities of Public and Private Sector will be more usefully streamlined to enable higher impact
- PSUs shall be encouraged to improve their performance with inputs such as management, planning and implementation of different strategies and policies. Autonomy will be given to profit making and well run PSUs for better performance.
- An MoU system will be introduced to delineate clearly the role of Government and that of PSUs, laying down specific targets, identifying higher levels of performance and encouraging such performance through higher delegation of authority and more incentives.
- To launch Mass Media Campaign to highlight the benefits of entrepreneurship
- To setup sector specific industrial parks with incubation centres in all sectors in distributed location to reach overall development of the society
- To develop quality industrial infrastructure in the State through State Agencies in PPP mode with the participation of NRIs, NRKs, Foreign and Domestic Investors.

- To develop Demand based and Market Drivers Skill Training and Entrepreneurship Development Programme in a Mission MODE
- To implement Services & Commerce led growth strategy for the development of Kerala Economy
- To develop systems enable industry institution linkage for technology development and management
- To create an effective Single Window Clearance mechanism for speedy approval and statutory clearance to new Enterprises
- Number of schemes under industrial sector should be limited and priority should be given to economically viable schemes which generate well paid employment, revenue to the Government and does not make adverse impact on environment.
- Creation of quality internal infrastructure development with PPP mode and external infrastructure development through state support
- Chemical, Textile and steel industries are not desirable for Kerala due to increased pollution, non-availability of cotton and high power consumption.
- Government support may be limited to infrastructure facilities such as power, water supply, land acquisition, road etc.
- Bio technology and nano technology need to be encouraged
- Major Infrastructural projects of GoI like NIMZ, PCPIR to be encouraged

Twelfth Plan Outlay

6.6.3 KSIDC, KINFRA, CMD, RIAB and BPE are the agencies coming under this sector. The projected agreed outlay for Other Industries during 12th Five Year Plan at 2011-12 prices is ₹1719.00 crore. An amount of ₹240.67 crore was provided during 2012-13 and ₹235.95 crore was expended during this year. The budgeted outlay during 2013-14 is ₹239.34 crore.

Key initiatives of the first two years

- Investment facilitation and Industrial Promotion activities
- Life Sciences Park
- Light Engineering Industrial Park, Palakkad
- Supplementary Gas Infrastructure
- Online single window clearance mechanism
- Marine Biotechnology Park
- Business Incubators
- Standard design factories
- Kochi – Palakkad National Investment and Manufacturing Zone (NIMZ)
- Petroleum, Chemicals and Petrochemicals Investment Region (PCPIR)

6.6.4 Kerala State Industrial Development Corporation Ltd (KSIDC): KSIDC is developing major industrial parks across the state. The Industrial Growth Centres in Kannur, Kozhikode, Malappuram and Alappuzha are being further developed by

KSIDC. A Light Engineering Park is also being developed in Palakkad. An Electronic Hardware Park is planned in Ernakulam in an area of 334 acres of land. Life Science Park at Thiruvananthapuram is under acquisition. The Coconut Industrial Park at Kuttiyadi is coming up in 131 acres of land. An amount of ₹570.00 crore is proposed as the projected outlay during 12th Five Year Plan for KSIDC of which ₹87.92 crore was provided during 2012-13 and ₹70.82 crore during 2013-14. The expenditure during 2012-13 was ₹86.10 crore.

6.6.5 Kerala Industrial Infrastructure Development Corporation (KINFRA): The Industrial Parks developed by KINFRA have facilities like developed land or built up space, dedicated power continuous water supply, communication facilities etc., in addition to supporting social infrastructure facilities like administrative block, bank, post office, round the clock security etc., thus providing a ready-made manufacturing environment for easy start-up of industrial units with minimum time and cost. Delay in getting Government clearance for land acquisition is noted as the main hindrance in the smooth functioning of KINFRA projects. Government norms in land filling – exemption required for conversion of land for infrastructure development projects have to change. Delay in completion of survey and valuation for land acquisition for the new projects badly affected the functioning of the projects in time.

6.6.6 During the 12th Five Year Plan period 2012-17, KINFRA proposed to invest around 1000 crores for the development of infrastructure by utilising assistance from Government of Kerala. The major programme proposed to be implemented during the above plan period includes, Industrial Development Zones in major cities like Trivandrum, Cochin and Calicut as well as development of Global Ayurveda Village, Industrial Water Supply Project at Palakkad and Kasaragod, Industrial Park at Ottappalam, Trade and Convention centre at Ernakulam in association with ITPO, Industrial Park at Mattannur etc. KINFRA has also identified 3000 acres of land at various parts of Kerala for Industrial Development Zone as well as for major industrial parks. The agreed projected outlay for KINFRA during 12th Five Year Plan is ₹575.00 crore. The budgeted outlay during 2012-13 and 2013-14 were ₹80.00 crore and ₹86.68 crore respectively. The expenditure during 2012-13 amounts to ₹78.37 crore.

6.6.7 High Speed Rail Corridor: Government approved the terms of reference proposed by DMRC, for an estimated cost of ₹71245 crore for setting up a High Speed Rail Corridor of 570 km from Thiruvananthapuram to Ksaragod. Kerala High Speed Rail Corporation Ltd., a fully owned Govt. undertaking is the nodal agency for implementation of the project. The project of High Speed Rail Corridor is envisaged to provide safe, fast and eco-friendly rail based mass transit services to public at affordable rates. The field surveys and allied activities are in progress. An amount of ₹5.00 crore is proposed as the 12th Five Year Plan agreed outlay.

6.6.8 Centre for Management Development (CMD): The Centre for Management Development (CMD) established in 1973 is a leading, self-supporting autonomous institution, which provides Research, Consulting and Training Support to the Development Agencies, Corporate and the Government, at the national, state and local levels. Its main objectives are to enrich management policies and practices through programmes of study, training and research.

6.6.9 The Eleventh Five Year Plan projected agreed outlay for CMD was ₹16 lakhs. The budgeted outlay for the five years amounts to ₹82 lakhs and the amount was fully expended. During the Plan period CMD undertook several research assignments for

GoI, GoK, Public Sector Enterprises and autonomous institutions. An amount of ₹250 lakh is proposed at 12th Five Year Plan agreed outlay for CMD for the following activities. The budgeted outlay during 2012-13 was ₹30.00 lakh and the amount was fully expended. The outlay during 2013-14 is ₹33 .00 lakh.

6.6.10 CMD plans to strengthen the continuing activities and diversify into new areas during the five-year plan. The Centre shall continue its support to the Governments at the Central, State and Local levels. It will continue to take up evaluation, impact assessment and monitoring of various programmes of the Governments, apart from providing consultancy support to the SLPEs.

6.6.11 During the Twelfth Five Year Plan, the Centre proposes to set up a Knowledge Centre (KC) in CMD, a centralized knowledge repository with a vibrant platform for cutting-edge ideas, information, resources and database. The KC will endeavour to serve as a digital single point of reference for information on key sectors. It shall serve to optimize information compilation, analysis, organization of data into intelligible forms and retrieval for the benefit of Governments, Industries, Academic Community, Researchers and the Public at large. When fully developed, it can serve as a platform for collaborative knowledge exchange for the improvement of performance in various sectors.

6.6.12 CMD propose to undertake a detailed study of the various aspects of the technology up-gradation of the SLPEs, ranging from technology evaluation, feasibility, technology selection, technology sourcing etc. These studies, which propose to cover around 62 SLPEs individually across 9 sectors over a period of 5 years, will offer a comprehensive road map for the Enterprises to up-date their present processes, systems and machinery. The importance of monitoring and evaluation efforts to aid as a tool for enhancing the effectiveness of the development programmes/ schemes has been increasingly emphasized both at the National and State level during the last several years will be considered.

6.6.13 CMD has been offering Project Management Services covering design, procurement of agencies and supervision of works, the public sector enterprises during the last three years. CMD intends to expand the Project Management Services at cost basis, to various Government Departments, all public undertaking, other government agencies etc., during the 12h Plan period. The project management division is sought to be strengthened during the period, equipping it to cater to mega and complex projects at cost basis by the end of the plan period.

6.6.14 Public Sector Restructuring and Internal Audit Board (RIAB): Public Sector Restructuring and Internal Audit Board (RIAB) is functioning under the Department of Industries. RIAB was constituted in 1993, executes State owned Enterprise Reform Initiatives. Specific revival proposals have to be formulated for the Public Sector Undertakings with strict prioritization to get maximum benefits to PSUs by RIAB. The 12th Five Year Plan agreed outlay for RIAB is ₹7.5 crore and the outlay for PSUs is ₹557.75 crore. The budgeted outlay during 2012-13 were ₹1.00 crore and ₹70.2 crore to RIAB and PSUs respectively and during 2013-14 ₹1.25 crore and ₹80.00 crore are provided.

6.6.15 The major activities proposed for 12th plan are the following:

- Organizing Monthly Review meetings, data collection from PSUs using web based monitoring system, benchmarking using CMIE data (PROWESS),

Engagement of Specialists for preparation of Corporate Plans and analytical reports, oversight of CSR initiatives (Benefit Monitoring and Evaluation)

- Purchase of technical and management books/ journals / case studies from international knowledge repositories on Public Sector like OECD, GCGF, COMSEC, ACG, facilitate availability of online resources from digital libraries benefiting PSUs also, through RIAB portal.
- Audit Monitoring and Performance Audits in PSUs, Engagement of Independent Expert Monitors (IEMs) / Auditors.
- Execution of need based Management Development programmes for PSUs through various management institutes in Kerala and elsewhere agencies after training need assessment by RIAB and course evaluation.
- Skill Upgradation programme for workers including Training Need Assessment through Polytechnics and similar agencies.
- Conducting Seminars, Conferences, Award Ceremonies on PSUs.
- Preparation of case studies specific to achievements in Kerala, publication of 'Resurgence' and arrangement of Internships.
- Rejuvenation of PSUs: (i) Public Sector modernisation (ii) SME Cluster Development around PSUs (iii) Social cost for economic growth (iv) Training and Capacity Building (v) E-Governance in PSUs.

6.6.16 Bureau of Public Enterprises (BPE): The Bureau of Public Enterprises functions as the secretariat of the Public Enterprises Board, helping government in policy formulation, investment decisions and personnel & labour management of public enterprises. An amount of ₹125.00 lakh is proposed as the 12th Five Year Plan agreed outlay for BPE for the following activities. ₹25.00 lakh each was provided during 2012-13 and 2013-14.

6.6.17 BPE has been preparing the Annual Review of Public enterprises which is classified as a budget document and covers an overall review of performance of the State Level Public Enterprises. As part of initiating a more effective monitoring and Review Programme Government now intends to carry out the Review in a frequent manner with an aim to help the enterprises to identify problems early and effect appropriate correction. A monthly review of the SLPEs is planned in this context. It is also envisaged that the results of such reviews are published so that wider dissemination is facilitated.

6.6.18 The aim is to have a periodical refresher training Programme for the supervisory/managerial personal of PSUs and to link their career development with the successful completion of the Programme. It is also targeted to develop a pool of managerial professionals to cater to the needs of Public Sector Units and thereby strengthening Public Sector Units. The training will be on best practices in the areas of Corporate Governance, Corporate Finance, Emotional Intelligence, Modern operations, Management etc.

6.6.19 Long term planning and use of effective strategies to accomplish sustained growth, is essential for improving the overall performance of the SLPEs. In this context Government wishes to facilitate preparation of Corporate Plans in the SIPES in a phased manner with the help of internal agencies. Induction of Core Professional

Team to strengthen BPE & Identification of operational problems of PSUs relating to marketing, Finance, production etc. In order to complement the above components, services of an expert group is essential to undertake the mandated functions. The expert group will consist of three experts drawn from Production, Planning and Finance areas.

Major initiatives of the Twelfth Plan of Govt. of India

- Align stakeholders in the process of development and implementation of industrial policies
- Simplify processes for doing business in India by mandating a ‘Regulatory Impact Assessment’ and operationalising singlewindow clearance across the country
- Create a level-playing field for Indian manufacturers through fiscal measures by correcting anomalies in duty structures
- Boost demand for domestic manufacturing, regardless of ownership of enterprises, through public procurement backed by minimum threshold quality parameters.
- Bring down the cost of finance
- Improve Government–industry and industry academic collaboration
- Encourage technology transfers through Foreign Direct Investment/Joint Ventures
- Improve technical standards and voluntary compliance, across the industry.
- Encourage adoption of ‘green technology’
- Improve transport and power infrastructure
- Set up NIMZs (National Investment and Manufacturing Zones)
- Make industrial clusters more effective by creating both, the ‘hard’ physical infrastructure as well as the ‘soft’ infrastructure for knowledge creation and sharing.
- Design an effective land-acquisition process for industrial development
- Modernise labour regulations and institutions
- Improve skill availability through Skill Councils
- Ensure social protection to all employees in the manufacturing sector and develop innovative insurance systems for the informal sector
- Improve ‘industrial relations’ through streamlining of consultative processes and representative institutions
- Improve the quality of manufacturing managers/supervisors

Critical Gaps to be addressed in the next three years

- KSIDC will require suitable technology for the manufacture of Titanium, Metal, Alloys, Downstream Products etc.

- For backward regions identify the competitive strengths of existing clusters and develop them into knowledge clusters and connect them with global hubs
- To promote backward areas, it is proposed to create enterprise zones, targeted for economic revitalisation.
- Main streaming of environmental constraints – production techniques and organisation practices should be environment friendly
- Develop recycling and waste management industry
- Development of eco-friendly parks
- Establish Kerala as one of the most attractive locations for business investment by developing innovation driven and socially and environmentally sustainable industries
- Shift in the structure of industry from resource driven to efficiency – driven and then to innovation driven

Physical Targets and Deliverables

- Kochi-Palakkad Investment/Integrated Manufacturing Zone
- Organize the second Emerging Kerala Biennial Event
- Development of an Aeropolis around Trivandrum Airport
- Establish a Life Sciences Park
- Setting up a Business Incubator at Kochi
- Set up a Skill Development Centre at Kochi
- Commission of Coconut Industrial park at Kuttiyadi
- Open the Tissue Culture Laboratory for natural fibre plants at Kodungallur
- Operationalise the Online Single Window Clearance Mechanism
- Commission the Light Engineering Industrial Park at Palakkad
- Acquire requisite land for the Petrochemical Park at Kochi
- Acquire suitable land for the Green Industrial Park at Kochi
- Global Ayurveda Village
- Business Park, Kollam
- Standard Design Factories
- Industrial Development Zone and Land Bank
- Marine Park, Beypore

6.7 Mining and Geology

6.7.1 Kerala State is endowed with a number of occurrences/deposits of minerals such as Heavy Mineral Sands (Ilmenite, Rutile, Zircon, Monazite, Sillimanite), Gold, Iron ore, Bauxite, Graphite, China Clay, Fire Clay, Tile and Brick Clay, Silica Sand,

Lignite, Limestone, Lime shell, Dimension Stone (Granite), Gemstones, Magnesite, Steatite etc. However, mining activities on large scale are confined mainly to a few minerals - Heavy Mineral Sands, China Clay and to a lesser extent Limestone/Limeshell, Silica Sand and Granite. In fact, Heavy mineral sand and China Clay contribute more than 90% of the total value of mineral production in the State.

6.7.2 The Department of Mining and Geology is the statutory body under Industries Department of Government of Kerala for mineral exploration, prospecting, and administration. There are 81 major mineral mines that are operation in the State. Also there are 3500 licensed minor mineral quarries in the State. Government gets revenue from minerals mainly by way of royalty. Revenue collected during the year 2011-12 was ₹44.3 crore of which ₹11.17 crore from major minerals ₹33.13 crore from minor minerals.

Approach, Strategy and Thrust Areas

- Technology and capital support will be provided for effective value addition of rare mineral resources like ilmenite, thorium and monazite.
- To adopt and introduce latest technology for the extraction and value addition of minerals with the help of Central Agencies
- A policy for regulation of mining may be introduced and it may be integrated with the research activities of KMM
- Create a centralised vigilance cell in TVPM with adequate staff, training, equipment, vehicles etc. for controlling illegal quarrying.
- Mining operations without creating environmental problems

Twelfth Plan Outlay

6.7.3 An amount of ₹15.00 crore is proposed at the 12th Five Year Plan agreed outlay for the following activities. The budgeted outlays during 2012-13 and 2013-14 are ₹2.11 core and ₹4.32 crore respectively. The expenditure during 2012-13 was ₹1.87 crore.

Key Initiatives of the first two years

6.7.4 Mineral Investigation: Implementation of e-Governance project and modernisation of the department are the two important initiatives attempted in the first two years of the Five Year Plan. The Department has formulated a main objective of gathering data on the mineral resources without tampering the ecology and synthesize them for development of mineral based industries and for attracting investors in the mineral sector. This is done with the intention of attracting investors in the mineral sector. Also the department proposes to procure modern softwares and hardwares for implementing e-governance activities and modernizing the exploration activities, modern drilling machines, drilling accessories.

6.7.5 Human Resources Development (Training of personnel): The Department proposed to impart training to both technical and ministerial staff to enhance the capabilities in the respective fields.

6.7.6 Strengthening of Laboratories: The Department has 3 laboratories viz. Chemical Laboratory, Minerology and Gem Testing Laboratory and GIS Laboratory. These three labs support the mineral exploration programmes. The Department proposed to

procure equipments like platinum wares, chemicals, glassware, fume hood etc. for chemical lab, digital data for GIS lab and chemicals and allied items for Minerology and Gem Testing lab.

6.7.7 Setting up of sub- offices and strengthening of existing infrastructure: The subject Committee and Legislative Committee in the year 1998 have recommended setting up of Taluk level Office in the Department of Mining and Geology. The Department will have to maintain as well as strengthen the existing infrastructure facilities.

6.7.8 Implementation of e-Governance Project (New Schemes): NIC had submitted a proposal for e-Governance project in 2009. During 11th Five Year Plan ₹41.6 lakh have been spent for software development by re-appropriation. At present NIC is engaged in development of software called Mining Activities Management System which is a web based solution for administration of both Major Mineral and Minor Mineral. The e-Governance project will make the processes transparent and efficient. The citizen will have facility to view the status of applications and will be able to submit applications online. There will be provision for online filing of returns.

6.7.9 Modernisation of Mining and Geology Department: The following are the new schemes of the department: (i) Photogrammetric software and hardware (ii) High Resolution Stereo Images (iii) Laser scanner and mountable vehicle (iv) Differential Global Positioning System (DGPS)-1 No. (v) Lab modernisation and training (vi) Generation of terrain base data along with DGPS base points.

Major Initiatives of the Twelfth Plan of Govt. of India

- Strengthening of Institutions
- Encouraging R&D and Technology Development
- Creation of Infrastructure - linking infrastructure in mineral bearing areas.
- Skill Development
- Ensuring Full and Productive Coverage of Survey and Exploration
- A Database of Mineral Resources Needs to be Developed
- Ensuring Availability of Financial Resources (risk funds)
- Ensuring Environmental Sustainability of Mining

Critical Gaps to be addressed in the next 3 years

- Strengthening institutions and encouraging Technology and Research and Development
- Ensuring environmental sustainability of mining including mitigation
- Full and productive coverage of survey and exploration measures including developing GPS data base of mineral resources

Chapter

7

INFRASTRUCTURE

...minor ports will be developed with new port facilities, support infrastructure, upgradation of existing facilities along with installation of modern and efficient handling equipments... state maritime board will be set up through an enactment... the state needs to provide a dedicated source of funding for road development such as fuel cess or reasonable revenue from motor vehicle tax to form a corpus fund... thrust will be given to ensure quality, right and sustainability of drinking water... emphasis will be given to community and competitive sports... a comprehensive habitat and housing policy will be implemented in the state... this chapter provides details of the following seven sub sectors viz. (i) ports (ii) roads, bridges and transport (iii) inland water transport (iv) public works (v) water supply (vi) sports and youth affairs, and (vii) housing...

7.1 Ports

Recommendations of the Working Group

7.1.1 The following are the main recommendations of the Working Group.

- State Maritime Board will be set up through an enactment. Entire revenue from port operations would propose to go to this Board, which would utilize them for port development.
- Minor Ports under Port Department including Azheekal, Beypore, Ponnani, Kollam-Thankasseri, Vizhinjam and Kodungallur will be developed with new port facilities, support infrastructure, up gradation of existing facilities along with installation of modern and efficient handling equipments.
- PPP Mode of development of Ports will be supported with adequate infrastructural facilities.
- Vizhinjam International Transshipment Container Terminal will be developed with all Infrastructure facilities
- The focus will be given to the overall infrastructure development of four main ports such as Kollam, Kodungalloor, Beypore and Ponnani.

- The proposed Maritime Board comes in to effect, all the development activities will be carried out through this Board and a revenue income can be expected after meeting all its expenditure. Hence the Plan assistance requirement for the sector will be limited.
- The facilities in the ports like Kollam and Vizhinjam have to be enhanced and that the thrust areas are to be given more attention.
- Improve the cargo port facilities at Kollam and Ponnani.
- Develop Ship and boat facilities in the state.
- Improve maritime education in the state both in public and private sectors and also develop Maritime Environment Research Institute.
- Establish Tidal Meteorological station on scientific basis.
- Initiate steps for Kollam based Cashew export through cargo
- Full computerization of offices and ports.
- Modernize dredging facilities.

Approach, Strategy and Thrust areas

7.1.2 The geographical location of Kerala is very close to international shipping route. There are seventeen minor ports in Kerala, out of which three are considered as intermediate ports based on berthing, cargo handling and storage facilities available in them. These have contributed much to the development of industry, trade, commerce and agriculture in the country. During 12th plan, it is proposed to develop all port infrastructure facilities so as to handle all type of cargo and passenger transport. The approach of the sector during the plan period is as follows.

- State Maritime Board will be set up through an enactment. Entire revenue from port operations would propose to go to this Board, which would utilize them for port development.
- Minor Ports under Port Department including Azheekal, Beypore, Ponnani, Kollam-Thankasseri, Vizhinjam and Kodungallur will be developed with new port facilities, support infrastructure, up gradation of existing facilities along with installation of modern and efficient handling equipments.
- PPP Mode of development of Ports will be supported with adequate infrastructural facilities
- Vizhinjam International Transshipment Container Terminal will be developed with all Infrastructure facilities
- To establish a network of ports along the coastal line of our state for effectively handling bulk cargo traffic, which is now handled by road and rail network, thereby enhancing the economy of our state, creating more jobs, reducing pollution and road congestion by diversion of cargo to coastal shipping and enhancing the quality of life of the people by using maritime resources.
- Promoting economic development in associated hinterlands
- All the port asset locations and notified limits will be developed as Strategic Business Units with master plan and management structures

Twelfth Plan Outlay

7.1.3 An outlay of ₹1982 crores is earmarked for 12th five year plan 2012-17 for this sector.

Key initiatives of the first two years

7.1.4 State Maritime Board will be set up through an enactment. Entire revenue from port operations would propose to go to this Board, which would utilize them for port development.

- Minor Ports under Port Department including Azheekal, Beypore, Ponnani, Kollam-Thankasseri, Vizhinjam and Kodungallur will be developed with new port facilities, support infrastructure, up gradation of existing facilities along with installation of modern and efficient handling equipments.
- Vizhinjam International Transshipment Container Terminal will be developed with all Infrastructure facilities
- Development of Thiruvananthapuram (Valiyathura port)
- Development of Kodungallor (Munambam) port
- Maritime Education and Training Activities and capacity building
- Establishing Hydrographic Survey Institute in Kerala
- Establishing Hydrographic data centres in non-major ports of Kerala
- Hydrographic survey and feasibility study of Inland Waterways
- Construction of office building to Hydrographic survey wing, Thiruvananthapuram
- Maritime Industrial development & Maritime Service and facilities Development.

Major Initiatives of the Twelfth Plan of Govt. of India

- The plan will need to ensure adequate investments in the port sector to meet growing capacity needs of international and coastal trade, improve efficiency.
- To support capacity expansion in port sector, necessary measures for efficient environment clearance and land acquisition will be taken up
- Tariff Regulation. With the increase in port capacities, it is necessary that in the next five years, the port move gradually to a competitive mode of Tariff.
- Electronic Data Interchange
- Dredging. The major objective of the twelfth plan to increase the draft to at least 14 meters in all ports
- Productivity and dwell Time
- Containerisation and Hinterland Connectivity
- Private sector participation
- Development of non-major ports
- Institutional Reforms and Corporatisation

Critical Gaps to be addressed in the next three years

7.1.5 Movement of heavy machineries, gas, chemical and other hazardous goods must be diverted from roadway to waterways. For that it is necessary to develop waterway sector which include the following:-

- Increasing infrastructure at minor ports, including warehouse, modern cargo handling equipment etc.
- Improve connectivity of ports with rail and road heads
- Increase draft at ports to 10m or above
- Reduce charges at port, especially service tax
- An implementation agency needs to be setup
- NW.3 should be made fully operational. Extension of waterway No.3 to the south & north of Kerala needs to be taken up on priority basis
- Establishment of Maritime Board to be speeded up
- Feeder canals with adequate width needs to be developed across the State to ensure Port – hinterland connectivity
- Vallarpadom container terminal at Kochi and Vizhinjam international container transshipment terminal must be developed with all infrastructure facilities
- Inadequate port facilities and lack of proper supporting land to develop terminals as well as lack of modern machineries for high speed loading and unloading of goods
- Lack of vessels and barges with modern technology design and features. Poor utilization of fleets and delays in operation suppress the efficiency as well as economy of transport through shipping
- Well-designed ports and related infrastructure including efficient vessels, proper schedule of operations coupled with integrated transportation system are necessary.
- To open up north south coastal transport connecting major, medium and minor ports in the west coast under private sector.
- To link all coastal districts by sea transportation by linking the existing harbors /medium / minor ports and constructing / improving medium sized ports at Kollam, Alappuzha, Azheekal, Beypore etc.
- To share part of international container traffic by linking the international container shipping route with the new port at Vizhinjam and linking it with the Kochi port.

Physical Targets and Deliverables

7.1.6 The Port Department of Kerala has been carrying out shipping operation in the Non- Major ports of Azheekal, Beypore, Kollam and Vizhinjam. As a policy matter Government of Kerala has decided to develop six non- major ports to their maximum possible capacity as part of Coastal Shipping initiative to reduce road traffic, pollution and fuel use. The Ministry of Environment & Forest (MoEF), Govt. of India have

accorded Environmental Clearance (EC) & Coastal Regulation zone (CRZ) clearance to the proposed Vizhinjam International Deepwater Multipurpose Seaport Project. The Government restructured the project model to avail maximum VGF (Viability Gap Funding) from Government of India. Government decided to include Engineering Procurement Contract (EPC) work for the construction of breakwater and Fish Landing Centre as funded work in PPP tender, in which the state would provide the funding. The remaining port infrastructure works ie., the dredging reclamation, Container and Cruise berths, superstructure and equipment etc. and operation would be implemented availing Viability Gap Funding by a Private Developer cum operator on a PPP basis identified through a global bidding process for a concession of 40 years, extendable for another 20 years.

7.2 Roads & Bridges and Transport

7.2.1 A well-developed system of transport and communication is essential for economic development of a country. Good physical connectivity in the urban and rural areas is essential for economic growth. Road development activities in the State are being carried out under three major heads viz, Roads and Bridges, Road Transport and Other Transport Services.

Recommendations of the Working Group

7.2.2 The Working Group has made the following recommendations for the effective implementation of the road infrastructure during 12th Five Year Plan.

- There is a need to undertake planned development of State Highways, important Major District Roads and City roads in the State which should include geometrical improvement, junction widening, relaying the roads after proper design and giving maintenance contracts.
- Considering the present road network an assessment needs to be made by PWD for the funds required for regular maintenance of these roads including those maintained by LSGIs. Accordingly plan & non-plan funds should be provided for maintenance and original works from a corpus fund.
- The State needs to provide a dedicated source of funding for road development by transferring the revenue from road sector such as fuel cess or entire revenue from Motor Vehicle Tax (₹1,000 Crore) to a corpus fund.
- Adequate funds are not being provided for maintenance of existing Govt. Buildings. Far more resources are being provided for construction of new buildings. Govt. of Kerala had created ₹150.00 Crore for Asset Maintenance Fund for undertaking up gradation of Govt. Buildings.
- The issues of revision of SORs, adoption of CPWD type of system and issue of tender excess needs urgent consideration and relook.
- The City Road Improvement Project should cover more cities beyond Thiruvananthapuram, Cochin and Kozhikode viz: Kottayam, Thrissur, Malappuram etc. More funds should be provided for that.
- Quality Control should be given higher priority

- The Committee proposes to have a policy on toll collection on the newly developed State Highways as an additional source of funding, in addition to the toll bridges and ROBs.
- Introduction of Green Road concept in the 12th Five Year plan period will help the State to have high – performance sustainable new or redesigned / rehabilitated road. The major impacts of this concept are –
 - ✓ Reduces impacts adverse road comfort and safety due to redesigning of the road alignment
 - ✓ Reduces impacts of polluted storm water by efficient storm water management
 - ✓ Improve human and wild life health
 - ✓ Encourage Innovation in road and bridge designing
 - ✓ Reduces Green House Gas (GHG) emission
 - ✓ Improves fuel efficiencies and reduces energy usage and reduces air pollution
 - ✓ Increases pedestrian, bicyclist, wild life safety and provides quiet and long life pavements

Approach, Strategy and Thrust Areas

7.2.3 The State has prepared an approach for 12th Five Year Plan and the thrust areas are the following,

- Considering the present road network an assessment will be done by PWD for the funds required for regular maintenance of the roads including roads maintained by LSGIs. For this plan and non-plan funds should be provided for maintenance.
- State needs to provide a dedicated source of funding for road development such as fuel cess or entire revenue from Motor Vehicle Tax (₹1000 Crores) to a Corpus Fund
- Condition of roads maintained by local bodies, especially Corporations and Municipalities is in bad position. Adequate resources are not being used by LSGs for this purpose, though large funds are being devolved to LSGs. There is a need to change the stipulation in fund devolution to LSGs so that greater percentage of funds devolved could be used for upgradation /maintenance of city roads. Transferred institutions to LSGI's especially in urban areas are being maintained poorly. Here, greater percentage of funds should be used for building maintenance for transferred institutions, especially in districts and taluks headquarters, municipalities, corporations as well as Jilla Panchyats.
- There is a need to undertake planned development of State Highways, important Major District Roads and City roads in the State. Such planned developments should include geometrical improvement, junction widening, relaying the roads after proper design and giving maintenance contracts. Twelfth Five Year Plan envisaged 25000 KM road development and maintenance. Creation of Corpus Fund for the development of 1000 KM of State Highways and external assistance will be used for planned development of major roads during the Plan.

- A system of annual revision of SORs will be done by an Empowered Committee chaired by Chief Secretary for avoiding tender excess in bidding Process
- City Road Improvement Project should cover more cities beyond Thiruvananthapuram, Cochin and Kozhikode. More funds should be provided for that
- Quality Control should be given high priority. PWD should develop Quality Control Cells for super check through sampling and use of standardized labs to check quality of all the large works and a certain percentage of smaller works.
- KSTP II has been proposed for funding to the World Bank for ₹1352 Crore to complete the remaining works of KSTP phase I. This should be pursued on priority basis and implemented in 12th Five Year Plan.
- The State should have a policy on toll collection on the newly developed State Highways as an additional source of funding, in addition to the toll bridges and ROBs.
- For major road widening projects, green field roads and bye passes, the State should develop a policy for commercial utilization of land as well as providing developed land to the owners whose land is being required. Government should develop policy and rules on this issue to facilitate development of bypasses, major widening of roads and green field roads.

7.2.4 The strategies of the Twelfth Five Year Plan are the following;

- Improvement of Overall Road Network Quality
- Improvement of Road Function (Speed, Safety etc.)
- Improvement of Interstate connectivity
- Attracting more investment in road sector through Road Fund Board/SPVs etc. Improvement of quality of construction through Quality Control mechanism in KHRI.
- Strengthening of Investigation and Detailed Project Report Preparation capabilities of DRIQ Board
- Governance and Information and Communication Technology utilization for more efficient operations

Twelfth Plan Outlay

7.2.5 The Outlay earmarked for the sub sectors during 12th five year plan 2012-17 are given below:

	₹ (Crore)
1. Roads & Bridges	3861.00
2. Road Transport	530.00
3. Other Transport Services	953.00
Total	5344.00

Key Initiatives of the first two years

7.2.6 Key initiatives of the first two years of the 12th Five Year Plan are the following.

- Implementation of State Road Improvement Project
- Implementation of PPP (Annuity) Road Maintenance Projects
- Establishment of Quality Control and Upgradation of KHRI as quality Control Unit
- Training of Department Personnel Equip with the New Technology and Quality control methods
- Modernization and Qualitative Improvement of Fleet in KSRTC

7.2.7 For the implementation of Kochi metro Project a tripartite agreement has also been inked by GoK, GoI and Kochi Metro Rail Ltd.

7.2.8 Establishment of Special Purpose Vehicle, Kerala Mono Rail Corporation Limited and accord AS to engage M/s. DMRC as a general consultant for Kozhikode and Thiruvananthapuram Mono Rail Projects.

Major Initiatives of the Twelfth Plan of Govt. of India

7.2.9 Major initiatives in the Twelfth Five Year (2012-17) Plan period are:

- Earmarking of Plan funds for IRQP and strengthening /maintenance for non-tollable roads
- Development of capacities of NHAI, BRO and other implementing agencies
- Prioritisation of special links for feeder roads to important Railway points, Ports and areas where rail link is not possible
- Special focus on development of roads for Delhi-Mumbai industrial corridor
- States to be encouraged to develop core network for rural connectivity
- Providing universal connectivity in rural areas under PMGSY, launch of PMGSY-II and pilots on PPP in some selected PMGSY roads.
- Focus on implementation of rural road projects in the LWE districts through the Integrated Action Plan (IAP)
- Investment in R&D, green technology and design for better and safer roads

Critical Gaps to be addressed in the next three years

- An integrated transport network for the State
- Advance action will be taken to widen the existing arterial and sub-arterial roads to 4/6 lane standards with provision for pedestrian walking and crossing facilities, cycle tracks and off street parking
- To encourage battery operated/solar powered low capacity vehicles in rural areas by offering special incentives
- Introduction of Green channel will be considered for avoiding unnecessary detentions and harassments of vehicles at check posts. All check posts will

modernize with intelligent vehicle inspecting system to reduce detention period of vehicles for checking.

- Motor Vehicle Department to be restructured to make it more as a Transport Regulator than mere revenue collection and licensing agent
- Model driver training institutions to be established in different districts with requisite infrastructure support
- To ensure availability of adequate trained manpower to manage and operate different transport operations including traffic congestions in cities, highways etc.
- To reduce accidents rates, development of parallel modes of transport like railways, inland waterways and coastal shipping along with efforts to augment the road network.
- To take measures to reduce road accidents fatalities to zero level
- Completing the doubling and electrification works as well as the introduction of automatic signaling system
- Reduce dependency on personal transport and increase share of railways in interstate and intercity transport and that of buses in intracity transport.

Physical Targets and Deliverables

- Development and improvement works of 4000 kms. of State Highways and 5000 kms. of Major District Roads
- Construction and improvements of Bridges and Culverts in State Highways and Major District Roads
- ₹1000 lakh is for railway Safety Works including construction and renovation of Railway over Bridges in PWD Roads
- Construction of 50 nos. of roads in Thiruvananthapuram, Kollam, Kochi, Thrissur and Kozhikkode cities
- An amount of ₹10000 lakh for Road Safety works viz., Erection of traffic Sign Boards, Road markings, Erection of hand rails, Providing traffic lights, Surveillance Cameras, Reflectors, Medium reflectors, Modular bumps and for conduction of Seminars, training programmes, Workshops etc.
- An amount of ₹2000 lakh is for quality upgradation programmes for Kerala Highway Research Institute for Research on Road development, feasibility Study for new projects and programmes, Conduction of training programmes within and outside the States, Purchase of equipments and IT (Hardware and Software) related items for research purpose etc.
- Feasibility study for new schemes /Projects up to 500 Nos.
- Construction of 75 kms. of road to Sabarimala under Sabarimala Road Project.
- Airport Seaport road is proposed as a modern four lane highway connecting Cochin Port and Cochin International airport. It is also proposed to provide connectivity to major centres like Cochin International Airport, CSZE, Smart City, Info Park, Ernakulum Collectorate, Vallarpadam Container Terminal etc.

- State Road Improvement Project envisages strengthening, widening and rebuilding major bridges, minor bridges and culverts.
- Quality Control Laboratories will be set up in all districts and for developing quality control units to super check by the establishment of Quality control and upgradation of KHRI as quality control unit
- Road safety works proposes to provide road furniture erection of traffic sign board, road marking, erection of hand rails and conduction of seminars, workshops etc. providing traffic lights, surveillance cameras, reflectors, median reflectors, modular bumps etc.
- The civil works of the Kochi Metro Project has been started and to completed during 2017
- The first phase of Mono Rail Project for Thiruvananthapuram city will become operational by January 2016

7.3 Inland Water Transport

Recommendations of the Working Group

- Provide or permit setting up of infrastructural facilities
- Carryout conservancy measures and river training works for safety and convenience of shipping and improvement of waterways
- Control dumping/removal of material from the river/canal bed
- Remove/alter obstructions or impediments which may impede safe navigation. Regulate construction of structures across waterways.
- Lay down standards for classification of waterways taking into account of the fleet size and development strategy

Approach, Strategy and Thrust Areas

7.3.1 The state has prepared an approach plan for the sector during 12th plan as follows:

- Adequate infrastructure support will be provided for the development of coastal waterways and inland waterways for cargo and passenger transportation
- There will be a time bound plan of action for the development of all possible waterways with the support of Inland Waterways Authority of India
- PPP ventures will also be supported
- The focus areas will be land acquisition, net removal, dredging, side protection of canals, construction of barges etc.
- The need for evolving suitable strategy for integrated development of the sector or integrate it with Tourism, CSIND and water transport which required restructuring of policies.
- The canal officers / Irrigation Department are responsible for the canal /waterway maintenance. Coastal Shipping and Inland Navigation Department and

Inland Navigation Directorate are involved in development of infrastructure facilities.

- There is a need to decide upon the standards to be adopted for the development of the feeder canals which in principle can be that of state waterways standards at the least
- The need to establish a training institute for water transport
- The committee also discussed the scope and need for continuing the programmes of KSINC and Water Transport during 12th five year plan
- Developing the connectivity to the western side of Vembanad Lake through rivers.

Twelfth Plan Outlay

7.3.2 An outlay of ₹953 crores is earmarked for the 12th five year plan 2012-17 for this sector.

Key initiatives of the first two years

7.3.3 State Water Transport Department: During this period Kerala State Water Transport department took stringent action to replace most of the old wooden boats above 25 years old with new steel boats and timely repairs to the rest of the wooden boats by purchasing timber from the Forest Department. Repairing of wooden boats, gear box, Engine, chemical toilet etc. were implemented. Purchase of solar boat is a main scheme of the department.

7.3.4 Kerala Shipping and Inland Navigation Corporation Ltd.: The main objective of the Company is to develop passenger and cargo transportation through Inland Waterways of Kerala, docking and repair of marine vessels, construction of boats, conducting navigation training programmes, conducting tourist cruises, providing navigational aids and maintenance in National Waterway-III.

7.3.5 Coastal Shipping and Inland Navigation Department: The main Inland Canal schemes in the State are implemented through this department. The following programmes are implemented through this department during this period

- Improvements and Modernization of Inland Water ways and Canals
- XIII Finance Commission has earmarked ₹200 Crores for the development of the Inland Water ways and Coastal Zone management including construction of new sea walls and reformation of existing sea walls for 2010-2015
- Development of Feeder Canals Connecting the National Water ways III (RIDF)

Major Initiatives of the Twelfth Plan of Govt. of India

- Efforts should be made to develop deeper stretches of the rivers for IWT /navigational purposes
- Increase in distance to be travelled on waterways compared to road and rail. Technical feasibility of reducing the IWT route length by strengthening the waterway

- There are bridges with low vertical clearance which impede passage of bigger IWT vessels on the waterway such as NW-3. Raising these bridges to at least 5m or some other technical solution to make these canal system navigable.
- IWT terminals require better linkage with road and rail
- Developing night navigation infrastructure with DGPS and RIS in a time bound manner
- Maintenance, Repair and overhaul facilities which are presently in short supply could also catalyze the sector
- Shortage of vessels is most important factor inhibiting faster growth in IWT cargo movement. Private sector investments are attracted to vessel building
- Expanding the usage of IWT for Tourism

Critical Gaps to be addressed in the next 3 years

- Coastal shipping & IWT should be developed wherever such potential exists. The main waterways should be developed with adequate draft for handling minimum 1000 tons capacity barges for their economical operation.
- Capital and maintenance dredging must be carried out on the waterways to make them navigable by large sized boats and barges
- Promote house boat tourism in Kollam- Kochi region

Physical Targets and Deliverables

7.3.6 Promote goods and tourist traffic through inland navigation by linking the inland feeder canals in Central Kerala with National Waterway No. III.

- Develop intermodal container transshipment yards at selected locations on the feeder canal system network in Kollam- Alappuzha – Kochi region for transportation and distributing industrial and consumption goods
- The National Waterway III has three stretches namely Kovalam-Kollam sector, Kollam- Kottappuram area and Kottappuram – Kasargod segment. Only the development work in Kollam – Kottappuram stretch is in progress. The full stretch will be completed.

7.4 Public Works Department

7.4.1 The key focus of the Twelfth Five Year Plan will be construction of various public office buildings coming under the Common pool, which include State Legislature, Elections, Land Revenue, Registration, Excise Dept., Sales Tax offices, Kerala Public Service Commission, Secretariat, Treasuries, PWD, Police Stations, Jails, Fire Force, Village Offices, Raj Bhavan, Court Buildings, Civil Stations, Mini Civil Stations and other buildings under Public works and MLA flats. The works would be taken up on a priority basis.

7.4.2 Construction of Court buildings and quarters for Judicial Officers is another focus area under PWD. This will be taken up under the Centrally Sponsored Scheme. Now the Central share has been enhanced to 75% from 50%. The final bill for the construction of multi storied High Court complex has to be settled. The construction of

court complex at Ernakulam, Thrissur, Thaliparamba, Tirur, Cherthala, Sub Court Payyannur, Mananthavady, Munciff court at Paravur and Wadakkancherry are in progress. The works of court buildings including bi-centenary memorial court complex at Kozhikode, court complex at Attingal, Pala, Kollam, Pathanamthitta, Thrissur, Thiruvalla, Chengannur, Ettumanoor, Iringalakkuda, Idukki, Perumbavoor, Sulthan betheri, Kalpatta, Payyoli and Koilandy are to be taken up.

7.4.3 There is a need to provide gender amenities and additional gender friendly infrastructure facilities in public offices. The toilet facilities in many of the public offices are inadequate. To cover up this shortage, additional toilet facilities for women are to be provided in public offices in the district, taluk and village head quarters. Steps will be taken to make the public buildings women friendly for which proper architectural plan and design of buildings be ensured by avoiding narrow passage, stairs etc.

7.4.4 Energy saving and conservation measures for public buildings shall be ensured by incorporating them in building plan and tender documents. Rain water harvesting and waste disposal system shall be made mandatory.

Twelfth Plan Outlay

7.4.5 The outlay for Twelfth Five Year Plan proposed to the Public Works Department is ₹268.00 crore.

7.5 Water Supply

7.5.1 Access to pure water is a vital factor which gives the platform for human health and development. Unlike most other natural resources water does not have a substitute in the main uses. It can be used more or less lavishly or efficiently but it cannot be replaced. Virtually no activity in life is possible in the absence of water. Kerala is situated in the humid tropic with two prominent rainy seasons of South West monsoon and North East monsoon. The average rainfall of the State is three times higher than the national average. The paradox of abundance of water resources in one season lead and shortage in next season has to be viewed seriously. This is duly caused by undulating topography in which the rain water finds an easy outlet through the rivers to the Arabian Sea. Moreover 60 percent of the geographical area of the State is covered by laterites and lateritic soil permits low infiltration. This often leads to the acute water shortage during the period of January to May which adversely affects life of the people in Kerala.

7.5.2 In Kerala drinking water system is broadly classified into three categories. Firstly, water supply through the schemes owned and operated by the government via Kerala Water Authority and local self-government institutions. Secondly water supply through externally aided projects by different organisations like JBIC, ADB and World Bank. And thirdly, family managed drinking water supply which includes individual families creating their own drinking water resources by constructing wells on their own compound and managing the water supply resource by themselves.

7.5.3 Even though the piped water supply coverage in the rural sector of Kerala is estimated to be 68% by KWA, the actual service level of coverage is not in conformity with national standards. The schemes are designed for a minimum per capita supply of 40 lpcd. But the actual availability of water at the end user during scarcity period is far less than this level. Bharat Nirman, a programme to build rural infrastructure, was

introduced by Government of India in 2005. Phase I of the programme was implemented in the period 2005-06 to 2008-09. Phase –II is being implemented from 2009-10 to 2011-12. Rural drinking water is one of the six components of the Programme. As part of National Rural Drinking Water Programme, Government of India had targeted 744 habitations in Kerala. Among these habitations only 54.44 % are covered as on 01.04.2010. Andhra Pradesh had covered multiple times higher than their target and in Tamil Nadu it has reached 100%. So it is the time to explore the reasons behind the lagging of National Policy in the State.

7.5.4 There are number of hour based water supply schemes existing in Kerala. The single GP rural water supply schemes implemented by KWA are all designed for 8 hours of supply. Majority of Multi GP schemes are designed for 16 hours operation. Comprehensive Regional Rural Water Supply schemes covering more than 2 GPs are designed for 23 hours operation. Due to various reasons none of the schemes reported to be satisfactorily. The 23 hours operation is not practically achieved in any of the multi GP schemes owed to the non-availability of power during the peak hours from 6 to 10 PM in all seasons. In schemes designed for 8 hours operation, during summer months the service will considerably be reduced due to low voltage problems during day time. On an average of 4-6 hours supply shall only be available in these schemes and 8-12 hours in multi GP schemes during summer months when people require water in full quantity. The small Grama Panchayat schemes including Swajaldhara schemes are designed for operation for 4 hours per day. The large single Grama Panchayat schemes handed over by KWA shall be having 8 hours operation. The low voltage issue during summer months affects these schemes also.

7.5.5 The major water quality problems of the State are; universal presence of bacteria and excess iron, fluoride in ground water in Palakkad, Alappuzha and, Thrissur Districts, salinity mainly in coastal tracts and some parts of Palakkad district, excess nitrate (Pathanamthitta), low pH value and excess turbidity. The sources of majority of KWA large and medium schemes are surface water for which the most common quality concern is turbidity and bacteriological contamination. Most of the sources of Jananidhi and GP schemes are either wells located in paddy fields or bore wells. Detailed assessment of the presence of pesticide and other industrial chemicals are not yet been done scientifically, for which, adequate facilities are not available in the State. Pesticides presence (though within limits) has been found in KRWSA sources located in paddy fields. Surface sources like rivers in which the cultivated hinterlands and paddy fields drains that leads to the possibilities of pesticide presence particularly during lean periods.

7.5.6 As per the observation, around 300 medium and large scale industries and 2000 small scale industries discharge hazardous pollutants like phosphates, sulphides, ammonia, nitrates, fluorides, heavy metals and insecticides into the water bodies. About one million m³ of sewage is generated per day in the coastal areas and about 30000 m³ of sewage reaches the surface water sources. Adding to that the residue of chemical fertilizers, pesticides and weedicides from agriculture sector reaches water bodies in Kerala. Deforestation, sand quarrying, poor maintenance of supply chain and inadequate technical support for integrated water resource planning at LSGs are other issues.

Recommendations of the Working Group

7.5.7 The following are the important recommendations of the Working Group.

- State shall establish a well-defined transparent system for water entitlements according to the guidelines and prescriptions made and accepted by the public at large. Government shall be guided by the realization that water is a community resource primarily utilized for public benefit and individual's interest shall not be allowed to take precedence over public interest.
- Developing set of laws, policies, capacities and organizations for efficient water management by government.
- Making transparency of rule and local beneficiary's involvement, the priority may be given to the users, involving them in the planning and decision making process and giving them first rights over the benefits of the project.
- To ensure sufficient water in the entire system to support all the various uses of water and distribute equitably across space and users, Integrated Water Resource Management is essential. It needs coordinated and area specific approaches which involves large scale planning and implementation.
- Considering the financial constraints and managerial limitations of governments, private sector involvement could be encouraged in water resource development and management of the projects. Public and Private Partnership (PPP) model shall be considered for the mix of public and private financing for the provision of services and infrastructure.
- Setting up of Innovative promotion fund to absorb the people participation by investment and development
- Installation of quality pipes to avoid the frequent damages
- Three pilot basis desalination plants may be set up with 100 mild capacity
- Measures are to be taken to enhance the water storage capability of the natural (soil, sub-soil, wetlands, forests, etc.) and manmade (dams, ponds etc.) systems to the maximum level.
- Construction of suitable engineering structures (e.g. check dam) in the upstream areas of the reservoirs as measure for reducing siltation and subsequent storage loss of reservoirs
- Effective implementation of Rainwater Harvesting particularly in high ranges and coastal region like Kuttanadu. Special incentives and support shall be extended to the Local Self Governments and the institutions for popularizing rainwater harvesting structures.
- Restructuring and strengthening existing institutions for better service delivery and resource sustainability
- Efficiently managing water resources by implementing water entitlements, water pricing, accountable institutions and effective regulations
- Empowering user groups and grama panchayats to establish formal water entitlement system clarifying that water is publicly owned and water entitlement is a right to use and not a right to own
- Encouraging community and local government to plan, implement, operate and manage water service schemes
- Setting up of River Basin Management Organizations to control flood hazard,

soil erosion, and water pollution and over exploitation of natural resources

- While planning the projects' environment viability should be ensured through environmental impact assessments. Periodical environmental auditing could also be made for ensuring system sustainability
- Direct disposal of liquid and solid wastes into rivers, reservoirs and other surface water sources should be banned. Scientific waste management practices are to be strictly adopted to minimize pollution threats from urban centres.
- Extraction of resources including water and sand should be permitted within the carrying capacity of the respective life sustaining systems
- Preservation of wetland region of the State. Transfer Kuttanadu from being an agrarian hot spot to A Green Pride of India. An Integrated Water Resource Development Action Plan is to be formulated and implemented for preservation of Vembanadu Lake and the rivers draining into it. Action Plans for Vembanadu Water System under National Wetland Conservation Plan (NWCP) and for the four rivers under the National River Conservation Plan (NRCP) shall be implemented during the 12th Plan.
- Ensure the right to drinking water to the economically poor sections of the people in the development centers and protect the source, quality and sustainability in all rural and urban water supply schemes.

Approach, Strategy and Thrust Areas

- In the 12th Plan thrust will be given to ensure quality, right and sustainability of drinking water in Kerala.
- Fixing of benchmarking and performance indicators by means of water audit, energy audit and financial reforms will be a priority area.
- To ensure sufficient water in the entire system and to support different uses of water and for distribution equitably across users, integrated water resource management will be considered.
- Conservation of traditional water resources and effective implementation of Rain Water Harvesting is essential for resources sustainability, special incentives and support will be given to the LSGs for popularizing rain water harvesting structure.

7.5.8 During 12th Plan, Government of India has targeted safe drinking water upto 55 lpcd to all people and cover at least 35 % of rural population by pipe water. Kerala needs special attention since the state has only 24.5 % of pipe connection in rural area (census 2011). Kerala targets to cover more than the national target in quality and quantity of drinking water supply to both rural areas. Universalisation of water supply and sanitation to urban areas, reduction in unaccounted water supply or distributional loss and 100 % metering of water supply are the other major targets.

Key initiatives of the first two years

7.5.9 Innovative Technologies including Dual Desalination Programme in the coastal Region and Kuttanad. At present Kerala Water Authority is highly dependent on river water for major water supply schemes. In major projects, intake well and beneficiary areas are located in far away off places. There is a delay of pipe laying works and

public protest in conveying water through non-beneficiary Panchayats where road cutting needs to be carried out. Adding to that, climate change, rapid urbanization and industrialization and the pollution level of rivers are also increasing. In the light of these issues, the technological inventions in the field of desalination and dual desalination are necessary particularly in the coastal region and Kuttanad where the people facing acute water shortage problem. In the 12th Plan Solar Photo based water supply or appropriate technology in three pilot schemes of five crore rupees each is proposed. Of the three schemes one is for Kuttanad and the other two will be at Thrissur and water shortage coastal region of South Kerala. For these three projects an amount of ₹1500.00 lakh proposed during the Annual Plan 2012-13 and for the year 2013-14 ₹500.00 lakh has been provided, due to various reasons no expenditure has been reported, hence Kerala needs effective implementations of the designed projects.

- Vazhipparampu-Mathrumala Water Supply Scheme, Lakatoor Rural Water Supply Scheme and Water Supply Scheme to Vengara and adjoining villages in Malappuram are supplementary initiatives.
- Non-Revenue Water Management which includes conducting study regarding NRW by Kerala Water Authority, purchase of equipments, putting up flow meters, SCADA and computerized monitoring of supply network are started in the 12th Plan.
- Comprehensive WSS to Kalliyoor, Venganoor, Vizhinjam (Corporation area) and Kovalam Tourism area. This Scheme has three phases. First phase is a deposit work of Tourism Department and the second phase is based on the loan from NABARD and the third phase requires the state plan fund. An amount of ₹200.00 lakh is provided as the state fund in the Annual Plan 2013-14.
- Modernization of Water Supply Schemes - Most of the WSS are very old and the schemes functioning according to traditional method of treatment like pumping and distribution. In order to modernize the water supply schemes an amount of ₹200 lakh is proposed in Annual Plan 2013-14.

Major Initiatives of the Twelfth Plan of Govt. of India

- Major changes in the way National Rural Drinking Water Projects are to be run
- Greater emphasis on the need to synergise the drinking water and sanitation schemes - recognition of the connection between water and pollution
- It is proposed to launch a National Groundwater Management Programme
- Repair, Renovation and Restoration (RRR) of Water Bodies given high priority – converge RRR schemes with Integrated Watershed Management Programme (IWMP)
- The reform agenda for Urban Water supply in the Twelfth Plan will have following five major thrust areas viz. (a) Investments in Water Supply Will Focus on Demand Management, Reducing Intra-City Inequity and on Quality of Water Supplied (b) Protection of Water Bodies (c) No Water Scheme Will be Sanctioned without a Sewage Component, Which Joins the Dots with Pollution of Rivers and Waterways (d) Plan Deliberately for Recycling and Reuse of Treated Wastewater, and (e) Emphasis on planning on a Regional Scale.
- Steps to be initiated for Water Database Development and Management

- Water Regulatory Authorities proposed in each state
- New Ground Water Law
- National Water Framework Law (NWFL)

Critical gaps to be addressed in the next 3 years

- Problem of 'slip back', in rural areas, with habitations suffering a fall in the water table and water quality, especially given the growing dependence on groundwater.
- Improving the water quality has emerged as a growing concern, due to contamination.
- Increase the coverage of piped drinking water both in terms of geographical spread and population – greater emphasis has to be placed on rural coverage
- Replacement of obsolete machinery and infrastructure to enhance efficiency by reducing the loss of water right from the stage of the source to the ultimate consumer

Physical Targets and Deliverables

A) Kerala Water Authority:

- Increase the number of household connections to 20 lakhs by 2017
- Introducing 24x7 water supply in major towns
- Integrated water management in 5 Corporations

B) Jalanidhi:

- 3330 Small water supply schemes
- 10 Large water supply schemes – single panchayat
- 5 Multi panchayat large water supply schemes
- 330 water treatment plants
- 14400 ferro cement / syntax rainwater harvesting units
- Installation of 150 plants for improving water quality

7.6 Sports and Youth Affairs

7.6.1 Kerala is a state renowned for its commendable achievement in sports both at national and international levels. Kerala is one of the few states in the country which has legislated a bill (Kerala Sports Act 2000) and thus provided an impetus to the growth of sports and games in the state. Sports and its related activities are helping the state to emerge as a dominant sporting power in our country.

Recommendations of the Working Group

- Work out a suitable mechanism with regard to the institutional framework for the development of sports in Kerala

- The formulation of workable sports policy for the state to be undertaken in 12th plan sports policy without any further delay. Inclusion of provision for implementation of policy initiative under plan schemes in the state budget.
- The recognition of the athlete being central to a sports promotion scheme. A new talent identification framework to be worked out
- Inclusion of the integration of sports into the educational curriculum, being attempted in the country for the first time, as a flagship project of the State's 12th Five Year Plan
- Introduction of a new subject at the Higher Secondary Level to cater to the specific needs of the athletes, it could physical education or sports sciences, the inclusion could also be worked at the vocational Higher Secondary Level
- Reworking of the sports hostels scheme on a war footing by ensuring centralized accommodation facilities for the running of the scheme- one in each district, this would also lead to strengthening of the scheme, ensuring control and avoiding wastage of Resources,
- The KSSC may take the lead, with the help of the government, in appointing a coordinating committee with the district collector as chairman for identifying a suitable plot of 50-60 cents for the establishment of a centralized sports hostel in each district.
- The work on the centralized sports hostels may be taken up in a phased manner but should be completed within the next three years
- Suitable funds for the completion of the Kerala Football academy in Manjeri, where a suitable foreign collaboration could be worked out.
- Approval for the excellence and elite training scheme in athletics (go for gold), aquatics, badminton, basketball, football and volleyball and suitable provisions.
- Focus on development of modern sports infrastructure in colleges
- Move the Planning Commission of India with such a report for a One Time Additional Central Assistance (ACA), giving project the scope of a flagship scheme to be undertaken by the state during the 12th Five Year Plan
- Completion and making operational the functioning of HATC
- Development of the Archery academy in Wayanad, Indoor Training Academy in Edava and the Kalari Academy in Poovar to be given priority
- Steps to be taken for the early establishment of the state sports development fund with suitable disbursal mechanism
- Remedial steps to be taken in the implementation of the Panchayat Yuva Krida Aur Khel Abhiyan
- Integration of the New initiative, PUTHUMA with PYKKA Projects
- Adapt a suitable information system on sports in Kerala to overcome the problem regarding non-availability of data. The DSYA may be put in charge of developing the information system.

- The information system should be athlete centric and sports association and its district affiliates, stadia and such other information useful to the public at large and the media.
- Steps to strengthen the clubs in all disciplines
- Conversion of the annual inter-district championships to inter-club tournaments
- A strong campaign against drug abuse and doping on a priority basis
- More manpower to the KSSC and DSYA
- Creation of a special purpose vehicle to cater to community sports, which is essential to arrest the declining standards of physical fitness among all sections of society
- Transfer of TFPF to the new entity
- Develop schemes for all sections of society
- Work on how best profit-making public/private sector undertakings could be brought into the framework of sports promotion utilising the provisions in the corporate social responsibility act
- The Govt. is currently drafting a new Youth Policy and the functioning of the KSYWB would undergo a sea change
- It would be better off for the KSYWB if it concentrates more on the skill development of the youth in the State and provide them with ample avenues to gain employment. To this effect, it can adapt and manage the various skill development programmes, suggested by the Working Group for skill development during the 12th FYP, besides increasing the language proficiency of its beneficiaries. The adaption of foreign language would be particularly useful for the youth to gain jobs in the tourism sector.
- Besides, it could also work on the establishment of Youth Clubs across the State, particularly in the rural areas while continuing with its present schemes like Yuvasakthi and Keralotsavam.

Approach, Strategy and Thrust area

7.6.2 The emphasis will be on the broad division of sports development into two specific areas-Community Sports and Competitive Sports.

7.6.3 Community Sports: The focus will be on the need to establish a separate Mission under the Department of Sports and Youth Affairs to ensure that people of all age groups get directly involved in some physical activity and integrate sports as way of life their daily lives.

7.6.4 Competitive Sports: The aim will be to strengthen the various activities connected with competitive sports and to adopt an effective delivery system. Special attention will be given to suggest suitable models to attract resources from non-governmental sources and from central government institutions.

7.6.5 National Games: The state will set apart 50% of the cost of conducting National Games and the other 50% will be coming from the Centre through the Planning Commission. The total cost for conduct of the games shall be approved by the Planning Commission.

Twelfth Plan Outlay

7.6.6 The outlay proposed for the development of Sports and Youth Affairs sector during the 12th Five Year Plan is ₹652 crore. Kerala has not been able to provide adequate infrastructure in this field to groom the budding sports persons. This limitation is set to be overcome with the hosting of the 35th National Games, which is to be held in the state. Major institutions coming under the sector are Kerala State Sports Council, Kerala State Youth Welfare Board, Kerala State Bharat Scouts & Guides, Directorate of Sports and Youth Affairs, Directorate of Public Instruction and Directorate of Collegiate Education.

Key Initiatives of the first two years

7.6.7 The Government of Kerala is hosting the 35th National Games and this is seen as a great opportunity to bring about a significant change in the sports infrastructure landscape of Kerala. In addition to the major components involved in NGS, some other major projects proposed to be implemented during the XIIth plan period are: Multi-sports play spaces, Community sports, Competitive Sports, Swimming pools using modern technology, Long jump and triple jump pit with synthetic run up, High jump run up and landing pits, Synthetic football turf etc. Some of the major schemes to be taken up in 12th plan are detailed below.

7.6.8 Kerala Institute of Sports (new scheme): It is provided to conduct career oriented sports related courses including the one's relating to physical education teachers training and sports coaching. A full-fledged institution for sports science and research to overcome the problem related to the absence of support of the emerging field of sports science to the athletes' and teams in general is envisaged in the scheme.

7.6.9 Celebration of 150th birth anniversary of Swami Vivekananda: It has been decided to commemorate 150th birth anniversary of Swami Vivekananda. Many programmes like elocution, essay writing, quiz etc. to promote the thoughts, ideals and values of Swami Vivekananda among the youth to strengthen the culture of patriotism are activities may be mentioned.

7.6.10 Development of Multipurpose Sports/Play Spaces: This is a scheme to develop available grounds as play spaces ideal for multi-sport usage including volleyball, basketball and tennis and other minor games using modern synthetic surfaces. National Games Secretariat is acting as the executing agency for the implementation of the scheme. The main objective of the scheme is the availability of good quality play areas in any location which attracts children. Hence it is necessary to develop available land into play spaces with supporting minor game infrastructure equipment. It is provided to strengthen the implementation of the scheme in the already selected schools of the State.

7.6.11 Community sports: Community sports are dedicated to supporting programmes that correlate with our community needs. Community sports can bring about a big difference in the life style of the people by enhancing their health and fitness by implementing, developing and supporting local athletic and sports programme. This will also encourage active participation by other members of the community including veterans at open air exercise centres. Full amount earmarked has been spent for the implementation of the scheme in the districts where it had started. This can be replicated to other districts also.

Major Initiatives of the Twelfth Plan of Govt. of India

- Rajiv Gandhi National Institute of Youth Development (RGNIYD)
- National Programme for Youth Development
- Nehru Yuva Kendra(s)
- National Youth Corps (NYC)
- Support for Activities for Youth Development
- National Service Scheme (NSS)
- Youth Hostels and Youth Resource Centres
- Sarva Krida Abhiyan
- Panchayat Yuva Krida Aur Khel Abhiyan
- Support for Sports in Institutions of Higher Education
- Sports Infrastructure
- Promotion of Excellence in Sports
- Preparation of Teams/Athletes
- Assistance to National Championships and National Games
- Pension to Meritorious Sportspersons
- Coaching Upgradation
- Establishment of Network of Sports Training/Advanced Training Centres
- Sports Authority of India (SAI)
- Sports Science and Sports Medicine

7.6.12 The State can make use of many of the programme of GoI mentioned above and resources tapped accordingly.

Critical Gaps to be addressed in the next two years

- The administrative system should be fine-tuned in such a manner that it should adapt to meet the requirements of a multitude of sports associations, for which trained and skilled workers are necessary in the various layers of bureaucracy.
- The KSSC should think of the adoption of international best practices in the management of its various affairs during the 12th Five Year Plan
- Various measures are necessary to ensure that the facilities, recreated through renovation or established afresh, are maintained and utilised properly even after the games are over.
- Concrete measures to ensure required linkage between the sports authorities and other departments like General Education, Higher Education, Technical Education, Health, Industries, Social Welfare and Local Self Government which are involved in matters relating to sports
- The lack of proper co-ordination among various field agencies resulting in duplication of activities has to be well addressed

Physical Targets and Deliverables

7.6.13 Kerala State Sports Council is currently running 23 centralized sports hostels, 41 college hostels and 16 school hostels. There are 1800 number of students in the hostels. The Council also operated 52 Day Boarding Centres. In collaboration with Asian Football Confederation a novel scheme ie, Vision India Project had launched for promotion of Football in the state. Now 91 schools in seven districts are selected under the scheme and 2275 students are getting training. Health related physical fitness programme was conducted in schools in classes five to ten 323259 students are participated in first phase testing programme, 36681 were found to be qualified (ie, those who acquired A,B, and C grades respectively).

7.7 Housing

7.7.1 Safe and secure shelter is one of the basic needs of the human being and right to adequate housing is a fundamental human right. The housing situation in Kerala is far better than in the rest of the country. The State has to undertake the task of completing 12 lakh housing units of which around 60% are the needs of the economically weaker sections of the society, as envisaged in the State Housing Policy 2011.

7.7.2 There are nearly 20 public agencies supporting housing schemes in Kerala .The Kerala State Housing Board, Kerala State Co-operative Housing Federation, Rural Development Department, Kerala Police Housing and Construction Corporation Limited, Kerala State Co-operative Agricultural and Rural Development Bank, LSGIs, Nationalised Banks etc. are the major departments/Agencies.

Recommendations of the Working Group

7.7.3 The focus of the planning should be on providing sustainable houses for the poor, landless and marginalised sections. The following suggestions are formulated as the major recommendations in the housing sector during the 12th Five Year Plan.

7.7.4 State Housing & Habitat Development Plan: A State Housing & Habitat Development Plan has been envisaged to frame a comprehensive development strategy in housing sector for the state, for eradication of houselessness and provision for creation of housing for 12 Lakh families in the 12th plan period. The Technical Cell of State Housing Department, in collaboration with Town & Country Planning Department, Local Self Government Department and Economics & Statistics Department, shall be entrusted with the implementation of this programme.

7.7.5 Data Base on Housing: The Technical Cell of State Housing Department shall be entrusted with the task of preparation GIS database for housing sector at the state level along with detailed information about landless household with details of their asset, income, and employment and the programmes shall be in collaboration with Local Self Government Department, Town & Country Planning Department, and Economics and Statistics Department.

7.7.6 Land for Housing Development: Intensified efforts will be taken to provide land for the landless, weaker sections and disadvantaged groups for taking up housing initiatives. Land shall be made available for Public sector rental housing schemes and working women's hostels.

7.7.7 Housing finance: For poor people it is very difficult to mobilize credit for construction of houses. An agency must be set under government control to facilitate

adequate flow of funds to the housing sector. In order to achieve the above mentioned objective, it is suggested to have a separate Housing Development Finance Corporation for the State.

7.7.8 Regulatory Framework: A Housing Sector Regulatory Authority will be set up with a view to protect the public interest in relation to the conduct and integrity of promoters and other persons engaged in the development of such colonies so as to facilitate the smooth and speedy construction and maintenance of such colonies, residential buildings, apartments and properties.

7.7.9 Legal Framework: In order to tackle the issues of deteriorating housing conditions, proliferation of slums and the dilapidated structures in the cities and for ensuring sustainable habitat development, efforts shall be taken for the amendment of Kerala Building Rules and Planning Regulations, rationalisation of stamp duty, simplification of registration procedures, formation of Unified Town and Country Planning Act for the State, etc. during the 12th Plan period.

7.7.10 Shelter Fund: Creation of separate shelter fund is essential for carrying out development activities in housing sector in the state especially for the housing needs of economically weaker sections and vulnerable sections of society. The shelter fund shall be formed from the sources like share from State Govt /Central Govt / local bodies / developmental agencies/ Public sector undertaking and contributions from Non Resident Indians, Persons of Indian Origin and voluntary agencies.

7.7.11 Risk Fund: In order to improve the supply of affordable housing for economically weaker sections (EWS) and low-income groups (LIG), particularly those who live in the urban areas, Risk fund shall be constituted which would guarantee loans taken by Economically Weaker Sections (EWS) and LIG households and enhance their credit worthiness. The sources of fund shall be State contribution, fixed percentage of shelter fund, premiums from Insurance linked housing loan schemes etc. The fund shall be utilised in the event of any calamity or disaster during the construction period to complete the house and also guarantee repayment of loan.

7.7.12 Affordable Housing: Attempts will be made in the local plans, to earmark a portion of land at affordable rates for housing for the EWS & LIG. Efforts will be made for encouragement of Affordable housing scheme through Public- Private-Panchayat participation mode in the state.

7.7.13 Housing Scheme for economically weaker sections: State contribution will have to be ensured for the continuation of the existing State Housing schemes and Central schemes like Rajiv Awas Yojana, Indira Awas Yojana etc. which provide financial assistance for construction of houses for poor sections in urban and rural areas respectively. Special Housing Schemes shall be devised for the rehabilitation of displaced families in any Government project undertaken as part of urbanisation and urban development.

7.7.14 Role of Local Self Government Institutions in Social Housing: As the mandate for EWS and LIG housing is vested with Local Self Government Institutions, Housing department in association with Local Self Government department shall frame policies and action plans with the ultimate aim of providing affordable houses to all, especially EWS and LIG.

7.7.15 Rental Housing: Existing Rental housing schemes and proposed schemes under anvil would be implemented during 12th Plan. In addition to these Govt.

schemes, considering that Rental housing is a more affordable option for many households, investment in building houses for renting on a large scale by the private sector shall be encouraged by suitably revising the Rent Control Act, in line with a Model Rent Control Act, along with such modification as may be necessary, keeping in view the interests of owner and tenant.

7.7.16 Availability of Building Materials: A suitable system is to be developed for establishment of building material/components supermarkets/ retail outlets to provide easy and affordable access to quality building material/ components at affordable prices, like 'Kalavara' a building material fair price shop of KESNIK, launched during 2007-08. Need based housing shall be promoted with appropriate incentives, so as to dissuade the public from construction of large houses and so as to save public from wasting valuable and limited natural resources.

7.7.17 Appropriate, Cost Effective & Environment Friendly technologies: Encouragement to the use of appropriate, cost effective & environment friendly technologies will be envisaged.

7.7.18 Green Building - Energy efficient Technology: Government shall strengthen the Technical cell of Housing Department and KSHB to equip their engineers to function as certified energy auditors/managers by acquiring education and training in the energy management field and to get acquainted with energy codes.

7.7.19 Home solar power systems: A target of bringing 20 lakh houses under the solar energy programme shall be fixed during the 12th Plan period. In this context, as an encouragement to this novel idea, incentives shall be given to set up home solar power systems in the houses.

7.7.20 Housing and Habitat parks: The Technical Cell of state housing department, in collaboration with local self-government department and KESNIK/Nirmithi Kendras, will be entrusted with this proposed programme.

7.7.21 Research and Development in Housing sector: Research & Development activities in the field of housing Promoted and encouraged through appropriate capacity building programmes and strengthening technology transfer initiatives through Technical cell of Housing Department, Kerala State Housing Board, Kerala State Nirmithi Kendra (KESNIK) and Nirmithi Kendra networks in the State.

7.7.22 Technology Innovation Fund: A mechanism is needed to support additional research to bring about new concepts in building technology and inventions in areas of cost effective and environment friendly technology and green energy in housing sector. With the objective of promoting the introduction of new building products and processes into the market place for the public good, technology innovation fund will be created for financing projects undertaken by firms as well as institutions which experiment newest research and developments in low cost CEEF and green building technology in housing sector.

7.7.23 Formulation, Co-ordination and Monitoring of Housing Activities in the Housing Sector: The Technical Cell of the Housing Department shall be strengthened and modernised in order to function as an efficient and effective technical office in the housing Sector for co-ordination of all proposed activities, formulation and implementation of Government policies and programmes, preparation of integrated Housing and Habitat Development Plans, formulation of GIS Data base etc.

7.7.24 Restructuring of Kerala State Housing Board: KSHB has to be reconstituted as a separate institution dedicated to affordable housing needs of general sections of society as well as the economically weaker sections. It should also be reframed with necessary set up to take up projects on competitive basis and to have freedom to function in a professional manner for the purpose of plan execution.

7.7.25 Solid Waste Management & Rain Water Harvesting: Steps would be taken for encouragement of household solid waste management system to have solid wastes free neighbourhoods in the State. Awareness and encouragement in the form of incentives will be given for the use of bio gas and household vermin-compost system. Efforts would be taken for capacity building and efficient handling of solid waste by the local bodies. Efforts would be taken for proper enforcement of laws, rules and regulations for rain water harvesting in residential habitats. Steps would be taken for the spread of rain water harvesting techniques in a campaign mode.

7.7.26 Training and skill development: Efforts should be made to generate adequate funds for training and skill up gradation and certification of construction workers. The workers need to be trained and certified to keep abreast of technological advancements in this sector and the institutional mechanism for this will be strengthened and operationalised. KESNIK should undertake Green Building Technology awareness programmes for officials, architects and students. KESNIK must take initiative to organise artisans training activity focusing rural youth. Laurie Baker International School of Habitat Studies (LaBISHaS) will draw up specific action plan for skill upgradation of workers, productivity improvement and various aspects of habitat development. It must be developed as an International Centre of Excellence.

7.7.27 Gender and Housing: The issue of title for house / land in favour of women or joint name would be encouraged. Special housing scheme for single working women and women headed household as ownership condominium or rental hostel units would be taken up. KSHB shall undertake construction of night shelters for women, working women's hostels in every urban centres of the State to promote welfare of women community.

7.7.28 Special Needs of Housing for Disabled and Senior Citizens: KSHB shall take initiative in collaboration with Social Welfare Department, Local Self Government Department and NGOs, for catering the housing needs of senior citizens and disabled.

7.7.29 Special Needs of Housing for Working Group: The Technical Cell of Housing Department shall take initiative in collaboration with Labour & Rehabilitation Department, Industries Department and Local Self Government Department for the preparation of comprehensive project report on housing schemes of Working Groups. Efforts shall be taken to encourage creation of house cum work area to be integrated and pooling the financial resources for employment support facility for beedi workers and industrial workers, coir workers, jewellers, artisans, handicraft workers, etc. Efforts shall also be taken to encourage centrally sponsored mission programmes for employment generation of urban poor for the work areas creation, dovetailed with housing initiatives.

7.7.30 Habitat Literacy: Efforts shall be taken to form obligatory bye law and guidelines to all concerned to have a zero waste stage in residential habitats of urban as well as rural areas of the State along with extensive installation of bio gas plants which shall be propagated with the active participation of Residents Associations.

7.7.31 Habitat typology and Heritage conservation: The urban and rural housing typologies provide for sensitive planning and architectural design features to blend with nature and take care of the climatologically features like high rainfall, hot humid climate, etc. The vernacular, traditional and local housing typologies in both rural and urban housing would need to be nurtured and conserved and suitably adapted in the contemporary context with new material forms and construction technology options. The blending of rich architectural heritage and the housing typologies into the new urban – rural skylines would be thrust areas for action. Appropriate incentives for maintenance and upkeep of heritage buildings and precincts will be considered.

Approach, Strategy and Thrust Areas

7.7.32 During the Twelfth Plan, a comprehensive habitat and Housing Policy will be implemented in the State.

- The plan will aim at construction of 12 lakh housing units during the five year period, of which 60 % will be for economically weaker sections .This project will be funded by converging resources under Indira Awas Yojana, Rajiv Awas Yojana, funding from HUDCO and other financing institutions and innovative funding methods to be developed by the State Government.
- A Housing Regulatory Authority will be set up to regulate building activity and to settle disputes.
- The effectiveness and reach of Kerala State Housing Board will be improved with the help and support of HUDCO and identified management and consultancy organisations.

Twelfth Plan Outlay

7.7.33 The projected outlay for the Twelfth Five Year Plan of this sector is ₹412 crore, including a provision of ₹10.50 crore for the new scheme Grihashree. The department wise outlay and expenditure for annual plan 2012-13 and 2013-14 and projected outlay for 12th plan is given below.

Key initiatives of the first two years

7.7.34 Working Women's Hostel:- The scheme of working women's hostel has been included to overcome the shortage of accommodation faced by women employees. Board is implementing Working Women's Hostel Scheme by availing Central Govt. grant (75 % construction cost), 25% State govt. share and balance by utilizing Board's own fund. For construction of working women's hostels an amount of ₹400 lakh is provided as 25% state share during 2013-14.

7.7.35 New Subsidy Housing Scheme (Grihashree):- Kerala State Housing Board proposes to implement a new subsidy scheme for the EWS/LIG categories who own a minimum land area of 2 to 3 cents. It is envisaged with the participation of Voluntary agency or NGO. A government subsidy of ₹2 lakh is proposed for each beneficiary of EWS/LIG for the construction of the house which will be disbursed in various stages. Through the first phase of the scheme it is proposed to disburse subsidy to 2800 houses at 200 each in 14 districts of the state.

7.7.36 Training Plan:- Computerization has been fully achieved in KSHB. But for efficient and total functioning of the board every staff should be conversant with the computer and software. For this purpose training is to be given to staffs and engineers.

7.7.37 New Schemes of Technical Cell of Housing:- As per the 12th plan working Group Report recommendations Technical Cell of Housing prepares the proposals for the Formation of Kerala State Housing Development Finance Corporation Limited, Creation of Shelter Fund, Creation of Technology innovation fund etc.

7.7.38 Kerala Government Secretariat Staff Housing Co-operative Society:- Kerala Government Secretariat Staff Housing Co-operative society is having more than 7300 secretariat employees as its members .The society has so far been able to provide land for construction of houses to around 600 secretariat employees by setting up 15 housing colonies in and around Thiruvananthapuram city.

7.7.39 Support scheme to Housing Co-operative Societies of Government employees:- A new scheme with a view to support housing development activities initiated by the co-operative societies of Government employees like State Planning Board co-operative society has been initiated.

Critical Gaps to be addressed in next 3 years

7.7.40 While formulating the suggestions and recommendations in the working group report, focus is needed on the following critical areas for designing appropriate interventions.

- To provide adequate and affordable housing for all on rights based approach
- Accelerated efforts will be taken to meet the housing needs of landless tribals, fishermen, traditionally employed and poorest of the poor.
- To address the housing stock gap of the 12 lakhs during 12th Five Year Plan
- To redefine the role of the State as a catalyst, facilitator, builder and regulator to provide an enabling framework for all the stake holders to have pro-active role in the sector through formation of Special Purpose Vehicles, agencies like KSHB, KESNIK etc.
- To address the rapid pace of urbanisation in the background of rural urban continuum scenario of the State with the service sector led growth of the economy and expansion of the informal labour market.
- To address the concerns of ecology, environment and climatic change and depletion of natural resources on habitat based approach
- Envisage the development of satellite townships in an integrated and sustainable manner to take care of larger growth of cities and lessen the strain on its services and to tackle issues of rapid urbanization
- To explore integration of poverty alleviation programmes with housing schemes to augment the income level of the poor
- To address the gap in infrastructural facilities and supply of quality basic services on a regional development frame work
- The Policy emphasizes predominant role of the Local Self Governments in meeting the gap of housing stock, up gradation of services and provision of livelihood concerns.
- To recognize the need for regulatory frame work in the housing sector to mitigate unhealthy trends

- To recognize the issue of acute shortage of river sand, which is an essential material for building construction and necessary steps accordingly to be taken for research work for identification of alternate materials.
- To address the need of housing for NRIs and NRKs for which efforts will be taken for the implementation of appropriate projects through public sector agencies
- Preparation of State Housing & Habitat Development Plan
- Creation of GIS Database in Housing Sector
- Formation of Land Banks for Housing sector
- Formation of Kerala State Housing Development Finance corporation

Physical Targets and Deliverables

7.7.41 During the Twelfth plan various housing schemes have been implemented in the state by the Kerala State Housing Board like Innovative Housing Scheme, Saphalyam Housing Scheme, Grihashree Housing Scheme etc. Physical targets have been set for the Twelfth plan for the construction of 500 numbers of flats each under the Innovative Housing Scheme and Housing scheme for Government Employees in Government land, 5000 flats under Saphalyam Housing Scheme, 2200 houses under the scheme Grihashree and the number of locations for the construction of Working Women's Hostels are 15. Kerala Police Housing and Construction Corporation limited has set physical target for 20 numbers of Women Police Cell and repairs and maintenance of 2993 number of Police buildings. Kerala State Nirmithi Kendra fixes the target of training 300 artisans and capacity development of 450 KESNIK personnel.

SCIENCE, TECHNOLOGY & ENVIRONMENT

...increasing the service delivery capability of govt. with the use of I.T... high quality research and development will be encouraged to take kerala to a higher level in original research and cutting edge technologies... e-governance initiatives across all sections of govt. and local self govts... comprehensive waste management and pollution control programmes with appropriate institutional mechanism... conservation of the natural forests including the rich bio-diversity... scientific services and research, information technology & e-governance, ecology & environment, forest & wild life and innovation are the four sub sectors included in this chapter...

8.1 Scientific Services and Research

8.1.1 Science and Technology have created a phenomenal on man's life and its role as an important element of national development is widely recognized. To derive maximum benefit from limited resources, Science and Technology must be brought to the main stream of economic planning in spheres like agriculture, industry and service sector. Science and technology was brought into the purview of Five Year Plan during the Fifth five year plan period. India's strength in basic and applied scientific research in areas such as Agriculture, Health care, Nuclear energy, Space Technology, Defence research, Biotechnology and Information Technology are widely acknowledged.

8.1.2 Kerala State Council for Science, Technology and Environment (KSCSTE), Regional Cancer Centre (RCC) and Kerala State Pollution Control Board (KSPCB) receive Government funding under 'Scientific Services and Research' in Kerala. The approach paper of Kerala's 11th Plan had called for the application of high quality S & T inputs, and a close linkage between the State R & D institutions and user agencies. Accordingly, a new strategy was adopted. That strategy was to include not only the line departments but also the LSGIs.

Recommendations of the Working Group

8.1.3 The Working Group made the following recommendations regarding the development of the sector in Kerala.

- All efforts should be made to have an Indian Institute of Technology in Kerala. It is a pity that the most literate state in India has no IIT established here. The

claims of Kerala have not been met even when new IITs were recently established in other states. We have also to change the prevalent mindset that a large area of about 500 acres is needed to establish an IIT. But in Kerala, we have a high population density and therefore we should plan national institutes like IIT with smaller land areas. It may be noted here that the world-renowned CALTECH in the USA (which has produced more Nobel Laureates than any other Institute) has only a land area of 124 acres. Similarly the famous MIT (USA) has only 168 acres. In Kerala we can use a smaller land areas and “go vertical”. This “going vertical “is the policy in places like Hong Kong. Kerala should have a similar strategy.

- An autonomous R&D institute may be founded to focus on the value addition of the precious mineral sands of Kerala. This could lead to considerable economic progress of the State. It could enable Kerala to make a quantum leap in its economy.
- Kerala should develop a permanent solution and effective mechanism to handle the Solid Waste Disposal in Kerala
- It will be desirable to constitute a separate division at the State Planning Board exclusively for Science and Technology
- Filling up the vacancies of scientists. Programmes should not suffer due to the absence of adequate manpower.
- Attraction of more external project funds, particularly from industries for laboratory infrastructure development.
- Strengthening academic programmes, building Laboratories and Physical Infrastructure.
- Revisiting of plots established during the past 30 years in the context of climate change.
- Establishment of permanent plots in various forest types for continuous monitoring of climate change induced variations
- Studies on forest regeneration and seed ecology, in relation to climate change.
- Identification of climate change indicator species monitoring of ecosystem health
- Estimation of carbon sequestration of various types of natural forests and plantations
- Technology development and support programmes for social afforestation initiatives and documentation of successful afforestation stories
- EIA studies on problematic forestry and environment related issues, subjects and areas on a priority basis
- Establishment of model teak seed production areas in the State, GIS mapping of teak plantations and natural teak in Kerala and establishment of a national clone bank for teak.
- Extending forestry/ environmental knowledge/ information to the public through workshops, seminars and debates

- Delivering research results to the public and end-users through brochures, press releases, and documentaries.
- Opening up a dialogue between the R&D Centres and Environmental NGOs and exploration of possibilities for meaningful joint ventures
- Establish research for renewable biomass and bio-fuel sources in Euphorbia plants of the southern Western Ghats
- Research on chemical prospecting of the aromatic plants of the Kerala region of the Western Ghats
- Enhance the quality of life by ensuring water security for all by providing necessary Research and Development inputs, with special emphasis on the humid tropics
- Identify a nodal agency in bringing central sector funding for transport infrastructure development and ensure quality control of such schemes and the agency can act as a referral agency for state govt. departments in the field of traffic and transportation.
- Decentralisation of power at the Council level to improve performance streamlining of administration

Approach, Strategy and Thrust areas

8.1.4 Kerala's development plans have over years placed a great deal of emphasis on the need for sustained investment in research and related activities for the creation of capacities and capabilities in Science & Technology. Kerala has over years developed a robust scientific infrastructure with a host of dedicated institutions and a pool of trained scientific manpower, which have to be encouraged to be innovative and inventive. The strong research foundation of various agencies has to be interlinked to develop cutting edge technology and be at the forefront of the development frontier. The S&T sector needs to be empowered to address the emerging challenges in Kerala and develop practical solutions for them. The S&T landscape must also evolve new delivery mechanisms for innovative deployment of technologies and business models for financing deployment of technologies. The S &T sector is also significant due to the fact that it holds the key to transforming the state into a knowledge economy.

8.1.5 In order to achieve the goals laid down for the sector, it is decided to follow a multi-pronged strategy, with steps addressing multiple dimensions. They involve the following:-

- High priority to be accorded to investment in the existing institutions under the state to upgrade their infrastructure and enhance human resource skills and capabilities to create world class centres of excellence.
- Encourage synergy of knowledge, skills and innovative potentials within the state.
- Interlinking Education system, R&D system and the Industry to develop a mind to market delivery mechanism.
- Enhance collaboration with central agencies and reputed foreign universities / agencies / institutions, for addressing aspects of common interest.

- The corporate sector must be encouraged to play a bigger role in building research capabilities. Public-Private-Partnership has huge potential in this sphere and hence must be encouraged.
- Greater emphasis and encouragement has to be provided to R&D activities directed towards the requirements of the society, especially in solving the problems faced by it.
- Focused programmes to support the industrial and other sectors in their R&D efforts to improve economic efficiency and competitiveness
- The Government machinery of the sector in the state must actively pursue central funds, and other sources of funding apart from engaging in remunerative projects so as to overcome financial constraints and develop as self reliant, self sustaining entities.
- Plan Formulation and Implementation – Schemes and programmes developed for the sector must be carefully broken down to monitorable physical targets as far as possible. Ongoing projects / schemes have to be rigorously reviewed to phase out those that have fulfilled their goals, and start new programmes.

8.1.6 The state has identified the following thrust areas in its approach for 12th Plan:-

- High quality research and development will be encouraged to take Kerala to a higher level in original research and cutting edge technologies
- Technology development in India and abroad will be effectively showcased to facilitate development of science and technology based industries
- Schemes will be introduced to honour scientists who make significant contribution in developing new concepts, theories, products and technologies. Such awards will be subject to rigorous peer evaluation and scrutiny by leading scientists.
- The marine brackish water and fresh water resources of the State need to be researched and developed systematically as they hold the potential for commercial utilization on a very large scale. In the 12th Plan, special attention will be given to marine biotechnology.

Twelfth Plan Outlay

8.1.7 The outlay proposed for ‘Scientific Research’ during the 12th Five Year Plan 2012-17 is ₹716 crores. Of this amount, ₹501 crores is proposed to be allotted to KSCSTE and ₹215 crores is proposed to be allotted to RCC.

Key initiatives of Kerala during the first two years

- A new scheme namely ‘Special programmes of KSCSTE’ was initiated during 2012-13 by KSCSTE
- A new scheme namely ‘Institute of nuclear medicine’ was started under Regional Cancer Centre (RCC) during 2012-13
- Three new schemes have been initiated under KSCSTE for the year 2013-14 viz. (a) Karamana River Scientific Management Project (b) Science City and (c) echnology Transfer Roadmap Preparation and Implementation.

- A new scheme namely ‘Centre for Holistic Medicine’ has been initiated under RCC during 2013-14

Major Initiatives of the Twelfth Plan of Govt. of India

- Increase R&D expenditure to 2 per cent of GDP and significantly enhance corporate sector R&D expenditure to at least 1 per cent of GDP by attracting investments and engaging the corporate sector in R&D through policy and reforms processes.
- Increase the number of full-time researchers/scientists from the current level of 1.54 lakh to 2.50 lakh; the volume of publication outputs in basic research from a global share of 3 per cent to, say, 5 per cent; improve the global ranking from 9th to 6th by the end of the Twelfth Plan; focus on doubling the number of patents and increase the commercialisation of patent portfolio to 5–6 per cent from a level of less than 2 per cent.
- Initiate Grand Challenge Programmes and launch PAN-India missions to address national priorities in various developmental sectors through bottom-up approach, particularly in the areas of Health, Water, Energy and Food through consortia of institutions and agencies cutting across public and private sectors,
- Create new Inter-University Centres (IUCs) and Inter-Institutional Centres (IICs) in chosen areas of Science and Engineering, which will provide access to state-of-the-art facilities and academic ambience for researchers in universities and academic institutions,
- Create new R&D institutions in trans-disciplinary science and engineering to achieve leadership positions;
- Bring in structural reforms in the S&T sector by creating new financial appraisal and audit mechanisms and a new personnel policy based on best global practices coupled with seamless mobility of S&T personnel;
- Technology Mission for biomedical devices engineering and technology is proposed for implementation during the Twelfth Plan period
- ‘Centres of excellence’ focusing on group of individuals

Critical Gaps to be addressed in the next three years

- Increasing the number of research products that have actually benefitted common people or been absorbed by other sectors of the economy.
- Improving the condition of physical infrastructure available with institutes
- Skill and capacity development of Human Resource engaged in the pursuit of scientific and technological research.

Physical Targets and Deliverables

8.1.8 The targets and deliverables of the sector are to be measured in terms of 4 parameters viz. (a) Infrastructure component – including addition to buildings, fixtures, machines, research equipments, office equipments etc. (b) Human Resource component – skill acquired, training sessions attended, additions to qualification, capabilities inculcated etc. (c) Research component – Number of researches

undertaken and completed, no of papers published in recognised journals - books, number of papers presented at conferences, Doctoral & Post-doctoral Research undertaken, Conferences – seminars – workshops – Colloquiums etc. conducted and (d) Delivery mechanism – Number of research findings implemented on ground, ie. output replicated in the field.

8.2 Information Technology

8.2.1 The enviable growth of the services sector has been primarily driven by the exponential growth witnessed during the past 10 years in the IT/ITES industry. The Indian IT/ITES industry has been growing at a very healthy rate of 30% per annum. The industry has helped in creating large scale employment opportunities not only for technically qualified professionals in the software sector but also for large number of non – technical personnel in low end activities like back office operations, call centres, transcription services etc. This industry is able to generate jobs with relatively low investment and also to achieve the goal without causing any environmental degradation. Today this industry is providing employment to over 1.6 million people across the country, grossing total revenue of over ₹160,000 crores per year, from exports and domestic sales put together.

8.2.2 Government of Kerala is keen to play a catalytic role for the development of IT/ITES industry within the State, as it is ideally suited for such a densely populated State, having vast multitude of highly qualified and experienced human resources, uniformly spread across the State. Unlike the rest of the country, the State is also blessed with quality social infrastructure and excellent physical connectivity, evenly distributed across the fourteen districts of the State. Due to certain inherent strengths of the State, Kerala is uniquely placed to emerge as a major IT destination in the country, though it has had a late start. With the industry galloping at a healthy CAGR of about 25% there is enough opportunity available for the State to capture a fair share of the growing IT/ ITES business.

Recommendations of the Working Group / Approach and Strategy

- A three pronged thrust aiming at: (i) Increasing the service delivery capability of Government with the use of IT (ii) E Governance initiatives across all sections of Government and Local Self Government (iii) Better utilization of Akshaya Kendras as service delivery points.
- Leveraging the existing assets of IT parks to mobilize public funding for more parks and expansion of existing parks
- Setting up of parks in new areas away from the major IT centers of the state
- To facilitate the growth of the IT Industry by at least 10 times during the plan period
- Using IT as a tool for promoting Tourism, industry and showcasing Kerala as a place to live in and work from
- E-governance projects have to give prime importance to inter-operability. The existing standards group should ensure that the national standards are compiled in all projects and that all projects design hardware and software with future expansion and technology changes in mind.

- Knowledge generation should be enhanced multi-fold in the IT sector. Towards this: (a) IT Mission should draw up a project to support patenting. A panel of patent attorneys should be maintained by KSITM and educational institutions and R&D institutions in IT field should be invited to utilize the patent facilitation scheme of KSITM. All costs should be borne by KSITM and an MOU to share 10% of any patent licensing income with KSITM should be put in place (b) The speed IT project should be expanded. The PhD seats supported should be doubled immediately and should be trebled by the end of this 12th plan period. Innovative masters programs should be supported in larger numbers.
- The state data centre should be continuously upgraded with state of the art and futuristic way. A cloud enabled Data centre may be experimented to find its effectiveness. The band width agreed by service providers in lieu of the right of way should be fully exploited for increasing the band width of the data centre.
- A comprehensive survey on IT in Kerala should be designed and conducted through Akshaya centers with mobile phone based data collections.
- Akshaya centers as service delivery points should be strengthened. E-District project is important in this perspective. The committee also recommends a populist project towards this end – to have a tele-auto service through Akshaya Centers (‘Aye Auto’ project). It should be possible for people to send an SMS to Akshaya Centre to request auto service and with the help of software; a most optimal selection of available auto should be chosen and connected to customer. This will ensure not only service to citizens but also reduce wastage of petrol and “kaali” trips, thus benefitting the community and auto drivers too.
- On-line education and on-line certification programmes proposed by IITMK should be encouraged and started on a pilot basis before expanding
- Industry incubation facility should be expanded under leadership of the Techno Park and Infopark IICs. Technology incubation centres and Research Parks have to be encouraged in academic institutions also. PPP mode should be sought.
- To ensure standards and to trigger wide-based activity in digital archiving, KSITM should support a scheme for the same. A futuristic standard should be published. Seed funds (2-3 categories) should be provided to libraries, cultural institutions, colleges, Universities and NGOs to archive various types of contents and make them freely available to ensure more Kerala-based contents on the net. The adoption of standard should be made mandatory. There should also be a similar seed fund support for content creation in Malayalam.
- Malayalam computing initiatives need to be re-positioned with a view of co-ordinating individual efforts and also to prepare for emerging issues due to technological and social transformation. C-DAC, C-DIT, NIC, IITM-K, NGOs, Kerala Bhasha Institute etc. should be invited to form a consortium in this regard. Projects support for KSITM should be after discussions in this consortium.

- KSITM should expand its initiative to support projects for the differently abled. Mobile platform should be targeted and it has become the most penetrating technology among masses.
- State level initiative in the line of NP-TEL for content development should be initiated by KSITM. This should cover advanced and traditional areas.

Approach, Strategy and Thrust Areas

- Increasing the service delivery capability of Govt. with the use of I.T.
- E-governance initiative across all sections of Govt. and Local Self Govts.
- Better utilization of Akshaya Kendras as service delivery points
- The existing assets of I.T. parks will leveraged to mobilise public funding for more parks and expansion of existing parks, including setting up parks in new areas away from the major I.T. centres of the State and to facilitate the growth of the I.T. industry by atleast ten times during the Plan period.
- I.T. will be used as tool for promoting tourist and industry showcasing Kerala as a place to live in and work from

Twelfth Plan Outlay

8.2.3 KSITM, IITM-K, Technopark, Infopark, Cyber Park, KSITI and ICFOSS are the seven agencies involved in the implementation of Information Technology in the State. The projected agreed outlay for Information Technology during 12th Five Year Plan is ₹1569.00 crore.

Key Initiatives during the first two years

8.2.4 The budgeted outlay during 2012-13 was ₹219.76 crore and 2013-14, ₹232.58 crore. The expenditure during 2012-13 amounts to ₹120.02 crore. The other major initiatives are as follows:

- Technopark Phase III completed
- Construction of centre for e-governance
- Investment Promotion Management Cell (IPMC)
- IIT –Pala
- Info City, Pala

Major Initiatives of the Twelfth Plan of Govt. of India

- Modified Special Incentive Package Scheme for improved value addition
- Promotion of Electronics Manufacturing Clusters (EMC)
- Semiconductor Fabs
- Cyber Security R&D and Human Resource Coordination
- Cyber Security Preparedness
- Green IT
- Promote E-Governance cloud

- Promotion of use of ICT by domestic industry for enhancing productivity in priority sectors like agriculture, health, education, retail, automotive, textile.
- Promote development of SMEs in ICT Sector
- Enhancing Supercomputing Capacity in India
- Citizen Engagement Framework for e-Governance Projects

Critical Gaps in the next three years

- Utilise the opportunities created by ICT revolution for improving governance
- Improve quality of administrative services
- Decentralize powers
- E-governance becomes an integral part of any economy which tries to achieve transparency, reliability, affordability in its services
- Green IT
- IT Parks in new areas including hardware manufacturing
- Knowledge cities
- Introduction of non-conventional sources of energy for power generation and building designs to be made energy efficient in all ways

Physical Targets and Deliverables

- Knowledge City
- Technology Innovation Zone at Kochi
- Youth Entrepreneurship
- E-office
- Service Plus
- IT building of 4 lakh sqft. With a total IT employment of 4000 at Infopark
- Additional space to be made available for Technology Business Incubation – 8000 sq.ft. in Kollam
- Construction of 2nd IT building with 3.3 lakh sqft. By creating 2400 employment possibilities at Kozhikode by KSITIL
- Infrastructural development works at Infopark will be completed
- 2nd IT building of 4 lakh sqft. at Infopark

8.3 Ecology & Environment

8.3.1 Kerala is part of one of the major mega diversity zones and is known for the rich ecosystem biodiversity. But environmental degradation in the state continues despite the existence of long standing policies and legal cum institutional framework for environmental protection. The plan outlay of Environment Department, Kerala State Biodiversity Board and Kerala State Pollution Control Board are included in the

outlay under Ecology & Environment (inclusion of Pollution Control Board: from Annual Plan 2012-13 onwards).

8.3.2 As Kerala is facing unique challenges in environment management, the 12th Five Year Plan projects are planned for environmental management and ensure a balanced approach towards socio economic development and cleaner environment. In order to integrate environmental aspects into development, the programmes for the plan period are envisaged by focusing on research, education, governance, institutional development and legal intervention. During the 12th plan, it is proposed to coordinate various environment management programmes implemented by different institutions through Environment Department.

Recommendations of the Working Group

8.3.3 The Working Group constituted for the formulation of 12th plan suggested integration of environmental aspects into development and envisaged major programmes for the plan focusing on research, education, governance, institutional development and legal interventions. Priority to be given for environment management in overall development regime ie, in civic amenities, infrastructural growth, use of natural resources and general governance.

- Management of large mass of degradable and non-degradable waste and standardisation of pollution management technologies needs attention
- Development of technologies for tackling waste management and promoting reuse and recycling of waste into energy operations
- Institutionalization of urban sanitation and waste management activities
- Specific arrangements for finding solution to region specific issues of environmental damage which are technologically and socially accepted
- Revamping of existing coastal zone regulations and management strategies
- Research on energy systems for low carbon society
- Qualitative improvements in ecosystem through sustainable utilisation of bio resources
- Integration of environmental concerns in macro level policy decision making through providing scientific inputs
- Developing socially acceptable and cost effective technologies for environment management
- Need of modification of existing central legal instruments for environmental management to match with the peculiar socio, economic and geographical situations of our State
- Setting up Panchayat level environmental monitoring and management committees
- Need of flexibility in regulatory framework of biodiversity conservation to suit the specific socio economic and geographic peculiarities of the state
- Framing adaptation and mitigation strategies for reducing the risks associated with climate change. Scientific validation of traditional knowledge for developing these strategies

- Integration of environmental education in curricula of various levels of education
- Environmental appraisal of the public programmes on development

Approach, Strategy and Thrust Areas

8.3.4 Strategy Proposed in the Approach to 12th Plan:

- The ecosystem prevalent in the State such as coastal ecosystem, mangroves, forest ecosystem and wetland ecosystem are fragile in nature. Development activities and population pressures often upset the natural balance of these ecosystems. Development strategies will be formulated for the protection of fragile environment.
- The State is very rich in biodiversity and the regions of Western Ghats in Kerala are rich in endemic species. Biodiversity conservation strategies will be developed for the protection of Western Ghats.
- Deteriorating water quality is a serious concern in selected areas. Projects will be promoted for the improvement of water quality.
- Comprehensive waste management and pollution control programmes with appropriate institutional mechanism is proposed in 12th Plan
- A Green Kerala Project will be launched by converging various schemes implemented by the Forest Department and Local Self Government institutions
- In order to protect Ramsar Sites and other wetlands, wetland conservation projects would be launched with appropriate institutional mechanisms for implementation

Key initiatives of the first two years

8.3.5 During 2012-13, 10 schemes were included under Ecology & Environment out of which 8 were implemented by the Department of Environment & Climate Change, 1 by the State Biodiversity Board and 1 by the State Pollution Control Board. With an outlay of ₹1250 lakh, an amount of ₹1083.48 lakh has been utilized (86.67%) for the implementation of the schemes. The outlay and expenditure during 2012-13, outlay 2013-14 and proposed outlay for the 12th five year plan are shown Table 8.1.

Table 8.1

Funds earmarked during 12th Five Year Plan

(₹ in lakh)

Sl. No.	Department	Annual Plan 2012-13		Annual Plan 2013-14 Outlay	12 th Five Year Plan Proposed Outlay
		Outlay	Expenditure		
1	Department of Environment & Climate Change	695	528.53	1400	4950
2	Kerala State Biodiversity Board	225	225	250	1450
3	Kerala State Pollution Control Board	330	329.95	400	2500
	Total-Ecology& Environment	1250	1083.48	2050	8900

8.3.6 The Department is acting as the Secretariat of State Level Environment Impact Assessment Authority (SEIAA) and State Level Expert Appraisal Committee (SEAC) which started functioning on January 2012. Altogether 183 Bhoomithrasena clubs were established with representation from all districts. The activities of Kerala State Biodiversity Board during 2012-13 to ensure conservation and sustainable utilization of Kerala's biodiversity under the scheme Biodiversity Conservation were:

- Completed preparation of People's Biodiversity Register in 670 Gramapanchayats and prepared 174 PBRs during 2012-13
- Constituted Biodiversity Management Committees in all LSGIs and Kerala is the first state in India to make this achievement
- The Board prepared 8 handbooks for identification of species at field as part of urban biodiversity programme
- Kerala State Pollution Control Board completed reclassification of Periyar, Pamba and Karamana rivers

8.3.7 An amount of ₹2050 lakh is provided for the development and management of the Sector in 2013-14 indicating an increase of 64% in outlay over 2012-13. In addition to the ongoing schemes a major new project on Urban Environment Improvement is proposed for implementation in 2013-14 through a convergence approach focusing on improving environment quality covering urban forestry, waste management, restoration of water bodies, household land utilization for agriculture waste management and rainwater harvesting.

8.3.8 The amount is provided for the implementation of the following major activities.

- Preparation of district level Environment Sustainability Index through IFMR, Chennai.
- Environment management in the surroundings of the wetlands like sanitation, catchment area treatment and reducing pollution from livelihood based activities through community empowerment
- Urban Environment Improvement project - the components of the project are Green City, Restoration of Ponds, Waste to energy, Green Technologies, Urban Agriculture Component, Awareness Programme, Rain Water Harvesting and Waste Management.
- Completion of People's Biodiversity Register and preparation of district wise database
- Establishment of State Art Natural History Museum
- Online transmission of real data of emissions from selected major industries falling under RED category in Thiruvananthapuram and Ernakulam by the Pollution control Board
- Infrastructure development of the laboratories for obtaining NABL accreditation

Critical gaps to be addressed in the next three years

8.3.9 The critical gaps to be addressed for the remaining years of the plan period are shown below

- Institutionalization of Bhoomithra clubs in all colleges and higher secondary schools
- Implementation of climate change action plan in association with line departments
- Bringing new technologies for waste management
- Implementation of urban environment improvement project in all corporations
- Ensuring sustainability of Biodiversity management committees and the effective use of biodiversity registers

8.4 Forest & Wild Life Sector

8.4.1 The Forest cover of the Kerala State as per the 2001 report of FSI was 17300 sq.km with 1442 sq.km of very dense forest, 9394 sq.km of moderate dense forest and 6464 sq.km of open forest. This constitute 44.5% of the total geographical area of the State. Idukki district has the maximum forest cover of 3930 sq.km and Alappuzha district has the lower forest cover of 38 sq. km. Wayanad has the highest forest cover of 83.3 % followed by Idukki and Pathanamthitta. The forest of Kerala is mainly classified into 5 major categories viz Tropical West evergreen & Semi evergreen, Tropical Moist Deciduous Forest, Tropical Dry deciduous Forest, Mountain Sub Tropical Temperate Shols and Plantation. The coverage of the plantation forestry is to the extent of 13.5 % of the total area. The Forest policy of the State is guided by the 1988 National Forest Policy. The strategies adopted for the development of forest envisages maintenance of environmental stability through preservation and reduction of degraded forests, increasing substantially the forest cover through massive afforestation and developing participatory forest management. 27 Forest Development Agencies were participating in the implementation of National Afforestation Programme.

8.4.2 The Forest contribute substantially to the non-tax revenue of the State. The revenue from the forestry sector by way of sale of Timber and other non-wood forest products. Under Biodiversity Conservation and Protected Area Management, established 5 National Parks, 17 Wildlife Sanctuaries, 2 Biosphere Reserves and 1 community reserve. Natural Forests in Kerala are being managed mainly for sustaining the life support systems and biodiversity conservation. Management of Nonwood Forest Produce are to be improved through sustainable and scientific management by adopting improved methods of harvesting, processing, value addition and marketing. A new brand for value added products of NWFP know as “Vanasree” was developed and 22 sales outlets of Vanasree products were established in the State.

8.4.3 National Forest Policy of 1988 envisages 1/3 of the land area shall be under forest cover. For achieving this goal, tree farming in private land through Social Forestry to be strengthened. The Department have embarked on massive afforestation programme outside forest areas since 2007 with novel ideas. The Massive Afforestation programme launched outside the forest area are “Ente maram Programme, Nammude maram Programm, Vazhiyorthanal Programme, Harithatheeram and Haritha Keralam programme”.

Recommendations of the Working Group

- Schemes to improve the quality of life of Forest dwellers as well as people living in the fringe of forests who are depended on forest for their livelihood.
- Participatory approach in management of forests will be extended to larger areas and participation made wider
- Schemes for rendering more of forestry services to the public and for investigating man-animal conflict
- Schemes for better Human Resource Management by improving capabilities of perusal interpretery modern technologies
- Schemes for providing improved infrastructure in keeping with the present time's needs
- Schemes to provide enhanced employers opportunities to forest dependent communities and other weaker sections of the society
- Enable the department to achieve the forest tree cover largest of 33.3% by 2017 for which adequate budget support is needed
- Thrust for pressuring natural forest including biodiversity hot-spot character
- Increasing productivity of plantations by intensification of Management
- Forest Management Infrastructure system for switching over to total e-governance
- Mechanization of the plantation activities in view of the shortage of labour.
- Strengthening Forest protection through the establishment of model and new forest sanctuaries.
- Voluntary relocation of settlements which are deep inside forests to outside or on fringe of the forests
- Ensuring wood security of the State by encouraging land areas to take up agro-forestry and farm forestry
- Forest watershed based management units preferably in block level areas
- Incentivisation for private forestry and conservatories efforts
- Strengthening of forest development authorities

Approach, Strategy and Thrust Areas

8.4.4 The strategies of the 12th Five Year Plan are:-

- Conservation of the natural forests including the rich bio-diversity there in, sustainable management of water resources.
- Extension of participating approach in Forest Management
- Increasing productivity of plantations, mechanization of forestry operations

- Acquisition of areas for providing corridors to migrant fauna and biodiversity conservation
- Survey and diversifications of forestry boundaries
- Protection of sandal forests
- Five monitory using satellite imaging in association with NRSA
- Full utilization of Forest Management infrastructure system and geographic infrastructure system
- Mitigation strategies for climate change
- Encourage homestead and Agro forestry practices
- Provide employing opportunities to forest dependent communities and development of labour markets
- Sustainable livelihood for alleviation of poverty of Forest dependent communities, development of Non Timber Forest Produces (NTFP) and Value addition to NTFP
- Strengthening protection by providing sufficient infrastructure
- Improving the productivity of plantations through intensive management (contract system) and mechanization
- Grass root improvement for Forest protections
- Renovation Participatory Forest management with special reference to improving the areas of livelihood and living standards of total population
- Renovation of medicinal plants conservation and development
- Conservation of mangroves and sacred groves
- Conservation of Wild life and Biodiversity both inside and outside forests
- Application of FMIS and GIS for management
- Development of infrastructure
- Promotion of extension forestry –rural and urban forestry
- Research and monitoring programmes are sustainable basis.
- A Green Kerala project will be launched by converging various schemes implemented by the Forest Department
- Biodiversity conservation strategies will be developed for the protection of Western Ghats
- Development Strategies will be formulated for the protection of fragile environment
- Comprehensive watershed management project will be implemented on selected blocks through convergence approach with the support of Forest Department for the conservation and management of natural resources for improved productivity

Key initiatives of the first two years

8.4.5 The plan outlay during 2012-13 under the sector was ₹114.06 crore and the expenditure was ₹100.25 crore (87.89 %). The outlay for 2013-14 was ₹160.23 crore. The key initiatives are:-

- Establishment of Zoological Park in Puthur in Thrissur District
- Renovation of Forest museum at PTP Nagar, Thiruvananthapuram as National History museum.
- Establishing Orchidarium at Wagamon in Idukki District (Eco tourism Project)
- Setting up of Elephant care centre at Kottur and Kappucode in Thiruvananthapuram
- Establishing Gandhi Smrithi Vanam and Eco tourism project at Purakkad in Alappuzha District.
- Initiate actions for mechanization of forestry works and forest watershed based management units.
- Establishment of Kottiyoor Wild Life sanctuary
- Long term monitoring programme for Periyar Tiger Reserve
- Establishment of Forest management infrastructure system and GIS
- Introduce Vanadepthi Programme (Develop tree parks in Revenue puramboke and outside forest lands with people's participation with a view to improve ecological services of forest in such locations)
- Initiate action for the greening component as part of urban environment improvement project proposed by the department of Environment and Climate change
- Establishment of new forest stations and model forest stations.

Major Initiatives of the Twelfth Plan of Govt. of India

8.4.6 The Twelfth Five Year Plan adopts specific strategies to meet emerging challenges concerning conservations and assessment of Flora, Fauna, Forest and Wildlife, Prevention and Control of Pollution, afforestation and regeneration of degraded areas, and issues related to the welfare of animals. In the organizational strategies, it is proposed to set up a high powered body called National Environment and Forestry Council (NEFC) with the Prime Minister as Chairperson, the Minister of Environment and Forest as Vice Chairperson; aided and advised by a group of experts. Its primary function would be to bring in harmony in the functioning of different Ministries and to ensure that the evolution of all policies, laws and their implementation are in conformity with the objectives outlined in the National Environmental Policy (NEP) 2006.

8.4.7 On similar lines the NEFC, a high powered body called State Environment and Forest Council (SEFC) needs to be constituted to align the working of the other departments with the Department of Environment and Forest in each state.

8.4.8 Also a comprehensive review and reform of laws concerning Environment, Forests, Wild life and Biodiversity will be undertaken in the 12th Plan in order to make them more effective, work in harmony with each other and address new challenges.

Under the livelihoods area, to develop the NTFP sector in a holistic way and co-ordinate the various activities for sustainable management and livelihood, an autonomous agency needs to be set up with branches in all states. For the overall management of NTFP resource including conservation and development of an estimated 6 lakh ha as well as value addition and marketing support, a new scheme for sustainable livelihoods through NTFP management including bamboo needs to be formulated.

8.4.9 A new scheme on range land and Silvi-pasture management for rehabilitation and productivity enhancement of range lands, traditional grass lands on common/revenue lands around forest areas is required. Infrastructural and institutional mechanism for fodder storage, value addition facilities maintenance of germ-plasm banks and nurseries is required to be developed during the 12th plan period.

8.4.10 Forest Management Strategy: It is proposed a scheme on satellite based Forest Resource Assessment will put in place a system for technology based collection of baseline data and evaluation of forestry schemes with Geographic Information System (GIS), mapping of areas under the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act 2006.

8.4.11 Reorientation of the Indian Council of Forestry Research and Education (ICFRE) on the lines of Indian Council of Agricultural Research (ICAR) with augmentation of funding also needs to be taken up during the 12th Five Year Plan.

8.4.12 There is a need for creation of a Green fund for forestry activities by imposing forest development tax on sale of forest produce and forest conservation tax/cess on sale of petroleum products and coal mining.

8.4.13 Wild life and Animal Welfare: Integrated development of Wildlife Habitat will continue to be the umbrella scheme for conservation and management of wild life with focus on all species other than the tiger. Tiger conservation as led by the National Tiger conservation Authority, needs to be continued as a flagship programme of MOEF. Project Elephant needs a new focus under the plan through the creation of the National Elephant Conservation Authority (NECA) and notification of critical areas of Elephant Reserve as ecologically sensitive areas. Special focus is required for mitigation of human-elephant conflict through strengthening the existing project elephant scheme.

8.4.14 The 12th plan will specifically focus on following areas of concern.

- Scientific and socio economic issues related to wild life conservation including strengthening of veterinary care for wild animals
- Scientific management of PAs and Wild life rich areas outside PAs as well as mitigation of human wild life conflicts
- Operationalisation of ecotourism linked to livelihood enhancement of local communities
- Animal Welfare Boards needs to be set up in all the states including society for prevention of cruelty to animals
- Significant increase in investment for better petroleum and conservation of wild life, strengthening of institutional mechanism, improvement in livelihoods of forest fringe dwellers, capacity building of local level management committees needs to be focus.

8.4.15 National Forestry Information System: The National Forestry Information system should enable net working with states for tracking changes in forest development, harvesting, trade and utilization scenario with particular focus on issues of ownership and rights under Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act.

8.4.16 A National Programme specific to invasive species needs to be launched to compile a national inventory of invasive species by using GIS and remote sensing technology. It should include invasion in forests, aquatic and marine ecosystems, grass lands, wetlands and so on. A National invasive species monitoring system to track the introduction and spread of invasive is needed. Such a system should be linked to the State Forest Department and field staff should be trained to collect information on invasive species.

8.4.17 Satellite Based Forest Resource Assessment: Remote sensing based forest cover monitoring in close collaboration with Forest Survey of Indian, National Remote Sensing Agency and Indian Institute of Remote Sensing has been proposed. This initiative will be take for developing a country wide mosaic of high resolution satellite images and overlaying polygons/grids of areas to be taken up for interventions. This centralised spatial data base in the GIS domain can be used as a policy tool for mid-course correction.

8.4.18 Green India Mission: During the 12th Five Year Plan, provision has been kept for GIM for increasing forest and tree cover on 2.5 mha area (non forest through agro/social/farm forestry), improving quality of forest cover on another 2.5 mha area, improving ecosystems services and increasing forest based livelihood income and enhanced annual CO₂ sequestration.

Physical Targets and Deliverables

8.4.19 Based on the analysis of the policies and programmes in the Forestry, Biodiversity, Wild life and Animal Welfare Sectors, the following moniterable targets are fixed by the Government of India:-

8.4.20 Forest & Livelihood: (i) Technology based monitoring of forest cover, biodiversity and growing stock including change-monitoring on periodical basis through dedicated Satellite by 2017 and establishment of open web based National Forestry and Environmental Information System for research and public accessibility by 2015 (ii) Engagement of Village Green guards/community foresters for every Joint Forest Management (JFM) Village by 2016 (iii) Establish forestry seed bank in forest circles and Model Nursery in every district with information on public portal by 2014. (iv) Improve Forest productivity, Production and sustainable management of biodiversity (v) Building capacity of Village Forest Committees/Joint Forestry Management Committees for management of forest resources including ecotourism.

8.4.21 Wild life, Eco-tourism and Animal welfare: (i) Reducing and managing human-wildlife conflict (ii) Promotion of ecotourism and participatory eco-development support livelihood of local population (iii) 20% of Veterinary professionals in the country will be trained in treating wildlife (iv) Integrated ecotourism district plans covering 10% of all Potential protected Areas (PAs) by 2017.

Critical gaps to be addressed in the next three years

- Forest protection – strengthening of infrastructure facilities of forest stations, maintenance of vehicles and forest roads, fire protection works through VCSS/EDCS/Dept.
- Establishment of new forest stations
- Measures to reduce man-animal conflict - Compensations to victims of Wild life attack and crop danger, voluntary relocations and rehabilitation of people living in settlements inside forests and boundary protection in critical areas.
- Action plan for constructing electric fencing under RIDF
- Maintenance of forest roads and forest stations under 13th F.C. Award
- Social Forestry – developing a mechanism for proper sustainability arrangements
- Rehabilitation of landless tribal and development of tribal colonies based on recognition of Forest Right Rules 2007
- Schemes to provide enhanced employment opportunities to forest development communities and other weaker section of the society.
- Water conservation measures
- Development of Tiger Reserves
- Development of Zoological Park
- Development of Strategies and action plans of Human Resource Development

8.5 Innovation

8.5.1 High priority will be given to innovation in the 12th Five Year Plan. The approach will be in line with the Central Plan in general and State specific requirements in particular. A well-conceived link will be established between IT, R & D and governance and the people especially aiming to create more employment opportunities considering the peculiar situation in the State. An innovation council has already been constituted in the State to spearhead all the activities taken up by different departments and agencies.

8.5.2 Government has a critical role to play in strengthening the innovation capability of institutions as well as residents. As the pace of development increases rapidly, the State faces an increasing challenge to ensure sustainable and inclusive growth. In a dynamic world, new challenges arise and new techniques and methods have to be evolved to deal with changing requirement. Innovation can have an impact in diverse areas such as health and education delivery, governance, productivity and so on.

Approach, Strategy and Thrust Areas

- At the State level, the focus should be to get the best out of the existing institutional mechanism in the R&D area
- Critical evaluation of the outcomes of the R&D efforts of these institutions and schemes to determine their focus will be done during the Twelfth Plan period

- To examine innovative governance solutions which can deliver greater services and benefits to people at large
- To develop innovation strategy keeping the citizen in the central place. The customer-facing frontline staff could prove to be one of the better sources of innovative ideas for making the citizens' lives easier.
- Each Department will be encouraged to have a policy innovation and improvement cell
- Innovation content in each project will be identified and specifically highlighted when the project is submitted for approval of competent authority

Key initiatives of the first two years

8.5.3 During the first year of 12th Five Year Plan, an amount of ₹10 lakh was expended. In the second year, 4 schemes have been included with an outlay of ₹720 lakh. The following schemes are proposed:

- Project preparation /facilitation/Innovation under other rural development programmes
- Innovation Fund and ESCOT under KSEB
- Technology Innovation Zone under IT & E- Governance
- District Innovation Fund (13th FC Grant) under Secretariate Economic Services
- Fostering Linkages for Academic Innovation and Research (FLAIR) under Higher Education
- Traditional Knowledge Innovation Kerala- A centre for protection of Traditional Knowledge – under Ayurveda Education

Major Initiatives of the Twelfth Plan of Govt. of India

8.5.4 The approach in the 12th Plan at the national level is as follows, viz. (i) finding solutions to the needs of the people, (ii) innovation in organizational and process models that help commercialize the technologies developed in laboratories, (iii) innovating the process of innovation itself to contain cost of innovation, (iv) at the State level, the focus should be to get the best out of the existing institutional mechanism in the R & D area, (v) critical evaluation of the outcomes of the R & D efforts of these institutions and schemes to determine their focus, (vi) examine innovative governance solutions which can deliver greater services and benefits to people at large and (vii) the approach will be to develop, innovation strategy keeping the citizen in the central place.

8.5.5 The various activities suggested in the 12th Five Year Plan are summarized below:

- Realising that innovation is the engine for national and global growth, employment, competitiveness and sharing of opportunities in the 21st century, the Government of India has declared 2010—20 as the 'Decade of Innovation'.
- Recognising this need, the Prime Minister has set up a NInC with the mandate to formulate a Road Map for Innovations for 2010–20 with a focus on inclusive growth.

- Increasing Skills, Productivity and Competitiveness of Micro, Small and Medium Enterprises (MSMEs) through Innovation
- Nurturing Innovation through Education
- Platform for Best Practices and Innovations
- Connecting India for Innovation: Rural Broadband and Applications
- Challenge Funds for Innovation
- Bringing Innovation into Science Museums Technology Innovations in the Government

Critical gaps to be addressed in the next three years

8.5.6 The following critical gaps are identified to effectively carry forward innovative initiatives during the 12th Five Year Plan period.

- Sequentially structured projects to be implemented at the school level to have innovative ideas/findings in students
- Sufficient funds may be provided and priority fixed in implementation of innovation schemes
- The Departments may be insisted to formulate innovative plan schemes
- Proper monitoring of innovative schemes
- To encourage local responses to local problems and encourage local problem solving, flexi-funds have become an integral part of major flagship programmes like Sarva Shiksha Abhiyan (Elementary Education) and the National Rural Health Mission (Basic Health).
- The National Rural Employment Guarantee Act (NREGA), the largest flagship programme, promotes local innovation by providing for comprehensive planning with funds directly given to Panchayats.

Chapter

9

EDUCATION

...the new plan will take a major initiative in filling the quality gap by improving physical infrastructure, curriculum, pedagogy, faculty recruitment, faculty training and governance structures... regulatory system in the state will be strengthened by legislation as well as starting of new institutions... will encourage the establishment of schools of high quality... autonomous colleges will be encouraged to mobilise resources by way consultancies and research projects... selected colleges will be encouraged to start innovative courses and honours degree programmes... this chapter deals with the following sub sectors viz. (i) school education (ii) higher education, and (iii) technical education...

9.1 School Education

9.1.1 Education in the present day context is perhaps the single most important means for individuals to improve personal endowments, build capacity levels, overcome constraints, and the process enlarge their available set of opportunities and choices for a sustained improvement in wellbeing. It is not only a means to enhance human capital and productivity but it is equally important for enabling the process of acquisition, assimilation and communication of information and knowledge, all of which augments a person's quality of life. Education is important not merely as means to other ends, but it is an attribute that is valued in itself, by most individuals.

9.1.2 School Education has been given topmost priority at all times by the Government of Kerala, State provides free and compulsory school education for all children. The Govt. of Kerala has not only been actively promoting school education but also been setting up the infrastructural support.

Recommendations of the Working Group

9.1.3 The various schemes suggested in the 12th plan in school education retains the merits and achievements of the past with a view to achieve equality and to maintain quality, which may lead to academic as well as personal excellence.

- The department envisages different plans for the development of the infrastructure facilities so as to provide a conducive atmosphere for the students as well as the teachers.
- For the development of the Govt. schools, 1/5th schools (152 schools) can be upgraded as centre of excellence.

- E-Governance facility in the Directorate is essential for the establishment works of teachers. Day-to-day works through the software will be provided with an updated database which can be readily used for future planning.
- The department desires to provide a Rain water harvesting scheme in all Govt. Higher Secondary Schools in the state.
- Unlike other states in the country, Kerala is facing negative population growth rate and this has resulted in a declining trend in enrolment and strength of students. New strategies and programmes are to be adopted for facing the declining trend of pupil teacher ratio.
- At present there are 2147 uneconomic schools in Govt. sector and 2133 schools in private sector. These school buildings can be converted into resource centres for teacher training and research with most modern ICT and other facilities.
- Strengthening the heritage schools with the preservation of old school building by combining tradition and modernity in structure and outlook
- To provide vocational training to the pupil who has passed SSLC or equivalent
- To identify the competencies necessary for a particular task to be executed by the worker placed in a particular industry
- To formulate courses suitable to develop necessary competencies with add-on features such as OJT, PTC etc.
- Monitor and improve teaching approaches in Vocational schools so that it suits to achieve objectives of vocational education
- To create and maintain a strong liaison with the industry/service sector in order to modify the courses
- To provide placement to the pass outs of the course
- To create the necessary infrastructure, laboratory facilities, training facilities etc. for the conduct of the courses
- Development of Finishing schools
- To maintain liaison with other departments especially those related to the growth of Industry and Commerce to access information on the changes in policies well in advance, so as to formulate new courses to cater the arising demand in job market well within time.

Approach, Strategy and Thrust Areas

- Even though the reach of Public facilities is quite remarkable, there still exists segments of population as well as geographical areas not yet adequately covered by the presence of institutions. The 12th Plan will attempt to identify and fill such critical coverage gaps in education facilities.
- Absence of proper regulatory mechanism is ailing the educational sector especially professional education. The regulatory system in the state will be strengthened by legislation as well as starting of new institutions. A State level accreditation agency will be launched. Special attention will be given for the improvement of quality of Higher Education.

- The new Plan will take a major initiative in filling the quality gap by improving physical infrastructure, curriculum, pedagogy, faculty recruitment, faculty training, and governance structures.
- Eventhough the State was in the forefront of the total literacy movement in the country, there are improvement in the unfinished tasks remaining on the literacy front. The State is estimated to have 18 lakh illiterates and 12 lakh neo-literates. The coverage needs to be improved while checking the release of neo-literates.
- Pockets of illiteracy in urban slums, coastal areas, and tribal settlements will receive special attention
- There will be an attempt to broaden the definition of literacy beyond the capacity to read and write for imparting a set of carefully designed skill, information and knowledge to the needy
- Efforts to promote total literacy among the vulnerable sections like tribals, fishermen etc.
- The State has a system of training of teachers at all levels, which needs to be more systematic, functional and result oriented. The training programme should focus on imparting soft skill to the students through the teachers. The objectives should be continuous modernisation of schooling system in the state
- Information Technology, English language and communication skill will be given enhanced thrust at the stage of school education itself. Special emphasis will be given to address the issue of digital divide.
- The State will encourage the establishment of schools of high quality. An appropriate mechanism will be set up to ensure that such institutions maintain standards of excellence comparable to the best in the country and abroad.
- The system also needs to be made more inclusive by strengthening the noon meal scheme and initiating more such affirmative action
- Another area of priority will be schooling and development of special children through appropriate support to the institution working with government assistance and through positive government initiatives
- Awareness in cleanliness & hygiene, healthy food, sensitisation of children toward elderly, gender equity etc. will be made part of the school curriculum.

Twelfth Plan Outlay

9.1.4 The 12th plan Outlay for School Education is projected as ₹217790 lakh.

Key Initiatives of the first two years

- Elevation of Govt. schools to International Standards
- Multi Grade Learning Centres
- Systematizing of Pre-Primary Education

Major Initiatives of the Twelfth Plan of Govt. of India

- Strong Focus on Learning Outcomes
- Strong Focus on Early Years in School

- Review of School Textbooks
- Enhancing Facilities in Schools
- Research for Quality Improvement
- Pre-Primary Education
- Moving From Grade-Level to Ability-Level Teaching–Learning
- Promote State-Level/Local-Level Innovation
- Child-Friendly Assessment
- Learning from International Experience
- Address Residual Access and Equity Gaps
- Targeting Out-of-School Children
- Provision of Residential Schools
- Focus on SC/ST Children
- Special Provision for Children with Special Needs (CWSN)
- Special Focus for Education of Girls
- Focus on Educationally Backward Minorities
- Focused Efforts in Urban Areas
- Focus on Teachers and Education Leadership
- Linkages with Other Sectors
- Develop Partnerships with the Community-Based Organisations (CBOs)
- Integration of Sports and Physical Education
- Integration of Arts in Education
- Increased Role of the Private Sector
- Rashtriya Madhyamik Shiksha Abhiyan (RMSA)
- Model Schools Scheme
- Girls Hostel Scheme
- ICT @ Schools
- Inclusive Education for Disabled at Secondary Stage
- Scheme of Vocational Education
- National Means-cum Merit Scholarship Scheme
- National Incentive to Girls
- Appointment of Language Teachers

Critical Gaps to be addressed in the next three years

- To provide sufficient class rooms in all schools

- To provide well-equipped laboratory, library facility, furniture and computers in all schools so that the students can have the privilege of learning activities on par with national or international level.
- To provide adequate toilets and drinking water facilities in all schools
- To render help to teachers in their faculty development and career needs and to students in their curricular and co-curricular requirements
- Inception of e-Governance System in the Department so that the beneficiaries get prompt and reliable service
- To provide training to the staff of the Department in pre-determined areas as per need based analysis
- To conduct student centric programmes covering Curricular and Co-curricular aspects which will streamline the academic, artistic and career oriented capabilities in students.
- To provide merit cum means scholarships to the students who are eligible for it extending a helping hand to them during their studies at the Higher Secondary level
- To set proper curricular objectives and to select and formulate learning strategy so as to equip Higher Secondary students to attain world class educational excellence.
- To formulate comprehensive programme for raising the standard of Higher Secondary Education to National and International levels
- To render help to teachers in their faculty development and career needs and to students in their curricular and co-curricular requirements
- Reorienting the prevailing courses with respect to the availability of specific industries
- Development of an evaluation methodology which emphasises on competencies acquired by the student
- Establishment of State Institute of Vocational Education (SIVE) as a separate Institute or as a separate wing of the SCERT
- Strengthening of administrative mechanism of both the Directorate and Regional Offices of VHSE. (DVHSE & ROVHSE)
- Strengthening of academics, streamlining and updating of syllabus with special reference to the need of the industries and also in recognition with the growing demand in various sectors of the economy

Physical Targets and Deliverables

9.1.5 In 11th Five Year Plan, 100% enrolment of students was the physical target and it is actually achieved 98%. During 11th Five Year Plan VHSE targeted an enrolment of 20885 students and actual achievement was 165469. But in the 12th five year plan, target is (enrolment) 135000 students. In the case of Higher Secondary Education 11th Five Year Plan target was 174150 (enrolment of students) and its achievement was 1783390 students. 12th Five year Plan target (enrolment of students) in Higher Secondary Education is 2000000.

9.2 Higher Education

9.2.1 The development of higher education in the state was at slow pace until the formation of the state of Kerala in 1956. However, it was from the Third Five Year Plan onwards that higher education was accorded very high priority. The role of private management in the spread of higher education in the state has been commendable. In the 11th Five Year Plan period, though there has been emphasis on a quantum jump in higher education, it has to be objectively assessed whether this was accompanied by quality enhancement in terms of autonomy, academic freedom, accountability, selection of students and teachers, preparation of syllabus, method of teaching, quality of teaching and the system of assessment through examination etc. Care should be taken to ensure that the moral vision so fundamental to the entire education system is maintained and the system is not reduced to a mechanism of profiteering. The outlay for the Higher Education during the 11th Five Year Plan was ₹345.22crore. As against this outlay the total expenditure came to ₹442.90 crore.

Recommendations of the Working Group

- Scheme of Centre for Excellence to improve the quality of Post Graduate education and Research in University Departments and Arts and Science Colleges in Kerala
- In 12th plan, Post Graduate courses-both science and social science- should be allowed on a required scale
- Higher education facility should be improved on a large scale through public investment in Wayanad District as the district contains 37 per cent of the tribal population of the state. A ‘Tribal University’ encompasses a wide range of subjects covering arts and sciences.
- Post graduate courses and facilities to do Ph.D in fundamental sciences and arts and science courses
- Linking higher education with industries training so that an appropriate skill required by the market is acquired before they leave the college
- More research facilities by opening more research centres which are also centres of learning, discovering and engaging
- Present system of college union functioning has to be remodeled so that students shall get an experience in parliamentary system. College unions shall function like the Legislature and Executive.
- Counselling should be made a part of curriculum as mental depression, schizophrenia etc. are increasing in the campus.
- Teachers with Ph.D and higher qualifications after retiring at the age of 55 do not find any space for utilizing their capabilities. This dissuades teachers from the pursuit of higher research qualifications. Therefore facilities may be arranged to tap the excellence even after retirement. Steps may be taken to institute state sponsored academic forums where these highly qualified Professors may be used as visiting professors across the state/country with reasonable monetary benefits. This will encourage many more teachers to pursue research.

- Student appraisal of teachers may be made compulsory and a condition for implementation of UGC scale of pay, future promotion etc. Such appraisal forms may be centrally valued at the supervision of the Principal so that principal gets first hand information on the performance of the teachers. Classroom efficiency and further promotion of teachers may be better monitored by this process.
- Once a college/university teacher aspirant passes NET, he/she should be given teachers' training for a given (short) period of time. Teacher training is to be given in such a way that a teacher prepares lecture notes on all aspects covering a topic, lecture on these aspects, give the list of reading in the form of books as well as referred journals, introduce important contributors and their contributions in the area.
- Student councils should be made more responsible and representative in nature
- A Women's University in the nature of Mother Teresa University of Madras.
- Higher education system should have a rational meaningful structure
- Maintain strong teacher pupil relationship
- Strict norms are to be followed while giving affiliation to the self-financing colleges
- Technology based teaching and computer based teaching through models should be strengthened
- Skill development may be included in the restructuring of curriculum
- To ensure qualitative improvement in higher education, especially in Arts and Science Colleges sufficient posts may be sanctioned along with the sanctioning of new courses. While sanctioning new colleges /courses emerging areas / courses may be given priority. New colleges may be started in socially and educationally backward places. It should be ensured that there is at least one Government Arts and Science College in every Taluk of Kerala.
- In unavoidable circumstances guest faculty may be appointed having sufficient qualifications prescribed by UGC. In such cases they may be appointed as Assistant Professor with full salary package to ensure their accountability and commitment to the profession at par with regular faculty in all academic matters. Specific selection norms may be prescribed by DCE as per the UGC norms.
- The starting of CBCS system without adequate infrastructure and manpower, and proper groundwork created lot of academic problems, student confusions and chaotic situations in campuses. The teachers became mere clerical workers to equip the students for the end semester examinations and continuous internal evaluation/ assessment process throughout the year. Even though the system envisages a 'Choice' Based Credit and Semester System in the present setup no 'Choice' of students be entertained. Hence the whole system may be reviewed immediately.

- Principals may be given adequate powers and enough freedom to purchase, books, chemicals, equipments and furniture from the grants and assistance received from external agencies by maintaining purchase rules of such agencies.
- Every faculty member entering in to service may be given an elaborate orientation course to equip himself to the higher education system
- Conventional courses to be revamped and new courses with modern subjects like bio informatics, biotechnology, nanotechnology etc. to be introduced.
- Inclusion of modules in fundamentals of Indian Constitution like fundamental rights, environmental awareness, family law, Ragging Prohibition Act, women empowerment, communication skills, soft skills etc. to be made part of the syllabus.
- Compulsory social service activity for degree students by way of extension services and community services to be suggested and made a part of curriculum
- As in the case of MBBS, Higher Education Council shall fix a date, which shall be made mandatory for all colleges in Kerala be it government, aided or self financing for starting classes for UG and PG classes. After that date no admission to UG/PG programmes shall be allowed. Now, the universities are fixing a date for commencing classes and fix a date after one or two months for closure of admission.
- A common entrance exam for PG admission
- The practice of allotting dissertation work to all students shall be stopped. Dissertation work only for students who wish to go for research. Others shall opt for a Paper. Allotment for dissertation only after an aptitude test.
- A scrutiny committee in the model of doctoral committee for PhD registration shall be formed in every PG Department with experts also from outside and this committee shall be empowered for evaluating the synopsis of the work before commencement of the work shall be made mandatory.
- College accreditation by Higher education council shall be made mandatory and accreditation shall be based on widely accepted quality indices
- Strengthening of tutor/ward and mentor/student systems
- The system of remedial teaching shall be made more functional
- Fixing of minimum working/teaching days and its strict monitoring
- Linking of educational concessions (SC/ST, KPCR etc.) with student's academic progress, conduct, attendance etc.
- Present system of automatic promotion to higher semesters shall be stopped forth with. Instead a pass in Ist semester, 3rd Semester and 5th semester shall be made mandatory for promotion to the even numbered semesters ie. 2nd, 4th and 6th semesters for UG Programmes.
- Similarly a pass in Ist semester and 3rd Semester shall be made mandatory for promotion to the even numbered semesters ie. 2nd, 4th for PG Programmes shall be done by the institution itself

- Refresher courses have to be made more useful for class room teaching. Attending one refresher course during 3 years shall be made compulsory for teachers,
- Career guidance and placement cell in colleges shall be strengthened

Approach, Strategy and Thrust Areas

- Autonomous colleges will be encouraged to mobilise resources by way of consultancies and research projects. Selected colleges will be encouraged to start innovative courses and honours degree programmes.
- In Higher Education selected arts and science colleges will be given autonomy in a phased manner to encourage curriculum development innovation in teaching and training techniques, and above all research
- Higher Education institutions will be given support for modernising library and information facilities harnessing the potential of modern technology
- At least 10 selected govt. colleges will be converted as Centres of Excellence
- New academic institutions for higher and vocational education will be encouraged in the state provided they fulfil the criteria of excellence
- More educational institutions will be strengthened to attain the status of Deemed Universities
- In the area of modernisation the State should aim to build its capacity to be part of the emerging global knowledge society and make Kerala a Knowledge hub. Special care should be given to nurture and develop all centres of research and knowledge generation. The premier research centres established during 1970's needs to be strengthened with the help of a futuristic plan.

Twelfth Plan Outlay

9.2.2 The projected outlay for 12th Five Year Plan on Higher Education is ₹1666.94 crore.

Key Initiatives of the first two years

9.2.3 College Quality Improvement Programme: The State has to match equity with its quest for improving quality in higher education, it has to lend a helping hand to the weaker institutions to achieve minimum threshold levels of quality standards so that it can also legitimately earn NAAC accreditation. CQIP is designed to help Colleges that have not earned the NAAC rating to upgrade its standards of quality. In each year of the 12th Five Year Plan, two colleges will be taken up for NAAC accreditation and advance work will be taken up for the next year for another two colleges. 75% of the amount allocated will be for infrastructure while 25% will be used for other quality improvement measures.

9.2.4 Additional Skill Acquisition Programme: This scheme is to be implemented jointly by the General Education and the Higher Education Department and seeks to equip students currently enrolled in the Higher Secondary and Undergraduate Courses in Arts and Science Colleges with industry/business relevant skills to one lakh of students during the 12th Five Year Plan. In the first phase, the scheme will be open to students of Higher Secondary Schools/Vocational Higher Secondary Schools and Colleges of Government. In the second phase, which commences in the third year of

the programme, students studying in Private Aided Schools as well as Arts and Science Colleges too will be allowed to become beneficiaries of the ASAP. The Additional Skill Acquisition Programme focuses on enhancing chances for securing employment for the segment of students studying in Higher Secondary and Undergraduate Courses.

9.2.5 Centres of Excellence in 10 selected colleges: This ambitious scheme seeks to develop the top ten colleges of the State as Centres of Excellence over the next three years. The scheme will include the structured internal quality assurance system for ensuring continuous quality monitoring/improvement, reading room facilities for students and faculty in library etc. and look into the performance of the colleges already covered under the scheme. The individual work of high quality of both faculty and students that have come in for academic recognition will be encouraged under the scheme. This plan will be vetted by an expert committee in Govt.

9.2.6 State Award Fund for Universities: The State Award Fund for Universities (SAFU) is envisaged as a scheme to substantially improve the quality of higher education in the State, which will enable the Universities of the State to achieve standards of excellence among Universities in the Country. The UGC has a scheme to encourage Universities with Potential for Excellence (UPE). A Scoring Index will be constructed by the Higher Education Council based on a well-designed set of criteria with appropriate weights attached to each. The criteria for the award should increase progressively in rigor over the five years. The criteria should be so calibrated that at the end of the XII Five Year Plan a University qualifying for the award under SAFU should be in a very advantageous position to compete for the UGCs National Award. It is proposed to allot the fund to the best performed two Universities during the year. This will also be utilized for specific Universities for upgrading their service delivery. The performance of the Universities already brought under the ambit of the scheme will also be undertaken.

9.2.7 Scholar Support Programme: The proposed programme envisages to extend support to scholars in the Under Graduate programme with timely assistance in terms of tutorials, additional lectures, interactive sessions, question banks and study material. Dissemination and conduct of classes will be through both personal and web-based modes. The benefit of the materials prepared for the first phase will be made available to students studying in aided private colleges as well. In the second phase, the programme will be extended to students in the aided private colleges also. The following are the features of the scheme viz. (i) Students who have obtained less than 60% of marks in the qualifying examination or in any subject for each semester can join for the SSP (ii) The mentoring scheme for students, and (iii) SSP Coordinators.

9.2.8 Walk With a Scholar: It is proposed in this Walk With a Scholar (WWS) scheme to arrange specialized mentoring programmes for students in the Undergraduate Courses in the Arts, Science and Commerce streams, to nurture promising and willing students and to provide guidance for their future. This scheme introduces the idea of mentoring which is built on the concept of mentor as a guide and friend. The following are the features of the proposed scheme viz. (i) The mentoring scheme for students will be purely voluntary in nature (ii) WWS Co-ordinators (iii) Internal Mentors, and (iv) External Mentors.

9.2.9 Skill Development Programme: The main objective of the project is to create employment opportunities for the unemployed youth and to enhance the skill sets of the populace with industry linkage. The programme will be implemented with the

support of General Education, Higher Education, Labour and other relevant Departments. The programme will be coordinated by Higher Education Department.

9.2.10 Public Entrance Examination Coaching Scheme (PEECS): A high percentage of students of the Higher Secondary Schools in Kerala come from the rural background. They do not have the financial capability to attend coaching classes to prepare for the Entrance Examinations for admission to Professional Degree Courses. So they are not able to score well in the Entrance Examination, on various grounds including the lack of training or coaching imparted at the coaching centres that equips students to attend the entrance examination based on the strategies imparted to them there. However, they score very high marks in the Qualifying Examinations. The proposed Public Entrance Examination Coaching Scheme (PEECS) aims at imparting coaching to students of Higher Secondary Schools in Kerala by way of telecasting of classes with the help of experts in various subjects based on the syllabi of the Entrance Examinations, providing the facility for the students to interact with experts, clear their doubts etc., attend practice tests and Entrance Examinations, setting up of a Question Bank with the assistance of expert faculty etc.

9.2.11 Fostering Linkages for Academic Innovation and Research (FLAIR): The major objective of the programme is to motivate and encourage the potential, talent and capabilities of the newly recruited teachers in Colleges to be tapped and fully utilized for the betterment of the institution in particular and the society at large. Fostering Linkages for Academic Innovation and Research (FLAIR) aims at developing a young talent pool in the college campuses of the State who can act as change managers for the Higher Education system. Establishment of linkages between the young faculty members and experienced senior academicians and researchers in the areas of academics, research, and extension and student development will be the key feature of this programme. The target group to be identified for the Programme would be the newly recruited teachers in colleges who are under the age of 35 years/or having less than 5 years of service in the Collegiate Education Department as a regular teacher.

9.2.12 Annuity Scheme: Infrastructure development of the existing colleges and the construction of new colleges need a huge amount of money and sanctioning such amount in lump may lead to heavy financial problem. By implementing the annuity scheme, it is possible to reduce the financial burden of the Government to certain extent. More fund is required for the renovation works of older buildings, construction of new colleges, hostels, staff/principal Quarters, compound wall, Lab-Library construction/renovation, maintenance/ construction of playground and conservation of heritage colleges. In the scheme it is proposed to include the projects which are expected to have expenditure for an amount more than 8 crore. Amount is sanctioned to the agencies in an annuity basis. There are three colleges viz; Library cum Research Centre in Maharajas College, Ernakulam, Attappadi Government College construction and Munnar Government college infrastructure development in which major developmental proposals are suggested for which more than ₹8 crore each has to be invested during 2013-14 Annual Plan.

Major Initiatives of the Twelfth Plan of Govt. of India

- Develop Central Institutions as Quality Leading Institutions
- Strategic Support for State Higher Education

- Quality Private Growth
- Expansion of Skill-Based Programmes
- Open and Distance Learning Initiatives
- Multi-Disciplinary Research Universities
- Centres of Excellence (CoE)
- Promoting Collaborative Research
- National-Level Governance
- State-Level Governance
- Institutional Level Governance
- Developing Academic Leadership
- Student Services and Admissions

Critical Gaps to be addressed in the next two years

- Scheme of Center for Excellence to improve the quality of Post Graduate Education and Research in University Departments and Arts and Science Colleges affiliated to the Universities in Kerala
- To increase the quality of teaching and research in university Departments offering post graduate and research courses like MA, MSc, MPhil and PhD in Kerala at par with the reputed national universities.
- To increase the quality of education in Arts and Science Colleges offering post graduate courses at par with the reputed national colleges.
- Special fund support in the form of library, laboratory facilities, class rooms, computer facilities, furniture and infrastructural items will be provided.
- The support may be given to departments in the Universities and colleges which has achieved very good / excellent performance during the past three academic years.
- The purpose is to utilize the plan funds for strengthening the infrastructure facilities of the University Departments / Colleges.
- These departments may be declared as 'Centre of Excellence' by Government of Kerala.
- Pre Service Induction Course for newly appointed college teachers: Teachers appointed in schools have a B.Ed. Degree which grooms them for classroom experience. However, teachers in colleges start their career without any practical knowledge. This is an anomaly and a hindrance to the expectations in higher education. Youngsters with just a Post Graduate Degree or a National Eligibility Test pass certificate cannot be effective in modern classrooms without special training. A special mandatory course incorporating the wisdom of eminent teachers, values reflecting regional, national and universal aspirations and modern counseling and managerial practices should be designed and given to every new teacher before his or her entry to a classroom. The investment in this course will have far reaching impact on higher education in the state.

- Establishing a worldwide Virtual University:
 - ✓ At present in the universities there are more than twenty members in the Syndicate. The number of the membership should be reduced to a minimum of ten.
 - ✓ Eminent Academicians and Educationists shall be nominated to the Syndicate so as to represent the faculties of Science, Social Sciences, Humanities and Arts subjects.
 - ✓ Publishing of the results of examinations in a time oriented manner in all the universities is needed.
 - ✓ Internal marks for professional college students in the state should be given based on certain norms. There shall be a committee for the redressal of complaints of the students with regards the internal marks in Engineering and Medical Colleges.
 - ✓ Steps may be taken for necessary changes in statutes, acts and regulations of all the universities so as to make a uniform structure of all the universities in the State.
- Autonomy and Accountability: Fundamental research and social science research should be encouraged. Each faculty to set up goals in terms of the students' success rate as also research contribution which can be periodically reviewed at the level of Department. However, autonomy accountability and academic freedom are to be integral part of excellence.

9.3 Technical Education

9.3.1 Technical Education System in Kerala covers curriculum in engineering, technology, management, architecture etc. at diploma, degree, postgraduate and research levels. Technical High Schools and Fine Arts Colleges also come under the purview of technical education. Even though Directorate of Technical Education is the nodal department for technical education in the state, the self-financing engineering colleges are unfortunately not covered and controlled. Tenth and Eleventh Five Year Plans were insisting for increase in GER to match Global figures attempting growth of this sector in an unprecedented rate in terms of number of institutions and intake naturally leading to associated problems. There was no concern on realistic demand or availability of crucial and critical teaching and learning resources, safe guards for sustainability of minimum quality standards etc. The projects and programmes initiated remained ultimately Fund Utilisation Drives, leaving typical reports to cater to audits and reviews. The outlay provided for 11th Five Year Plan in the sector is ₹268.08 crore. Out of this ₹383.96 crore was the expenditure.

Recommendations of the Working Group

9.3.2 In view of the present situation of the education system and focusing to achieve the aims of 12th plan the following suggestions and measures are recommended.

- A proper database on the sanctioned seats, admission given, unfilled seats, percentage appearance in exams, pass percentage in the first chance, placement details etc. for the State as a whole is to be created.

- Ensure qualified faculty, infrastructure facilities etc. in Govt. engineering colleges and private engineering colleges
- A SAAC like NAAC is needed for ensuring quality assurance and other related aspects
- To form a Technical University, with CET as the Constituent College, and provision for affiliating other Engineering Colleges which will govern all the technical colleges to bring in quality, quantity and accountability.
- There should be a provision for giving academic autonomy to deserving colleges of at least 25 years' standing, with fully developed and qualified faculty and proven record of excellence. Appropriate academic bodies have to be set up in these institutions to perform the functions now being performed by the University Bodies.
- Efforts should be made to convert the academic mode into Choice based Credit System. Instead of permitting lateral entry for diploma holders, they should be given credits for appropriate course which they have undergone at the diploma level.
- The faculty in such autonomous colleges should be nontransferable, and every promotion should be an open selection with wide advertisement. The criteria for promotion may include one or more of the following: (a) academic excellence, as determined by publications and patents (to be assessed by peers) (b) excellence in teaching, as assessed by students (c) public service as indicated by service to government, public bodies and the Institution itself, to be determined by specific criteria.
- Even though AICTE has prescribed M Tech as the minimum qualification for a teaching post, it is necessary to recruit fresh B Tech graduates, if we want to enlist the best possible talent for teaching. Hence it is suggested that 50% of the recruitment be made from among graduates having good GATE score, and they be immediately deputed for M.Tech in reputed institutions. The other 50% recruitment may be made from among M.Tech holders and those with industrial experience. Recruitment should be made every year, so that there is an opportunity to attract the best talent from every batch of students.
- An Academic Staff College should be set up with the Technical University and an induction programme of at least one month's duration should be made compulsory for all new teachers, before the end of the first year of service. Other Refresher Programmes also may be organized by the ASC, but this should be mandatory.
- CERD to be strengthened and teachers to be given incentives to take up R&D activities.
- New PG Courses to be started in all disciplines in order to meet the demand for qualified faculty in all engineering colleges. Laboratory and Library facilities to be expanded suitably.
- All educational institutions having study centers and off campuses in Kerala are to be examined for legal existence as well as for quality monitoring

- AICTE has now modified their prescription of qualification for teachers, where the Degrees are to be from regular courses and not distance Mode or Part time. This also calls for inspection of these establishments, if necessary after appropriate enactments.
- The result Analysis clearly is a decision support system, where College and Course level performance are offered and for those cases where results are lower than 30% consecutively, temporarily BAN / STOP for the stream of study (branch of Engg.) and need be permitted after appropriate remedial measures are affected.
- Different from the demand from Autonomy, as it does not go without responsibility and accountability, utilisation of available facilities with commitment and dedication in a steady manner is more appropriate. TEQIP had the attraction of easy funds with not much of accountability, as its main components are purchase and training, results of which cannot be easily quantified.
- At present Universities are just mechanisms for conduct of examinations, where as actual academic work in the case of affiliated institutions are done by the faculties, syllabus & scheme preparations/structuring, teaching, invigilation, paper valuation etc. So these are to be stream lined and co-ordinate with necessary amendments. The treatment may be at the root cause itself and quality in all cases call for concerted combined efforts from all stake holders.

Approach, Strategy and Thrust Areas

- In the area of modernisation the State should aim to build its capacity to be part of the emerging global knowledge society and make Kerala a Knowledge hub. Special care should be given to nurture and develop all centres of research and knowledge generation. The premier research centres established during 1970's needs to be strengthened with the help of a futuristic plan

Twelfth Plan Outlay

9.3.3 The projected outlay for 12th Five Year Plan on Technical Education is ₹886.16 crore.

Key Initiatives of the first two years

9.3.4 Establishing Kerala Technological University: The major objective of establishing a Kerala Technological University (KTU) is to improve the academic standards of undergraduate, graduate and research programmes in Engineering and technology. This shall be an affiliated University and fund may be provided to the colleges through the University. The technological University would be unique in its feature and would stand out separately as a model university. The proposed University would have the following features viz. (i) A University of excellence which would be at par with any renowned university (ii) The colleges which would satisfy prescribed norms and standards of academic quality only would be affiliated (iii) Major emphasis will be given for research and innovations (iv) The organizational structure would be simple so that procedural complexities are avoided to the maximum extent (v) The general and academic administration would be on an E- platform, and (vi) Association with foreign universities would be encouraged.

9.3.5 Transportation Engineering Research Centre (TRC): The Transportation Engineering Research Centre was set up in College of Engineering, Thiruvananthapuram. The TRC research programme emphasize applied research and technology transfer to enhance knowledge in the field of transportation and to solve transportation problems encountered by transportation community and also provides an extensive array of labs, equipment and reference materials. The specific objectives are (i) To conduct research relating highway materials, pavement engineering, traffic engineering and transportation planning (ii) To promote regional level consultancies, develop facilities for research and training in urban transportation planning, and (iii) Conduct training programme and short term courses for the practicing engineers, academicians to transfer the research outputs for implementation, provide training to the employees in Govt./Semi Govt. transport organizations.

9.3.6 Strengthening the libraries in Engineering Colleges and Polytechnic Colleges: The Scheme is proposed to set up digital libraries in all engineering colleges and polytechnics. The scheme will make a drastic change in the library management system and will revolutionize the library system to an international standard. Strengthening of libraries of a few engineering colleges and polytechnic colleges has been started. The improvements will occur in the following fields viz. (a) Digitalization of library books in all the institutions (b) Making available online journals in all areas (c) Library Information Management System (LIMS) software (d) Online referencing of international journals like IEEE, ACM etc. (e) Online lending and updating of Records (f) Digital enquiry of books remotely, and (g) Purchase of books in new titles, hard copy journals, E-journals.

9.3.7 Educational resource centres in all Engineering Colleges: As part of the ICT initiatives all the class rooms in the Govt. Engg. colleges were converted as smart class rooms by providing LCD projectors and internet connectivity. The knowledge/learning management system supports the creation, organization, storage etc. and preservation of the digital information assets of its colleges and polytechnics. Expansion of K-Base is an e-learning initiative. It is proposed to expand the K-base digital system in all Engg. Colleges, content development in all subjects and creation of a repository of all research works, expert lectures and video conferencing done in the institutions.

9.3.8 Research scholarship in all Engineering Colleges: It is proposed to award research scholarship in all engineering colleges in similar lines as SPEED-IT scholarship. A maximum of 5 students in each college will be benefited by the scholarship. An amount of ₹20000 is to be awarded to Ph.D students, and ₹6000 for M.Tech students per month. It is also proposed to award scholarship to M.Tech students who do not have GATE scholarship from among the eligible brilliant M.Tech students. The programme would aim in the enhancement of research ambience.

9.3.9 Faculty and staff development training centres: It is proposed to set up training centres for faculty and staff of all engineering colleges in the state through two Govt. Engineering Colleges. The training schedule is to be carried out on the basis of a training need analysis. Two Engineering Colleges CET, Thiruvananthapuram and Govt. College of Engineering, Thrissur are selected as training Centres. The knowledge of faculty is to be updated in the corresponding fields of expertise and the staff is to be given training in e-governance. Awareness on service rules, office proceedings and personality development are also to be imparted through the programme.

9.3.10 Scholar support programme: For the past few years the pass percentage of students has reduced considerably for those engineering students admitted through reservation quota for SC/ST. This percentage has increased when the lateral entry came in place. The result history (University Exam results) of students from these categories highlights the need for special attention, particularly for some tough subjects. A survey in this regard has brought out the fact that 30-40 students per batch in this category failed. The additional coaching given to these students have helped a great deal in reducing the graveness of the situation. To cater the requirement of the large number of such students in engineering colleges and polytechnics a new scheme for giving remedial coaching was implemented. Remedial classes are being conducted for various subjects for the needy students. This would ensure better pass percentage. An orientation class for the first year students and lateral entry students are also included under the scheme and is to be implemented in all Engg. Colleges and polytechnics.

9.3.11 QIP centres in two colleges: Quality improvement centres have been started in College of Engineering, Thiruvananthapuram and Govt: Engineering College Thrissur in which the faculty in Engineering Colleges has the opportunity to undergo PhD programmes. In CET, QIP programmes are sanctioned for four branches (Civil Engineering Mechanical Engineering, Electrical Engineering and Electronics Engineering) with opportunity for PhD programmes at the rate of 2 faculties per branch. In the Govt: Engineering College Thrissur, QIP programmes are sanctioned for 3 branches (Civil Engineering, Mechanical Engineering and Electrical Engineering) with opportunity for PhD programme for 2 faculty per branch. AICTE has approved RIT, Kottayam as a QIP centre through which six faculty has the opportunity to undergo PhD programs with intake of two each in three branches. In the year 2013 – 14, a total of 34 faculty will be doing PhD programs through the above three colleges. Modernization of laboratory facilities, library facilities, construction of apartments for QIP research scholars etc. are proposed to be carried out.

9.3.12 Additional Skill Acquisition Programme (ASAP): The Additional Skill Acquisition Programme has been started in 2012-13, by organizing various short-term skill development programmes for unemployed financially backward youths belonging to all communities. It has been started only in few engineering colleges. During 2013-14, it is proposed to extend the programme to all engineering colleges, polytechnics and some selected technical schools. It is also proposed to conduct secondary students outreach programme (SSOPE) through engineering colleges. This programme envisages for conducting a series of courses for the secondary school students captivating them to choose a career in engineering by creating mathematical skill development and also for affinity programme in engineering discipline. The students are provided with monthly stipend, tool kit etc. and awarded with certificate of competency on successful completion. Amount proposed is for providing honorarium to the faculty, cost of deliverables and stipend to the participants.

9.3.13 New IIT in Kerala: The establishment of an IIT is a long-standing dream of the people of Kerala. A detailed project report for setting up IIT in Kerala was prepared and submitted to the Union Government. There is a qualitative and quantitative laggardness in the State with regard to higher education, technical education and on the research front. The number of engineering institutions is quite large but most of these institutions do not have post graduate programmes and research facilities. The overall

development of technical education is possible only through research and strong collaborative links with industries. IITs ensure a constantly evolving curriculum, which ensures better dissemination of technical knowledge and skills to the young engineers of the State. The setting up of national level institutions in Kerala, like IIM IITMK, IISER etc., will foster research and development in the science and management fields. The establishment of an IIT in Kerala could inspire more girl student participation in the IIT system which is currently very low. It is proposed to establish the IIT in Palakkad district which is the ideal place for setting up IIT in Kerala.

9.3.14 Trivandrum Engineering Science and Technology Research Park (TREST): The establishment of TREST RESEARCH PARK is to enhance Industry- Institute interaction and to promote fundamental and applied research. It is modeled in similar lines to Techno Park by giving emphasis to research rather than commercial activities. The Research Park will work closely with College of Engineering Trivandrum. The project envisages to encourage industries to establish their research centre in the research park and utilize the laboratory facilities, research facilities available in the CET and the expertise of faculty and students for research. The TREST may initially take space on rent from TECHNOPARK and commence operation. Once the concept has been proven and enough companies established their research centres in the park, the possibility of putting up new building could be considered.

9.3.15 National Vocational Education Qualification Framework (NVEQF) in Technical High Schools and Polytechnics: The All India Council for Technical Education (AICTE), Ministry of Human Resource Development (MHRD) has launched the National Vocational Education Qualification Framework (NVEQF) to be implemented in Polytechnics, Engineering Colleges and other colleges in the University systems from 2012-13. The scheme envisages seven certificate levels with each certificate level with approximately 1000 hours, with each 1000 hrs. being made of certain number of hours for vocational competency based skill modules and the rest for general learning simultaneously. By integrating these two, a Diploma for vocational education after the certificate level 5 will be given or leading to a Degree for vocational education after level 7 in the university system, subject to their statutory approval, is the highlight of the scheme. A student can choose to avail of competency based skill learning along with general education in this scheme without losing the possibility of changing course and moving at any certificate level into a formal system of education and vice versa. This would ultimately provide a full multi-entry exist system between vocational education, general education and the job market. It is proposed to implement the scheme, in our Technical High Schools and in some selected Polytechnics. It is intended to implement this system in the Technical High Schools curriculum in 5 sectors like Construction, Automobile, communication, Agriculture and IT. Implementation of NVEQF would require financial assistance for infrastructure as well as remuneration for the industrial participation and for expert lectures from skill imparting professionals. The teaching staff also has to be imparted adequate training in pedagogy, student psychology, communication skills and motivation to provide better academic environment in the THSs.

9.3.16 Schemes coming under PPP mode: The following three schemes viz. (a) Advanced Diploma in Automotive Mechatronics (ADAM) (b) Centre for Excellence in Printing Technology for Micro-Printing and Thin Film Deposition in Govt. Engineering College, Thrissur (c) Centre of Excellence and Centre of Competence in

Automation Technologies in RIT, Kottayam will be implemented in PPP mode. It is a joint programme with special emphasis given for the national and international players. For these three programmes amount will be proposed in a single head from which the same can be utilized.

Major Initiatives of the Twelfth Plan of Govt. of India

9.3.17 In the State plan there is sub division in the higher education ie., University Education and Technical Education. But in 12th plan document (GoI), there are no such divisions. So, the above initiatives are included in the Higher Education part.

Critical Gaps to be addressed in the next three years

- A regulation in the opening of new engineering colleges is to be imposed. Instead, increase in seats in the meritorious colleges like CET is to be undertaken.

Physical Targets and Deliverables

9.3.18 In the Technical Education Sector, the 11th Five Year Plan targeted an intake of 35772 students which was the sanctioned intake of the Polytechnics and Engineering Colleges. But the actual achievement was 82475students. During this period the achievement of Engineering Colleges was 22500 students against the target of 26112 students. The corresponding achievement of Polytechnics was 59975 students against the target of 9660 students. In the 12th Five Year Plan it is targeted to achieve a total intake of 290000 students in Polytechnics and Engineering Colleges. In this an intake of 58,000 students is expected from Polytechnics and 232000 from Engineering Colleges.

MEDICAL AND PUBLIC HEALTH

...through convergence of resources, overall infrastructure of grass root level health services will be upgraded so that people will have confidence in the public health distribution system... second generation and special problems in the health sector will be addressed... will also launch a project for retail sale of generic medicines satisfying quality standard and for educating medical personnel in this area... special emphasis will be given the address increased incidents of mental illness and depression and related ailments... this chapter gives an account of various aspects of medical and public health sector...

10.1 Kerala has better health indicators such as Death rate, Infant Mortality Rate (IMR) and Expectation of Life at Birth than most states in India. These have been achieved due to a large number of factors such as pro-active intervention by the State, social mobilization by social, political and religious groups and improvement in other social indicators such as female education. However recent trends indicate that health of the people of Kerala face the double threats of re-emerging communicable diseases and emergence of risk factors that predispose persons to chronic diseases. Our health care sector needs to improve considerably in terms of availability and quality of its physical infrastructure, human resources and services so as to meet the growing demand.

Recommendations of the Working Group

10.2 Control and Management of Communicable diseases: A public health plan has to be developed for every Grama Panchayat with recurrent campaigns being taken up based on seasonality of the diseases. There should be routine outbreak investigations. We also need to have a strategy on how to control the outbreaks among migrant populations and how the transmission between local population and migrants are to be controlled.

10.3 Prevention and management of lifestyle related diseases: The public health system should be oriented to prevention and management of life style related diseases. Effective use of policy instruments such as regulation of food preservatives, additives, taxation on harmful substances etc. should also be made. Effective machinery for gathering and analysis of data to monitor the course of these diseases and a mechanism to act on them should be set up at the State and District level. AYUSH systems have high levels of efficacy in managing some of these diseases. Ayurveda and Homeopathy

should set up clinics to manage non communicable diseases either by themselves or in partnership with other systems.

10.4 Prevention of accidents, trauma care: Kerala needs to set up a State Trauma Management Council for policy development and support, and coordinate the work of various Departments and the private sector. To make available qualified manpower Kerala should start a PG course in Critical Care and make ATLS training as part of skill training in the Health Services.

10.5 Reduction of mortality and morbidity, IMR, MMR: Some of the strategies to be adopted are: integration of different systems of medicine preferably by locating them in the same building or compound, more effective involvement of Anganwadi workers, provision of supplementary nutrition and short stay homes for tribal and coastal mothers, quality essential newborn care and crackdown to prevent unnecessary cesarean sections. Every new born must be tested for motor, sensory, hearing, vegetative functions and for thyroidal abnormalities.

10.6 Mental Health: Issues related to mental health lie behind many of the problems of Kerala. High rate of suicides, high level of alcohol abuse, domestic violence even among persons belonging to higher socio-economic status, and even many medical complications may be traced to mental health problems. Multi-purpose health workers need to be trained on early detection and primary care providers on confirmation and the skills reinforced periodically as part of Departmental training. They can be supported by mobile teams with a psychiatrist, psychiatric social worker and clinical psychologist. Persons who need attention during the day will need day care centres. The aim of the programme should be to ensure treatment near the patient's home and provide regular medication at primary care setting itself rather than institutionalisation. The role of Ayurvedic treatment for promotion of good health and management of problems need to be fully explored.

10.7 State specific treatment protocols, referral systems, quality of care, safety: As the Government is planning to set up prepayment schemes written down treatment and referral protocols will be needed to standardize treatment, avoid disputes and control costs. The protocols already developed by Government of India, the Armed forces and some State Governments can be used as guidance documents to generate the protocols. These are to be circulated to academic institutions, professional organizations and public health activists for their comments. The protocols will be periodically updated based on the experience of clinicians and patient groups.

10.8 Health of the aged and palliative care: Specialty clinics are needed to attend to special problems. Kerala will need to set up dedicated geriatric and palliative clinics in District Hospitals. Weekly geriatric-cum palliative care clinics will need to be started in all CHCs upwards. The work of Social Welfare Department and health Department in the above areas should be synergized. All systems of medicine should be available for patients to choose from under one roof at the District Hospital.

10.9 Infrastructure: There should be one Ayurveda and Homoeo dispensary per Panchayats to provide OP services. In order to improve the level of services to patients it will be advisable to co-locate them in one place in the Panchayat. Since there is a heavy demand for inpatient facilities in Ayurveda fully equipped and staffed Taluk Headquarters Hospitals with 100 beds and District Hospitals with 250 beds have to be set up in stages. Medicinal plantations have to be set up in all Districts. Mobile AYUSH clinics could support tribal in remote locations.

10.10 Health Manpower Medical education training: Systems have to be devised to ensure that persons educated through public resources are available to serve the public should the need arise. Medical education, if perceived as a means of improving the quality of human resources, should be funded privately and the resources thus saved used to improve access to health services for the poor. Continuing Medical Education should be made mandatory for all registered practitioners before renewal of license. Training them on latest technology and techniques for disease control, diagnostics and treatment is necessary.

10.11 Health Care Financing: Health makes ever increasing demands on finances of the State. The State should fund outpatient care, either through direct provision or through contracted providers paid through capitation fee. Inpatient admissions and a basket of basic services should also be free to all. Emergency care should also be publicly funded. The low volume high cost tertiary care could be funded through pre-payment mechanisms.

Approach Strategy and Thrust Areas

- The twelfth plan aim at improving the coverage of public health institution to reach uncovered regions and segments of populations. Major specialities are to be provided in one hospital in a block panchayath area.
- The Departments in the sector is to introduce comprehensive programmes to improve quality of services.
- The idea of hospital autonomy is to be introduced in selected hospitals.
- Second generation and special problems in health sector are to be addressed by specially and seperately designed new programmes.
- Hygiene, waste management and supply of safe drinking water will be given stress in problem areas like Kuttanad and coastal areas.
- A project for sale of general medicines satisfying quality standards and educating medical personnel in this area will be launched.
- Tele medicines and other innovate practices to be encouraged.
- The twelfth plan will put in place a comprehensive regulatory and governance mechanism in the areas of clinical services laboratory and testing facilities or drugs.
- Conserted efforts at modernisation in health sector will be made.
- Universalisation and strengthening of Health Insurance Programme.
- Special emphasis to be given to address increasing incidents of mental illness and depression and related ailments.
- Awareness campaign on the harmful effects of liquor consumption will be strengthened.

Twelfth Plan Outlay

10.12 The projected outlay for the 12th plan on Health Sector is ₹3534 crore. Of this ₹1602.39 crore is for Directorate of Health Services, ₹1480.56 crore for Directorate of Medical Education, ₹152.20 core for Indian System of Medicines.

Key initiatives of the first two years

10.13 Nursing School Pathanamthitta, Idukki , Wayanad and Kozhikkode districts: The Nursing school Pathanamthitta was started during 2001 and Nursing Schools at Idukki, Wayanad and Kasargod in 2004 under Central assistance. Every year 80 students are being admitted for the GNM course. During 2012-13 an amount of ₹100 lakh was provided for provision of scholarship, stipend, conducting minor works etc. An amount of ₹87.23 lakh is expended.

10.14 Control of Vector borne diseases: Vector-borne diseases including dengue fever, malaria etc. (VBD) has emerged as a serious public health problem. Poor environmental sanitation, lifestyles, human migration etc. spreads vector born diseases. Hence anti malaria programmes and other controlling measures are necessary. During 2012-13 an amount of ₹130 lakh is provided for the control of vector bone diseases. An amount of ₹109.89 lakh is expended.

10.15 Control of Water borne diseases: Water-borne diseases are infectious diseases spread primarily through contaminated water. Though these diseases are spread either directly or through flies, water is the chief medium for spread of these diseases. In Kerala diseases like jaundice, leptospirosis, cholera etc. are increasing. During 2012-13 an amount of ₹40 lakh is provided for the control of waterborne diseases. An amount of ₹ 36.25 lakh is expended.

10.16 Setting up of Maternity units in selected Taluk Head Quarter Hospitals: Reduction of Maternal Mortality Rate (MMR) is one of the major objectives in our health system. Hence more maternity units have to be started in the State. At present there are 80 Taluk Head Quarter hospitals functioning all over the State. But maternity units are not functioning in all THQHs. Hence an amount of ₹2000 lakh is provided for starting maternity units in 20 major Taluk Head Quarter hospitals during 2012-13. 100% expenditure was incurred.

10.17 New Born Screening Programme: It is proposed to start the new born screening tests at the State Public Health Laboratory and the three regional laboratories at Ernakulam, Kozhikkode and Kannur. An amount of ₹44 lakh is provided for the scheme during 2012-13. 100% expenditure was incurred.

10.18 Women & Children hospitals: The W&C hospital provides special care to women and children particularly to pregnant women. It is proposed for the strengthening of the existing ones and to start W&C hospitals with needed staff in the remaining districts during 2012-13. For this, an amount of ₹3500 lakh was provided during 2012-13 for which 100% expenditure was incurred.

10.19 Prevention and Control of Tobacco use: Tobacco harms every organ of body. Tobacco consumption leads to greater number of diseases and deaths. Smoking leads to cancer in mouth, throat, larynx, lungs, esophagus, stomach, pancreas, cervix, kidney and bladder. Smoking leads to 90% of lung cancer in men. It also creates hypertension, stroke, heart diseases and other cardio vascular problems. It is proposed to prevent and control the use of Tobacco by creating awareness among people, establishing smoking cessation centres, IEC activities, monitoring, printing, mobility support, mobilization of legal measures, sensitization of departments, officers etc. An amount of ₹100 lakh is provided for the scheme during 2012-13 and ₹ 94.65 lakh is expended.

10.20 Setting up of New District Mental Health Programme at Kollam and Alappuzha: Considering the severity of mental health disorders in our State, it is

proposed to start new Mental Health Programme at Kollam and Alappuzha districts during 2012-13. District hospital Kollam and Alappuzha will function as nodal offices and psychiatrists in these hospitals will function as nodal officers of the programme. An amount of ₹100 lakh was provided during 2012-13. 100% expenditure was incurred.

10.21 Kerala Emergency Medical Services (108 Ambulance):The Kerala Emergency Medical Services provides timely medical care services to road accident victims and other trauma victims. It is proposed to extend this programme to all districts. An amount of ₹4000 lakh is provided for the scheme during 2012-13 for which 100% expenditure was incurred.

10.22 Commencement of Emergency and Critical care departments in all Government Medical colleges and strengthening of supporting facilities: To start Emergency and Critical care departments in all Government Medical colleges and strengthening of supporting facilities (MDICUs), an amount of ₹2500 lakh was provided during 2012-13 and 100% expenditure incurred.

10.23 Balamukulam- School Health Programme: To implement the School Health Programme as a pilot programme continuous awareness programmes are proposed by the ISM department, with active support of teachers, parents, LSGD representatives and voluntary organizations. An amount of ₹75 lakh was provided for 2012-13, 100% expenditure was incurred.

10.24 Ayush Holistic Centre for Prevention And Management Of Life Style Diseases: During 2012-13 provision was made to start two Ayush Holistic Centres in Thiruvananthapuram and Ernakulam district for prevention and management of life style diseases.

10.25 Major construction works under DHS: This scheme is one of the recommendation of the Working Group Report. An amount of ₹2500 lakh is provided during 2013-14.

10.26 Comprehensive mental health programme: The programme is to be designed and implemented by a Committee with experts of National repute from the departments of Health, Social Justice and Education. An amount of ₹2000 lakh is provided for this during 2013-14.

10.27 Public health protection agency: To design and establish a Health Protection Agency (HPA) and to take charge of control of communicable diseases, both endemic and epidemic, an amount of ₹1000 lakh is provided for the scheme during 2013-14.

10.28 Deceased donor multi organ transplantation: Liver transplantation is an effective method to overcome death due to liver diseases. The scheme aims to introduce deceased donor liver transplantation with a capability of 20-25 per year. During 2013-14, an amount of ₹500 lakh is provided for appointing transplant team, providing infrastructural facilities, purchase of equipment, setting up of inter hospital connectivity, purchase of ambulance, other charges etc.

10.29 Oncology and tertiary care centre in all Medical Colleges: The Oncology wing at Medical College gives treatment free of cost. With the establishment of Regional Cancer Centre, the Oncology department in Medical colleges became more or less inactive. The existing wards are in a dilapidated condition and machines are outdated. Hence it is necessary to strengthen the Oncology wing in these Medical college hospitals. During 2013-14, an amount of ₹700 lakh is provided for the upgradation of

the Oncology unit. Purchase of equipment including linear accelerator, medicine, and other charges are included.

10.30 Some other key areas of interventions: Upgradation of General Hospital and Women and Children hospital, Burns unit in five Medical Colleges, Quarters to residents in all Medical Colleges, Hostels for UG and PG students in Govt Medical College, Trissur, Jeevani, Punarnava, Drishti, Traditional knowledge innovation in Kerala.

Major Initiatives of the Twelfth Plan of Govt. of India

10.31 The major initiatives proposed by Govt. of the India under Health Financing and Financial Protection are the following:

- Government should increase public expenditure on health from the current level of 1.2 per cent of GDP to at least 2.5 per cent by the end of the Twelfth Plan, and to at least 3 per cent of GDP by 2022.
- General taxation should be used as the principal source of healthcare financing, not levying sector specific taxes. Specific purpose transfers should be introduced to equalise the levels of per capita public spending on health across different states.
- Expenditures on primary healthcare should account for at least 70 per cent of all healthcare expenditure
- The technical and other capacities developed by the Ministry of Labour for the RSBY should be leveraged as the core of UHC operations—and transferred to the Ministry of Health and Family Welfare

10.32 Under Access to Medicines, Vaccines and Technology, following suggestions are made:

- Price controls and price regulation, especially on essential drugs, should be enforced. The Essential Drugs List should be revised and expanded, and rational use of drugs ensured.
- Public sector should be strengthened to protect the capacity of domestic drug and vaccines industry to meet national needs
- Safeguards provided by Indian patents law and the TRIPS Agreement against the country's ability to produce essential drugs should be protected. MoHFW should be empowered to strengthen the drug regulatory system

10.33 The following major initiatives are proposed under Human Resources for Health:

- Institutes of Family Welfare should be strengthened and Regional Faculty Development Centres should be selectively developed to enhance the availability of adequately trained faculty and faculty-sharing across institutions.
- District Health Knowledge Institutes, a dedicated training system for Community Health Workers, State Health Science Universities and a National Council for Human Resources in Health (NCHRH) should be established.

10.34 The important Health Service Norms suggested are as follows:

- A National Health Package should be developed that offers, as part of the entitlement of every citizen, essential health services at different levels of the healthcare delivery system.

- There should be equitable access to health facilities in urban areas by rationalising services and focusing particularly on the health needs of the urban poor

10.35 The following Management and Institutional Reforms are included:

- All India and State level Public Health Service Cadres and a specialised State level Health Systems Management Cadre should be introduced in order to give greater attention to Public Health and also to strengthen the management of the UHC system.
- The establishment of a National Health Regulatory and Development Authority (NHRDA) a, National Drug Regulatory and Development Authority (NDRDA) and a, National Health Promotion and Protection Trust (NHPPT) is also recommended.

10.36 The other initiatives are (i) Community Participation and Citizen Engagement - Existing Village Health Committees should be transformed into participatory Health Councils (ii) Gender and Health - There is a need to improve access to health services for women, girls and other vulnerable genders (going beyond maternal and child health).

10.37 The following suggestions are also important for the State:

- The Twelfth Plan seeks to strengthen initiatives taken in the Eleventh Plan to expand the reach of health care and work towards the long term objective of establishing a system of Universal Health Coverage (UHC) in the country. This means that each individual would have assured access to a defined essential range of medicines and treatment at an affordable price, which should be entirely free for a large percentage of the population.
- Based on the recommendations of the High Level Expert Group and other stakeholder consultations, it is possible to outline the key elements of the strategy that should be followed in the Twelfth Plan. These elements should be seen as a part of a long term plan to move towards Universal Health care, which is a process that will unfold over two or three Plan periods.
- There must be substantial expansion and strengthening of the public sector health care system if we are to meet the health needs of rural and even urban areas. The bulk of the population today relies upon private sector health providers, paying amounts which they cannot afford, because of the inadequate reach of the public sector.
- Health sector expenditure by the Centre and States, both Plan and Non Plan, will have to be substantially increased by the end of the Twelfth Plan. It has already increased from 0.94 percent of GDP in the Tenth Plan to 1.04 per cent in the Eleventh Plan.
- A suitable mechanism should therefore be designed to incentivize an increase in State Government spending.
- Financial and managerial systems will be redesigned to ensure more efficient utilization of available resources, and to achieve better health outcomes.
- Efforts should be made to find a workable way of encouraging cooperation between the public and private sector in achieving health goals.

- The present Rashtriya Swasthya Bima Yojana (RSBY) which provides ‘cash less’ in-patient treatment for eligible beneficiaries through an insurance based system will need to be reformed to enable access to a continuum of comprehensive primary, secondary and tertiary care. The coverage of RSBY was initially limited to the BPL population but, was subsequently expanded to cover other categories. It should be the objective of the Twelfth Plan to use the platform and existing mechanisms of RSBY to cover to the entire population below the poverty line.
- A large expansion of medical schools, nursing colleges, and so on, is necessary and public sector medical schools must play a major role in the process.
- Effective regulation in medical practice, public health, food and drugs is essential to safeguard people against risks, and unethical practices.
- The health system in the Twelfth Plan will continue to have a mix of public and private service providers. A strong regulatory system would supervise the quality of services delivered. Standard treatment guidelines should form the basis of clinical care across public and private sectors, with adequate monitoring by the regulatory bodies to improve the quality of care and control the cost of care.
- In order to ensure that all the services in the Twelfth Plan are provided with special attention to the needs of marginalised sections of the population the following will be emphasised in the Twelfth Plan.
 - *Access to services:* Barriers to access would be recognised and overcome especially for the disadvantaged and people located far from facilities.
 - *Special services:* Special services should be made available for the vulnerable and disadvantaged groups.
 - *Monitoring and evaluation systems:* Routine monitoring and concurrent impact evaluations should collect disaggregated information on disadvantaged segments of the population. This is to assess the ease with which they access services and their impact, as also to understand how they compare to the general population.
 - *Representation in community fora:* Wherever community-level fora exist or are being planned for, such as Rogi Kalyan Samitis, VHSNC, representation of the marginalised should be mandatory. Also, every Village Health Sanitation and Nutrition Committee would strive to have 50 per cent representation of women.
 - *Training of health and rehabilitation professionals* should incorporate knowledge of disability rights, as also the skills to deal with differences in perspectives and expectations between members of disadvantaged segments and the general population that may arise out of different experiences. All health related training institutes must have a comprehensive policy to make their educational programmes friendly for the differently-abled. This should also include sensitisation of faculty, staff and trainees.

10.38 Universal Health Coverage: The Twelfth Plan strategy outlined is a first step in moving towards Universal Health Care (UHC). All over the world, the provision of some form of universal health coverage is regarded as a basic component of social security. There are different ways of achieving this objective. We need to ensure much broader coverage of health services to provide essential health care and we need to do

it through a system which is appropriate to our needs and within our financial capability.

Critical gaps to be addressed in the next three years

10.39 While formulating the suggestions and recommendations in the Working Group Report, focus is needed on the following critical areas for designing appropriate interventions.

- Establish a Public Health Cadre with adequately qualified persons to oversee public health activities and coordinate the work of different agencies involved in managing public health in Kerala
- Kerala does not have an act to regulate clinical establishments and to oversee public health. These need to be enacted and enforcement mechanisms set up
- Poor infrastructure and lack of adequate manpower also prevent quality assurance systems for drugs. Kerala needs to set up two more regional drug testing laboratories and increase facilities in the existing drug testing laboratories so that all the needed tests can be done with adequate sampling .
- Systems for multi–sectoral collaboration: Many interventions that are not managed by the health sector impact health outcomes. Kerala needs to set up a mechanism for sectors those manage these interventions (eg. Supply of drinking water, Waste disposal) to work together to achieve the desired outcomes.
- Addressing special needs of special population: The needs of marginalized and differently enabled population tend to get submerged when meeting the needs of the general population. Therefore we need to have special arrangements to identify, assess and address the needs of such population.

Physical Target and Deliverables

10.40 The following are the important physical target and deliverables of the Plan.

- During the Twelfth Five Year Plan, focus will be for the implementation of the Speciality cadre in all health care institutions up to Community Health Centre level. Also efforts for improving the service delivery of the institutions at all levels will be attempted. Modernization of the functioning of the institutions by computerizing ,providing internet facility ,better methods of human resources development etc. will be also given due importance.
- Modernization of 14 departments of Government Ayurveda College, Thiruvananthapuram with sufficient teaching aids and equipments, Construction of new building for class rooms and library, new ladies hostel for PG students, construction of auditorium, renovation works of laboratories, development of Govt. Ayurveda College hospitals with sufficient infrastructure facilities and introduction of modern equipment in theatres and laboratories .
- 30 numbers of district and other Homoeo hospitals are proposed to be standardized. As the part of continuing medical education it is proposed to conduct 70 number of training, opening 200 number of new Homoeo Dispensaries, setting up of 15 Women Health care centre (Seethalayam), setting up of 2 pain and palliative care centres and 8 Homoeo Specialty Centre.

URBAN DEVELOPMENT

...master plan for development of urban conglomeration will be effectively implemented... appropriate technologies and strategies will be developed to address the issue of waste management both centralized as well as decentralized manner... this chapter gives a detailed account of various aspects of urban development...

11.1 The Urban sector of Kerala consists of 5 Municipal Corporations and 60 Municipalities. The 2011 census puts the Urban content of Kerala at 47.71% with a decadal growth rate of 82.23%. The trend of urbanisation in Kerala is fast moving. Rapid expansion of urban population necessitates the creation and maintenance of critical urban infrastructure facilities, strengthening of urban governance, long term strategic urban planning, addressing the basic needs of the urban poor etc. In addition to this, more effort is needed to keep the cities and towns more environmentally sustainable.

Recommendations of the Working Group

11.2 Solid waste management – technology options: Consider thermal stream of technology for waste treatment such as pyrolysis. Newer technologies could be gradually thought on experimental basis considering that there is a scenario of waste change characteristics emerging gradually.

11.3 Urban Water Supply: Conserve the water bodies by recharging and protecting it from any illegal activities. Utilize water bodies as tourist spot and provide facilities to visit the place for recreation and create awareness in the public regarding the importance of protecting water bodies and bringing every one close to water. Provide bulk metering system to all diversions from the main lines and establish control over the supply, mapping of the network with GIS technology, strict control on excess consumption and charge heavy penalty for excess consumption, ensure 100% metering and reduce NRW. Promote rain water harvesting, grey water usage and implement septage treatment system to avoid septage discharge in to water bodies.

11.4 Urban Housing - The following are the important recommendations: (i) Should address the Housing need of the lower middle income group. This group is not covered under any of the housing scheme (ii) Enforce law for reservation of land for the urban poor (iii) Make available the unoccupied houses as rental houses (iv) Address the issue of keeping developed residential plots vacant (v) The PPP model of development approach may be sought of where it is possible by the Urban Local Bodies.

11.5 Urban Employment: Implementation of Ayyankali Urban Employment Guarantee Scheme should be given priority in LSGs. The possibilities of implementing specialized employment generation programmes to the people of slums should be explored.

11.6 Strengthening capabilities of Urban Local Governments: (i) Most of the schemes under Urban Development, especially Centrally Sponsored Schemes are being implemented through the Urban Local Bodies. Strengthening of Urban Local Bodies is inevitable for the effective implementation of schemes (ii) Service level benchmark as has been stipulated by Ministry of Urban Development in key sectors, such as solid waste management, water supply, sewerage, roads etc. will be achieved during the 12th Five Year Plan (iii) Reforms in the following cases will be carried out in the course of 12th plan period (iv) Passing of Modern Tenancy Act/Rent Control Act (v) Reservation of Urban Land for poor people as far as possible (vi) Conferring property right to urban/slum dwellers (vii) Rationalization of stamp duty rate (viii) Declaration of land policy.

Approach, Strategy and Thrust Areas

- Service level benchmarks fixed by Ministry of Urban Development in key sectors such as solid waste management, water supply, sewerage roads etc. will be achieved during the XII Five Year Plan.
- Reforms in the following cases will be carried out in the course of 12th plan period viz; (i) passing of Modern Tenancy Act/Rent Control Act (ii) Reservation of Urban Land for poor people (iii) Conferring property rights to urban/slum dwellers (iv) Rationalization of stamp duty rate.
- PPP model will be brought in to the major infrastructure sector and service delivery sector and also in the areas of solid waste management
- Master Plans for development of urban conglomerations will be effectively implemented. Additional legislations and administrative measures will be put in place where ever necessary.
- Appropriate technologies and strategies will be developed to address the issue of waste management both centralized as well as decentralized manner
- Active measures will be taken to tackle the problem of chemical and bacterial contamination caused by rapid urbanisation, unscientific disposal of solid waste, poor sanitation and excessive use of pesticides.
- Urban and Rural poverty alleviation programmes will be co-ordinated to transform Kerala into a no poverty state.

Twelfth Plan Outlay

11.7 The proposed plan outlay for the 12th Five Year Plan for the sector is ₹6920 crores at current prices.

Key initiatives of the first two years

11.8 The sectoral outlay for the annual plan 2012-13 was ₹96900 lakh for the state schemes. A major part of the outlay was earmarked for OCA schemes of JnNURM, UIDSSMT, IHSDP and BSUP. The total outlay for the above schemes was ₹60116 lakh which account for 62% of the total sectoral outlay. The External Aided Project,

Kerala State Urban Development Project with an outlay of ₹27300 lakh covered 28% of the sectoral outlay. In addition to the above schemes there were new schemes in the annual plan viz; formulation of PPP cells in Urban Affairs Department and Solid Waste Management scheme for Urban Areas. The thrust areas of the annual plan were creation of urban infrastructure, urban housing, storm water drainage, solid waste management and employment generations.

11.9 A total outlay of ₹113049 lakh has been provided for the sector in the Annual Plan 2013-14. Like the Annual Plan 2012-13 a major portion of the outlay covered the OCA schemes of JnNURM, UIDSSMT, IHSDP and BSUP. A total outlay of ₹75600/- (67%) has been provided to the above schemes. The EAP scheme Kerala Sustainable Urban Development Project has been provided with ₹ 25000 lakh which is about 22% of the sectoral outlay. Management of solid waste, avoidance of traffic congestions, creation of critical infrastructures etc. are the thrust areas in the plan. There are the following 3 new schemes in the annual plan viz. (i) Construction of night shelter in Urban Areas (outlay - ₹50 lakh) (ii) Establishment of Gas Crematorium (outlay -₹50 lakh) and (iii) Non-motorised Urban conveyance initiatives (outlay -₹10 lakh).

Major Initiatives of the Twelfth Plan of Govt. of India

11.10 The expansion of Urban India is the platform for industrial and modern service sector growth and the creation of greatly improved income opportunities for the youth of the country. In order to realize the opportunities that urbanisation offers and to successfully resolve into accompanying challenges a combination of several initiatives is needed.

- Set up investment in new urban infrastructure assets and maintenance of assets.
- Strengthen Urban Governance. A unified and effective administrative frame work is necessary in urban areas with clear accountability to citizens.
- Strengthen ‘soft infrastructure’ simultaneously with the building of the hard infrastructure. Enormous weakness in the capacity of human and organizational resources to deal with the challenges posed by the sector must be addressed.
- Give adequate emphasis to long term strategies. Urban Planning to ensure that India’s Urban management agenda is not limited to renewal of cities.
- Address the base needs of the urban poor who are largely involved in the informal sector and suffer from multiple deprivations and vulnerabilities.
- Ensure the environmental sustainability of Urban Development.

Critical Gaps to be addressed in the next three years

- The gap between the benchmark fixed by the Ministry of Urban Development and the present position in the case of solid waste management and sewerage is very wide. Efforts have to be made to bridge this gap in the coming years.
- The procurement of land required for providing public facilities, services and infrastructure in urban areas is a very difficult task due to high density of population in the state. So possibilities for practices such as allocation of alternate land, issuing TDR (Transfer of Development Right), urban land reconstitution, creation of land banks, popularizing land lease etc. shall be considered in the next annual plans.

- In order to address the urban housing problem especially in slum areas more thrust has to be given for the implementation of centrally sponsored scheme of Rajiv Awas Yojana.
- Effective implementation of Ayyankali Urban Employment Guarantee scheme should be given priority in the next three years to mitigate poverty and employment problems in urban areas.
- Development of critical infrastructure facilities to be given priority in the coming years.
- Strengthening preventive health care, providing safe drinking water, sanitary facilities etc. should be considered in the next annual plans.

Physical Targets and Deliverables

11.11 During the XII Plan period it is proposed to implement the major scheme Rajiv Awas Yojana (RAY), a Centrally Sponsored Scheme declared by the Central Government for achieving Slum free cities in India. Under the scheme the Government of India had given sanction to prepare slum Free City Plan of Action of five Corporations in the state. Under the schemes BSUP and IHSDP 13707 Nos: of New Houses, 2261 Nos: of shelter up gradation and 3017 Nos: of Infrastructure works are targeted during the initial two years of the XII Five Year Plan period.

11.12 Under JnNURM it is expected to complete 36 Water Supply Schemes, 21 Sewerage Schemes, 5 Solid Waste Management Schemes, 18 Surface Water Drainage Schemes and 7 Traffic and Transportation Schemes during the XII Five Year Plan. Establishment of 33 modern Slaughter Houses in Urban areas are also targeted during the plan period. The Government of Kerala has also decided to implement Metro Rail System in Kochi and Mono Rails in Thiruvananthapuram and Kozhikode to improve the transportation system in major cities.

11.13 In Kerala urban centers are concentrated along major arterial and sub arterial roads. This has resulted in the concentration of commercial establishments along the main road routes and high ways. Therefore, there is an acute crunch of parking space. In order to overcome the parking issues Government have decided to provide multi-level vehicle parking system in Major Cities in the state during the plan period. Due to the enormous increase in the number of motor vehicles, traffic congestion and environmental pollution shoot up at an alarming rate. So Government have decided to encourage walking and cycling by facilitating separate cycle paths and walk ways in the XII Plan.

Chapter 12

SOCIAL INCLUSION

...the economic and social status of the marginalized sections like scheduled castes, scheduled tribes and others will be improved with more focused state spending and effective interventions... special programmes will be worked out for landless among the weaker sections of the society to encourage them in contract farming and agricultural activities... state policy will be formulated for addressing the issue of gender inequality, difference in wage rates and working hours of women employed in the unorganized sector... right based approach to create preventive and protective environment for children... an independent nutrition surveillance system will be set up... this chapter provides details of the following four sub sectors viz. (i) sc/st/obc/minorities and forward communities development (ii) women development (iii) child development and (iv) nutrition...

12.1 Scheduled Castes / Scheduled Tribes / Other Backward Classes / Minorities and Forward Communities Development

Scheduled Castes Development

12.1.1 Kerala Government earmarks funds for SCP from State Plan outlay in proportion to the ratio of population of Scheduled Castes (9.81%) throughout the plan period according to the direction of Government of India. Two third of the Special Component Plan budget allocation is earmarked to Local Self Government Institutions.

Recommendations of the Working Groups

12.1.2 The Working Group has discussed extensively about the problems and issues faced by the members of Scheduled Castes in this State. Sub groups were formed for in depth discussions in various sectors including Agriculture, Animal Husbandry, Fisheries, Industries & Skill Development, Education, Social Security, Food Security, Health and Housing. The following recommendations have been put forth for the consideration of the State Planning Board and the Government.

12.1.3 Agriculture: Livelihood security of the marginalized population is a cause of concern in Kerala. Though they are familiar with farming they are almost resource poor. At the same time the committee appreciate the traditional know how of the members of Scheduled Castes in the agriculture sector. Therefore, in order to promote involvement of those Castes families in this sector the following recommendations are made. (i) Competence building of youths should be undertaken through a process of social motivation (ii) As agriculture being a familiar source for improving social and

economic conditions assistance during 12th plan to purchase land by institutional finance and subsidy may be extended (iii) Adequate support system in terms of technical hand holding, input supply, imparting production practices, value addition and marketing will be extended by the Government system (iv) Those families having minimum land may be encouraged for integrated backyard farming (v) Constituting Asset Management Committee consisting of officials, of credit agencies, agriculture officer and beneficiaries for ensuring that the land provided for cultivation is put in to productive use by the participant people themselves for ensuring livelihood security.

12.1.4 Animal Husbandry: This is another familiar area that could sustain economic security. There is vast potential in animal production, livestock products, processing, input services, marketing etc. Ordinarily cattle, goat and poultry are the major livestock. Considering the resource status family oriented home based enterprises are favoured by the committee. In view of that the following enterprises are recommended viz. (i) Commercial dairy of at least 5 animals (ii) Broiler poultry farm network (iii) Goat rearing of at least 10 goats (iv) Rural slaughter houses for supplying clean meat (v) Production of meat products such as sausage, salami, meat patti etc. (vi) Rabbit rearing subject to marketing linkages, and (vii) Micro enterprises for feed mixing, mineral mixing etc. The Veterinary Officer of the Panchayat will be responsible for hand holding production management, value addition and marketing linkages.

12.1.5 Fisheries: Fisheries is an uncommon area for the target groups as aqua culture is not a common activity except in few dam locations where they have the fishing right. Keeping this in mind the following recommendations are made.

- Under fisheries sector, Ornamental fish breeding, rearing and marketing is one of the best alternative employments to the target groups which can be marketed in domestic as well as in international markets. Technology for breeding of different varieties of tropical fresh water ornamental fishes has now been established to such an extent that most of the ornamental fishes can be bred as a backyard activity in households both in rural and urban areas and women SHGs can establish Ornamental fish breeding.
- Beneficiaries residing near the brackish water can take up the mud crab culture project. Mud Crab fattening and culture is gaining popularity in the state. There is very good demand for live Crabs. Crab fattening can be carried out in ponds.
- The need for development of new eco-friendly technologies for sustainable utilization of brackish water resources for aqua production, and other related income generating activities to the coastal population.
- Micro enterprises can be started under fisheries sector. Value added fish products production units can be started. Fish processing activities can be selected as income generating enterprises which includes fish drying unit, production of value added fish products like fish cutlets, pickles, fish meal etc.
- An integrated cultural farming can be promoted. The need for exploring the Forest, Kerala State Electricity Board and Irrigation Departments.

12.1.6 Industries & Skill Development: Traditional inheritances of land resources are limited among the target group. The change in the characteristics of the market deprive them of opportunities in the open market for socio economic reasons.

Therefore introducing the target groups into family oriented entrepreneurship is a better option. The Working Group found that as of now, micro enterprises of Scheduled Castes are limited, and it needs more emphasis to encourage entrepreneurship development, to promote self-employment and engagements in income generating activities in are the major areas during the 12th Five Year Plan. The group discussed about different avenues which can be considered as potential areas of employment generation and livelihood security.

12.1.7 Micro Enterprises - Farm Sector: In the farm sectors the opportunities are either engaging in farm activities themselves or providing skilled services for farm production and processing activities. For undertaking farming the target group need landed resources of their own or leased out resources. Kerala is rich in plantation crops and horticultural crop. Kerala has established its potential in dairy development and also in other livestock production activities such as piggery, poultry breeding & goat rearing. It has vast potential for in-land fisheries too. Considering the opportunities the following activities are recommended. The programmes could be implemented through SHGs or promoting an army of farm technicians.

- Farm production and management in own or leased out land
- Farm services such as providing services for cultural practices & post harvest process
- Input supplies such as fertilizer, plant protection aids and equipments, preservatives etc.
- Value addition and marketing including manufacturing products, local marketing.

12.1.8 Micro Enterprises - Non Farm Sector: Kerala is a consumer society. Almost all the consumables and durables are being imported from other states. This implies the vast potential before any trader or manufacturer. But unfortunately as it would be impractical to suggest taking the target group to manufacturing, as a prelude they may be introduced to vending or sub-contracting through micro enterprises. This would make them focus on the designed activity and learn over period. This would also make them confident as there is a ready buyer, quality is tested, no inventory built up and regular income. Perhaps the payment clause is to be well defined through an agreement to avoid misunderstandings. All Industrial Training Institutes should be made community skill development institutions so as to start evening courses in skill development programmes. This would benefit the interested Scheduled Caste youths who are willing to start new enterprises.

12.1.9 Micro Enterprises - Service Sectors: Training may be given to Scheduled Castes in new areas like banking, insurance, hotel management repairs and maintenance, retail sectors etc. As per the existing rule, 10% of the area of shopping complexes should be leased for members of Scheduled Castes. Now, it is a practice that even though the rooms of shopping complexes have been allotted in the names of the persons from Scheduled Castes but the enterprises are run by the persons from general category beneficiaries as a benami system. In order to avoid this system of benami the Department should take necessary steps to give assistance to Scheduled Caste youths to start enterprises in such shopping complexes by handholding them. Defunct production cum training centres of the Department may be rejuvenated for starting new skill development courses.

12.1.10 Education: Now that the self-financing institutions are in existence, and they give more preference to the moneyed candidates and the fee structure is also very high, students from the poor families are not getting enough attention in such colleges. Therefore the group recommends the following. There is a need to start self-financing colleges by the SC Development Department. Self-financing colleges may be started by the Department as per norms for providing professional education to Scheduled Castes. The scholarship for Scheduled caste students should be periodically enhanced according to the wholesale price index/cost of living index. The government should ensure reservation quota as per eligibility in private aided, unaided, and self-financing professional institutions. For accommodating Scheduled Castes youths, more post-matric hostels may be started in urban areas. Finishing schools for short term orientation courses for the Scheduled Castes students who have passed technical schools, 10th and 12th standards should be started. Appropriate skill development should get special engagement of the department for increasing the employability. A placement wing may be created in the Department in place of publicity wing to aid the skilled man power for getting right and early placements.

12.1.11 Social Protection: In the case of social security measures there is provision for giving compensation to the victims of atrocity. In Kerala, compared to other states inter community discrimination is very less. However there is not enough action to prevent the atrocities against Scheduled Castes. A Block Level Monitoring Committee may be constituted consisting of elected SC members, Police Personnel, SC Development Officer, Lawyers and representatives of accredited NGOs to look into the atrocities and discriminations towards Scheduled Caste in public and also in Government systems.

12.1.12 Food Security: For ensuring Food security, it is a necessity to have a food security fund. During emergencies, funds can be given to the target group from Food Security fund to ensure that sufficient food is available and it can be reimbursed from wages under MNREGs or from other source of income. For this payment of wages through banking system may be made compulsory. As a measure of food security organized networked, backyard, integrated farming under the direct supervision and responsibility of the Panchayat Agri/Vety/Fisheries officials may be undertaken.

12.1.13 Health: Sanitation and health care is a cause of concern in places where people live in congested habitats. Unfortunately this population does not have appropriate health care coverage, and get exposed to open market health care facilities that are not meeting their needs for want of adequate resource. So the options are limited such as insurance coverage against common ailments with provision for special assistance on individual consideration in case of serious ailments. But considering the size of population this may not be cost effective. Alternatively, we may think of a system through which all the families will be linked with a General Medical Practitioner (GMP). The GMP will extend all basic health care services on a fixed rate basis. As per need the GMP will refer patients for specialty treatment in District hospitals and Government Medical Colleges. There will be a promoter posted in these places to extend local support. In addition to this Government may also go for medical insurance for covering serious ailments within the Government system.

12.1.14 Housing: Status of houseless of resource poor persons will have a serious consequences on the generations to come. This had impact on social empowerment too. According to the latest Government survey there are 15984 houseless families

among the scheduled castes. At the current rate of financial assistance of ₹2 lakh it needs at least an amount of ₹219.69 crores. Accordingly it requires only ₹54.00 crores per year. In addition to this there is also a category of low paid employees of organized sector, including government services. As it may not be appropriate extending subsidy monthly wage earners a housing loan scheme may be implemented.

12.1.15 LSG & SC Development: There are mandatory functions of LSG, and hence for implementing programmes such as road, power and water SCP funds may not be used. Funds may be used only for education, skill development and economic activities in addition to housing. All the transferred schemes such as management of preprimary hostels, betterment of education etc. may entirely rested with LSG. LSG's may take up socio economic security of the target group as a priority. The transferred funds may not be distributed among the District, Block and the Grama Panchayat. The funds may be entirely allotted to Grama Panchayat. The Grama Panchayat will have house hold planning focusing on education, skill development and income generating activities. So that by the end of this plan period the family income of this vulnerable group is enhanced to that of benchmark. Grama Panchayat may take the help of NGO's or corporate bodies for this income generating model.

12.1.16 LSG Institutions: There are educational institutions and corporations in this department. There is a need for restructuring these institutions to meet the current market needs. Over the time of this plan period they may be permitted to create a Corpus Fund so that from then onwards they operate on their own. For share capital may be given inclusive of Corpus Fund. Their own interest earning may also form part of this.

Scheduled Tribes Development

12.1.17 Kerala earmarks nearly two percent of the total State Plan Outlay for TSP, wherever the proportion of Scheduled Tribe population to the total population of the state is 1.14% only. The development programmes are mainly implemented by Scheduled Tribe Development and Local Self Government institutions. About 50% of Tribal Sub Plan budget allocation is distributed to the Local Self Government institutions. The balance amount is set apart to Scheduled Tribe Development Department. The notional flow to other departments has been dispensed with from the year 2009-10.

Recommendations of the Working Group

12.1.18 The Working Group has discussed extensively about the problems and issues faced by the Scheduled Tribes for the last so many years. Sub groups were formed for in depth discussions including Forestry Act, Land related Act, Agriculture Production, collection of Marketable surplus value addition of Minor Forest Produce, Education, skill development and employment, Health and Sanitation Administrative Arrangements, Social empowerment, Culture, Tradition and Research. After having the discussion the opinions were shared among other groups also and finally the following recommendations have been put forth for the consideration of State Planning Board and the Government.

12.1.19 Forestry Act, Land related act, Agriculture Production, collection of Marketable surplus, Value addition of Minor Forest Produce:

- If land is assigned for tribals for agriculture purpose then inputs and hand holdings may also be supplied.
- Social empowerment support system is necessary among Tribal farmers
- Training Programme may be arranged to empower the tribals to own the land.
- The land should be registered in Tribal Office. Validity for this register is assured.
- Land assignment to tribal families must be after consultation with, and with the informed consent of the intended beneficiaries.
- Land-based development must be part and parcel of a comprehensive livelihood assurance program, such that the tribal families may be enabled to work on their own newly allotted land holdings. As they will be mostly dependent on wage labour for livelihood, Government will have to assure them of wages and incomes at comparable levels during the period they work for developing their lands, and bringing them up to productive potential.
- Such families should be assured of, and should freely avail of the technological assistance, and plan fund supports administered by various departments, and to be routed through various agencies including the Panchayati Raj institutions.
- Infrastructural facilities like connectivity, irrigation, energy (power), inputs (including seeds and planting material), and technical extension supports must be specifically, separately and uniquely provided for each such development module. (If such a module is a single family, then, the package should be suitably devised for that).
- It must be assured that settlement in such new lands does not entail a cultural crisis of separation from the more of the tribe concerned.
- Land holdings should be developed such that they provide for survival needs (food grains, cereals, tubers), nutritional requirements (vegetables, pulses, fruits, animal husbandry products), pleasant habitation (landscaping, trees, meeting places, libraries, schools, etc.), and a marketable surplus (herbs, medicinal plants, commercial crops like cardamom, pepper, etc., as may be suited to the ecological conditions).
- Infrastructure should be integrally planned – informed consent and involvement of the beneficiaries should be constant, and eagerly sought.
- Cultural requirements should be integral part of the development scheme; provision has to be made for religious places, burial grounds, isolation sheds, etc., according to the traditions of the tribe concerned.
- Collective endeavour (labour and food sharing, crop protection, optimally programmed agricultural operations, harvesting, processing, and value addition to produce, and marketing) should be enabled as integral part of the development programme.
- Financing – through banks (refinance from NABARD, etc should be provided so that gradually, dependence on Government payments will be minimized, and the community covered under the (so-called) “Inclusive Development” slogans of the Banking System. The Kisan Card system should be introduced from the

beginning, because tribal communities require funds not merely for developing the farm but also for their own survival.

- Revolving fund may be provided for Tribal Farmers
- Hand holding support system may be provided by the NGO's
- Livestock produces company may be started for avoiding exploitation among Tribal farmers
- Minimum Support Price system may be arranged for the produces of Tribal farmers
- For implementation of the Forest Right Act the following suggestions are made:
 - (i) Constitute KIRTADS as the nodal agency for ensuring the speedy implementation of the Act and strengthen it adequately to discharge this function. The Principal Secretary to Government in the ST Department should be the "Nodal Officer" responsible for the Co-ordination of the various activities
 - (ii) It is better to organize for an All India Workshop comprising Officers of the Departments concerned, professional Anthropologists of all India repute, Forestry experts, and legal luminaries. This workshop should come up with a template for future action and an associated time table
 - (iii) Organize extensive and intensive training programmes for the various departmental Officials, as well as tribal communities, their leaders and the local level leaders of recognized political parties. These training sessions may be separate for each category or conjoint sessions as circumstances indicate
 - (iv) Setup an information wing in KIRTADS to disseminate information as well as dealing with Frequently Asked Questions etc. This wing should function as a comprehensive "data bank"
 - (v) Associate with KILA and the Panchayati Raj set up to ensure that tribal participation especially at FRC level is free, meaningful and not dominated by non tribals.
- Each family is entitled to have one hectare of land with the hope and intention that it should help his family to have the means for sustainable livelihood. This implies that while selecting the land, care must be taken to ensure that it is fertile, capable of being protected from wild life raiding, and that its productivity must be improved by the provision of adequate infrastructure like irrigation, access to market etc. In each community care should also be taken that such individual family holdings form a contoguous area so that joint action may be taken with adequate provision for common needs.
- Constitute Multidisciplinary tribe and location specific 'Spear Head Teams' to enable the beneficiary families to develop plans for themselves. This will be a participatory programme involving several meetings at the hamlet sites, preparation of community Resource Maps, preparation and maintenance of Bio-diversity registers, documentation of claims to Intellectual property Rights etc. A consensual Land Use Plan, and a Total Hamlet development Plan, including provision for building houses of needed, and community facilities will be drawn up.
- Tribe- wise development plans – The main forest dwelling communities that we have to help are Kattunaikkar, Cholanaikkar, Kurumba of Attappady, Kadar of parambikulam. Conditions vary from tribe to tribe. In order to equip them with capacity to take up planning and development initiatives by themselves

without the intermediary change Agents we may develop a Pilot Project for each of these tribes and then extend it over the entire tribal community.

- Pilot schemes for major Forest dwelling Communities – These shall be implemented on a fully participative pattern, through the tribal communities themselves.
- Value addition and marketing – At present a potent means of exploitation of tribal people is the marketing mechanism. In order to save them from this and the resultant debt traps, community level enterprise for value addition and direct marketing in urban centres must be developed.
- Micro Finance may be arranged through Kudumbasree
- Food for work programme may be concentrated on agriculture production activities. Abolish free distribution of rice and other products.
- TRDM may be strengthened
- Rehabilitation of Tribals may be completed time bound
- Tribal concentrated area may be given the status of independent panchayat
- Lease land farming may be encouraged
- Promote organic farming
- Vegetable cultivation may be encouraged
- Mini diary units may be promoted
- Assistance for starting meat stall
- Training for gardening and interior decoration
- Assistance for Horticultural nurseries and programmes for marketing
- Assistance for Medicinal plants nurseries and Marketing
- Promote aquaculture and ornamental fish farming
- Assistance for purchase of land in Kuttanad for fish farming
- Promote 'Orunellu / Oru meen' Programme in Kuttanadu
- Promote Bee keeping and sericulture

12.1.20 Education: The important recommendations are as follows:

- In MRS, LP Schools, hostels and Anganwadis, teachers may be posted from Tribal communities. If qualified person is not available they are posted and training may be given to them.
- In urban centers more hostels may be started
- Oorukuttams shall monitor the working of these institutions
- Scholarships and other grants may be given in unaided schools
- Orientation course in the model of finishing school may be given to those who passed SSLC and +2 Module may be on the basis of future course, communication skill and behavior skill.
- Remedial coaching may be started for completing the professional courses

- Single teacher schools may be upgraded to multilevel learning centres
- Educational problems are to be analyzed community wise and programs has to be planned accordingly since the different communities among Scheduled Tribes had attained different level in the field of education.
- Programmes are to be planned considering their culture and customs
- An atmosphere has to be created to enable the students for the education. For this literacy programs in their language using Malayalam script can be done.
- There has to establish some devices(like ‘padana’ veedu)which promote the learning of the students by various curricular and co-curricular activities in which various study materials and refreshments are to be provided.
- Achievements of tribal students are to be appreciated along with their parents which will be a motivation to others
- All the centers of learning are to be made tribal friendly
- Now the enrollment of students has been improved but the quality of education and education in the higher classes has not seen changed. So that area has to be given more importance.
- The quality of education in Government Schools should be increased in the pattern of CBSE pattern. Also in CBSE Public Schools a fixed number of seats are to be reserved for Tribal Students.
- The present reservation system of the tribal area is not sufficient for the tribal students.—This has to be reviewed .While proposing Policy change it has to be checked whether it supports tribes. Due to various reasons tribal children are unable to avail the reservation benefits.
- Entrance coaching programmes are to be conducted for bright Tribal students after completion of 10th and +2 classes
- The reservation to ST students in self-financing professional colleges is to be ensured.
- Professional College are to be started under SC/ST Corporation
- Improvement of existing prematric and postmatric hostels and starting of new hostels.
- Boarding facilities may be provided to brilliant Tribal Students of 9th, 10th standards and +2 classes and special coaching may be given computer, IT and electronics sector.
- Assistance to B tech/IT graduates for starting new enterprises in Techno park/ Info park etc.
- For Future generations, if need arises, semi-formal systems of education should be developed at site, text books prepared in the “mother tongue” of the tribe, and transition to the formal school system eased so that traumatic experiences of failure in the formal system do not distress the tribal children.

12.1.21 Skill development and employment: The major recommendations are given below:

- After 10th standard, tribal children are keeping themselves away from education and going back to the wage labour. Instead of this skill development has to be introduced at this stage. ITCs are to be utilized with adequate planning and redesigning the courses. For this local availability of resources and the potential for production has to be considered.
- Mechanization/semi Mechanization of agriculture ,animal husbandry and allied sectors and a skill development for these area can be provided
- Areas like carpentry, masonry and similar area may be explored and this has to made effective by providing them tools/machines
- Skill development is to be imparted considering the demand and tribal interests appropriating their assets and tradition. Cost of the tribal produce is assessed and branded as tribal produce by a state body so as to get a better price.
- All tribal settlements are to be provided with all kind of modern communication facilities and media facilities
- Suitable counseling facilities may be provided on higher education
- For professional courses, the competency of the tribal students may be enhanced by special programmes.
- Those who are enrolled may be provided hand holding facilities by the respective institutions until she/he successfully complete the course
- Promote Bamboo Products and its marketing
- Training and Supply of equipments to those who employed in coconut farming sector
- Regarding exploitation of employment among Tribals the following points were suggested
 - A Labour tool system is required
 - Panchayath level system is required to present exploitation
 - Legal action against – bounded labour and child labour
 - Ensure minimum wages
 - Increase the labour availability
 - Plan provision for emergency fund
- Assistance for biogas plants in rural areas
- Assistance for processing of forest produce and marketing
- Training programmes are to be conducted to unemployed youths in new trades according to the requirement

12.1.22 Health, Sanitation and Social Empowerment: The important recommendations are as follows:

- Monitoring system may be strengthened with the help of Asha Volunteers
- Health card may be issued
- Multipurpose women Tribal worker is posted for the hamlets

- Mobile Medical evening camps may be started
- A help desk may be started in all Medical Colleges and District Hospitals for helping the Tribals. Service of NGO's may also be utilized.
- Common toll free number for Tribals to inform the Officials
- ST promoter is to be appointed from the same area
- The present programmes in Health sector for Tribals may be strengthened
- Implementation of prevention of Atrocities act may be strengthened
- MNREG Programme may be strengthened in Wayanad district
- The housing policy should be re-examined and allowed to follow the model of quality housing built by 'AHADS' with the total participation of Ooru Vikasana Samatis
- Gender considerations – the participation and empowerment of women, e.g., through Kudumbasree programs, should be integral to the program.
- Self-sufficient local administration – the community should be enabled to administer their own programs within the framework of the Panchayati Raj system. Each tribal settlement may be recognized as a Ward. More Panchayats on the Idamalakkudi pattern may be set up.
- Plan provisions should be disaggregated to the locally minimal unit – e.g., tribal settlement.
- A special agency, analogous to the Ooru Vikasana Samiti set up by AHADS, should be set up at local level. All development effort should be entrusted to such bodies, instead of to “contractors”.
- In each district, a Monitoring and Self-Evaluation Group comprised exclusively of Tribal Representatives should be constituted.
- An Advisory Committee may be set up at State Level to monitor each program
- Social Audit systems may be devised

12.1.23 Social Security: In the case of social security measures there is provision for giving compensation to the victims of Atrocity. But there is not enough action to prevent the Atrocities against Scheduled Tribes on the part of Police Department. A block level Monitoring Committee may be constituted consisting of elected ST members, Police personnel, TDO, Lawyers and representatives of accredited NGOs to look after the atrocities to scheduled Tribes.

12.1.24 Food Security: For ensuring Food Security a food Security Fund may be established. During emergencies, funds can be given to scheduled Tribes from Food Security Fund may be established to ensure that sufficient food is available in lean seasons and it can be reimbursed from wages under MNREGs. Bondages still exist in some sectors like Quarry and construction field. Therefore during 12th plan priority should be given for elimination of all forms of bondages.

12.1.25 Housing: A comprehensive Housing policy may be evolved during 12th Five Year Plan for providing houses to all houseless and landless ST families. Priority may

also be given for completion of all spill over houses of Scheduled Tribes in a time bound manner.

13.1.26 Research: The important recommendations are as follows:

- The working group suggest studies may be done in the following areas
- Land alienation related studies especially in a historical back ground vis-à-vis in the context of land related legislations including in the STOTFD Act 2006
- Impact of migration, both internal and external, on tribal land alienation
- Land use pattern of each community as well as supportive measures to be taken for the enhancing the utilization of land
- Compiling all the studies related to tribal issues so far conducted, their findings and its level of implementation by various agencies.
- Fundamental research on each community should be undertaken
- Findings of studies of KIRTADS should be incorporated in 12th Plan
- Quick action research on contemporary issues, within a minimum period, should be undertaken.
- Study focused on the issues such as absenteeism, dropouts, educational backwardness among the tribal pupil has to be undertaken.
- Study aimed at hurdles in higher education among the tribal pupil
- Study should conduct on substance abuse among the tribal communities
- Study should conducted on indigenous practices, the use of indigenous medicine and the effect of modern medicinal practices among the tribal people
- Expenditure of research for KIRTADS has to be enhanced
- All research and training activities should have to be chanzalized through the KIRTADS

12.1.27 Evaluation: The following are the main recommendations: (i) Impact of decentralization process have to be undertaken (ii) A study should be conducted whether more Panchayat can be declared as a tribal Panchayat (iii) An appraisal of the utilization of Backward District fund with regard to tribal development.

12.1.28 Training: The important recommendations are: (i) Training Programme aimed at attitudinal changes, among other things has to be given to the officials, non-officials and people representatives and organizations (ii) Should conduct the training at local level and sufficient follow up action have to be taken (iii) Career guidance Cell should be formed at TEO Offices.

12.1.29 Culture and Tradition: The following are the recommendations:

- Cultural heritage should be protected and promoted
- Need for the participation of tribal people in formulating executing and implementation of programmes should be emphasized
- KIRTADS 'Adikalakendram' (Centre for Documentary Art Forms) should be strengthened for preservation, documentation and promotion of tribal art forms.'

- Tribal culture and art forms should be incorporated as an integral part of the school curriculum
- Tribal art forms should be given place in school arts festival
- The medium of instructions at schools run by Sch. Tribe Departments and those at the Tribal dominated areas should also be in the tribal languages
- Comprehensive studies on all the tribal languages including those at the endangered and threatened groups should also be undertaken
- Special measures should have to be taken to the preservation of endangered and threatened tribal languages
- Yearly workshop should be conducted for the promotion of tribal art performers

12.1.30 A separate Research and Monitoring Cell with functional autonomy should be started in order to cater to the needs of Ministry of Tribal Affairs (MOTA), Ministry of Social Justice & Empowerment, Ministry of Culture, State Planning Board etc. It would help for the dissemination of knowledge and information (data) and build up linkages for comprehensive development.

Approach, Strategy and Thrust Areas

12.1.31 While the condition of SC/ST population in the State is comparatively better than most other states, improvement is required in the areas of Education, Health, Child care, Housing, Employment opportunities, Skill Development and other social service areas. Adequate infrastructure facilities like electricity, drinking water facilities are to be necessarily provided to the SC/ST colonies. In order to address such issues initiatives were taken during the Tenth Five Year Plan. Provision was given in the plan for critical gap filling activities and provision for pooled funds to attract project based activities beneficial to SC/ST population. These schemes were quite promising and the SC/ST population got benefits in skill development, job opportunities, providing houses to the houseless, land to the landless and infrastructure facilities like roads, electricity connections, water supply etc. During 12th Plan, the approach would be to improve the overall development of SC/ST population. Emphasis will be given to entrepreneurship development, skill development, employment generation and improvement in productive sectors. The development of micro enterprises and marketing support to enterprises run by SC/ST population will be thrust areas during the 12th plan. Another area will be the employment generation and skill development for which more emphasis will be provided to give them proper training through recognized institutions so as to enable them to take up entrepreneurship activities and self-employment.

12.1.32 The following are proposed to be achieved during the 12th plan period:

- House and land for all deserving SC/ST families
- Special attention will be given to enhancing employability of matriculates by imparting special skills, including soft skills
- Every family should have at least one member employed in organized sector or self-employed
- Micro enterprises at the family level will be encouraged. Entrepreneurs among the SCs/STs will be encouraged

- Special Programmes will be worked out for the landless among the weaker sections of the society to encourage them in contract farming and agricultural activities
- Mechanism will be evolved for the marketing of products produced by the weaker sections
- Awareness campaign will be launched to make the weaker sections aware of the welfare programmes of the Government
- SC/ST youths seeking job opportunities abroad will be supported
- District industries centres and other agencies will be encouraged to support SC/ST entrepreneurs
- The recently formed department for Minority Welfare will be strengthened
- Meritorious SC/ST students seeking admission in renowned national/international educational institutions will be supported

Twelfth Plan Outlay

12.1.33 An amount of ₹392600 lakh is proposed for the development programmes of Scheduled Castes for the 12th Five Year Plan and ₹143900 lakh is proposed for that of Scheduled Tribes. An amount of ₹26300 lakh for the development of other Backward Classes and ₹14300 lakh for that of Minority Development.

Key initiatives of the first two years

Scheduled Castes Development

12.1.34 To achieve the goals of 12th plan the critical gap filling fund can be provided for projects from the following sections.

- Meritorious SC students seeking admission in renowned national/international education institutions will be supported
- Providing actual rent of lease land to poor SC farmers, which are having below one acre of land and cultivating lease land
- SC youths seeking job opportunities abroad will be supported
- Assistance for setting up of Micro enterprises
- Self-sufficiency scheme for scheduled caste colonies and Habitats
- Skill Development Programme
- General Medical Practitioner – The programme intends to provide the service of general medical practitioners in the densely populated SC areas to avoid heavy dependence of private practitioners (new scheme)
- Health insurance scheme – The scheme envisages providing free treatment to all Scheduled Caste community members in the State with tie up of leading hospitals. Financial assistance for major treatment is included under this scheme (new scheme).

Scheduled Tribes Development

12.1.35 To achieve the goals of 12th Five Year Plan the critical gap filling fund can be provided for projects from the following sections.

- Engaging accredited NGO's and research institutions for a third party evaluation of TSP schemes implemented
- Meritorious ST students seeking admission in renowned national/international education institutions will be supported
- Providing actual rent of lease land to poor ST farmers who are having below one acre of land and cultivating lease land
- ST youth seeking job opportunities abroad will be supported
- Hamlet Development Scheme – The concept of comprehensive development through Hamlet Development is of important in addressing the grass root issues and ensuring Tribal Development (new scheme)
- Janani Janma Raksha – Timely assistance @ ₹1000 per month for six months beginning from three months prior to the expected date of delivery (new scheme)
- Gotra Sarathi – Arrange facilities transportation to tribal students whose hamlets are in interior forest (new scheme)
- Housing repair – May tribal houses are dilapidated and renovation of their homes by providing additional rooms are proposed under this scheme (new scheme)

OBC Development

12.1.36 The following new schemes are proposed during 2013-14 for the development of Backward classes. (i) Overseas Scholarship – The scheme aims to provide financial assistance to OBC candidates for pursuing Master level course in specified fields of study especially in Engineering, Management, Pure Science, Agriculture Science and Medicine (ii) Employability Enhancement Programme Empower the educated OBC candidates and inspire and motivate them to secure jobs based on their qualification so that they can make use of their capabilities in the best possible way (iii) Career in Automobile Industry through public private participation. Providing financial assistance to OBC diploma holders for training in automobile industry.

Minority Development

12.1.37 The following are some major schemes proposed during 2013-14. (i) Multi sectoral Development Programme in Minority concentrated blocks. In this 12th Plan, a Multi Sectoral Development Programme (MSDP) is intended to be implemented in the Minority concentrated Blocks (ii) Housing scheme for the Divorcees from the Minority Communities. The housing scheme for divorced women and widows from the minority communities will be extended to eligible divorces in the next financial year also (iii) Skill Training – Reimbursement of fees to the Minority BPL students studying in two years courses in ITC.

Major Initiatives of the twelfth Plan of Govt. of India

Scheduled Castes

12.1.38 Educational Development: The following are the notable initiatives proposed by Govt. of India:

- Education will continue to be the most important instrument to uplift the status of the SCs as it will help maximize the participation of SC students in new economic opportunities
- Access to and participation of SC students should be enhanced to ensure that they have access to quality education
- A new parametric scholarship scheme has been introduced for SC students studying in class IX and X during 2012-13. This scheme needs to be extended to SC students studying in class I to VIII during the remaining period of the XII Five Year Plan so that all the SC students from Class I to X will start getting pre-matric scholarship by the terminal year of the Twelfth Plan.
- The scheme of Post Matric Scholarships for SCs provide scholarships to SC students for pursuing higher education in various courses beyond matriculation
- Rajiv Gandhi National Fellowship (RGNF) for SC was increased to 2000 students in 2010-11. There is a need to further increase in the number of these fellowships.
- The number of scholarships under the scheme of ‘National Overseas Scholarship’ needs to be increased substantially without any restriction as regards the field of study for which the scholarship would be available.
- SC students need to be encouraged more vigorously to prepare for various competitive examinations
- State Governments need to upgrade the hostels to a satisfactory level using funds provided by the Finance Commission and other agencies
- Access to good quality schools/residential schools still remains much below the actual requirement from SC students, especially for SC girls. Good quality residential schools for SC boys and girls need to be set up in blocks with high SC concentration so as to ensure that all meritorious SC girls and boys have access to such residential schools.

12.1.39 Economic Development: Economic empowerment through employment and income generation programmes must be given special emphasis in the Twelfth Plan. The national level corporation need to consider alternative agencies to channelize credit to SCs and Safari Karmacharis so as to meet their targets in all the States. A major focus should be on skill development programmes. In order to implement economic development programmes with assured outcome as intended and to mobilize institutional credit at concessional rates, Scheduled Caste Development Corporation need to focus on capacity building, network linking with micro financing and selection of viable economic ventures. Landlessness among Scheduled Castes is much higher than in non-SC’s. Intensive efforts need to be made to distribute surplus Government land to landless SC agriculture labourers in the rural areas. SC artisans and entrepreneurs face a serious problem in marketing their products. There is a need to create a strong institutional mechanism to facilitate the SC entrepreneurs/ artisans in marketing their products in an institutionalized manner. A national level organization may be setup in the Twelfth Plan as a permanent marketing institution, on the lines of TRIFED for marketing of products manufactured by Scheduled Caste entrepreneurs/artisans.

Scheduled Tribes

12.1.40 Educational Development: To deal with the low levels of literacy among tribals and to bridge gap between dropout rates between tribals and non tribals there is a need to focus on elementary education. Therefore there is a need to start a scheme of Prematric scholarship for all ST children across the country. The scheme of Vocational Training Centres in Tribal Areas is to upgrade the skills of the tribal youth in various traditional/modern vocations depending upon their educational qualification, present economic trends and the market potential, which would enable them to gain suitable employment or enable them to become self-employed. Post Matric Scholarship to ST students is the single intervention by the Government of India for educational empowerment of STs involving 100% central assistance to States. In order to promote education among ST girls and boys facilitating them to continue studies without dropping out of schools, there is a need to expand the scheme for Hostels for ST girls and boys especially focusing the deficit areas across the states especially girls hostels. Under the scheme of Ashram Schools in TSP areas, State Governments are eligible for 100% central share for constructions of all girls Ashram Schools and also for constructions of Boy's Ashram Schools in naxal affected areas. The scheme of scholarship for Institutes of Excellence /Top class institution is to provide liberal financial support to ST students per year admitted in premier professional educational institutes. National overseas scholarship scheme for ST students awarded to 15 students for perusing higher studies abroad leading to Master level course and Ph.D Programme in specific field of Engineering, Technology and Science.

12.1.41 Health: The Tribal Affairs Ministry operates the scheme of Grant in aid to voluntary organisations working for the welfare of STs, to NGOs for running 10 or more bedded hospitals and Mobile dispensaries in Tribal Areas. To present the problem of Malnutrition, Local cereals along with pulses and oils in adequate quantity should be ensured to the tribal families. In this context the system of public distribution should be modified appropriately in tribal areas. All tribal habitations should be provided with safe drinking water supply sources and sanitation facilities by the end of the Twelfth plan period. Frequent immunization campaigns may be taken up at regular intervals in tribal areas.

12.1.42 Entrepreneurship: Entrepreneurships among tribal youngsters should be developed. Efforts need to be made to encourage tribal entrepreneurship in small and large scale business.

12.1.43 Land: A crash programme for providing land to the tribals should be undertaken. Convergence among various subsidy and loan schemes of central and State Governments for ST's should be ensured, so that both subsidy and low interest loans are available to STs.

Other Backward Classes

12.1.44 Educational Development: For ensuring educational development among OBCs, schemes for providing scholarships for pursuing Pre-Matric, Post Matric and other higher education supported with hostel facilities will be taken up on priority basis. Appropriate revision of the prematric scholarship will be given priority in 12th plan Hostel facilities for boys and girls would be increased substantially. National Overseas scholarship scheme for OBCs could also be formulated similar to those for

SCs and STs so that OBC students can also go abroad for educational and professional courses. Rajiv Gandhi National Fellowship scheme on the pattern available to the SC and ST students to be introduced for OBC students.

12.1.45 Economic Development: To meet the marketing needs and to facilitate providing a marketing platform for artisans and handicraft persons belonging to OBCs, a marketing Federation on the lines of TRIFED may be setup.

Minority Development

12.1.46 The Twelfth Plan will introduce six new schemes for the development of Minorities. There will address the issues of leadership development, preservation of culture, counseling service education, training for civil service examination and decline of population of the Parsi community. The proposed schemes are (i) Leadership Training for young leaders among minorities (ii) Support for students clearing Preliminaries under Civil Service Examination (iii). Promotion of Education in 100 minority concentration Towns (iv) Scheme for protection and projection of Minority Culture and heritage (V) Scheme for Urban Youth Support lines (Vi) Linguistic Minorities.

Critical gaps to be addressed in the next three years

Scheduled Castes Development

12.1.47 To address the issue of employment generation for Scheduled Castes Community, new schemes for self-employment and skill oriented training are to be introduced. The employability of Scheduled Castes Communities needs to be enhanced to get a sustainable family income. In order to augment the income levels of Scheduled Castes households, it is necessary to initiate efforts and interventions in the direction of providing sustainable income generation. Most of the SC habitats or colonies in Kerala have very poor infrastructure facilities. So special attention is required in the area to improve the infrastructure facilities in SC habitats or colonic. The number of landless and houseless SC families are also high. Hence more investment is needed in infrastructure development aspects of Scheduled Castes Communities.

Scheduled Tribes Development

12.1.48 Upliftment of Scheduled Tribe Communities in all sectors and to bring them to the main stream of the society ensuring social justice and development through educational economic and social development is the approach for the twelfth Five Year Plan. During the next years, steps will be taken to ensure provision of quality education so as to equip and enable them to enhance their employment prospects with competitive ability and thus address the problems of their marginalization and deprivation in the employment market as well as the society. A separate skill development policy needs to be evolved for up gradation of skill among tribal communities. Various skills that can be developed among tribal communities are to the identified with particular attention to primitive tribal groups. Housing is another area which needs special attention during the next year ie. to provide houses and house sites to all houseless Scheduled Tribes. Agricultural labourers constitute the largest occupational segment among Scheduled Tribes. It is therefore necessary that maximum attention be paid to the development of this category. During the next years the thrust area will be for providing basic amenities viz. Electricity, drinking water,

link roads, community centers, library with inter net facility etc. The tribals are suffering from several kind of diseases such as TB, leprosy, scabies, waterborne diseases etc. and the tribal families in Wayanad, Palakkad districts have the traits of the genetical problem sickle Cell Anaemia. So various measures are to be taken for timely medical attention in this regard in the coming years.

Other Backward Classes

12.1.49 The Backward Communities Development is planning to amplify its contribution in the field of Education, Skill Development etc. The Department is proposed to implement the following schemes in the coming years. Extend OBC postmatric scholarship to students undergoing all courses. Financial assistance to student pursuing courses in institutions of excellence having national importance like IITS, IIMs, IISC, National Law Schools/Tata Institutes etc. Programmes for the economic and social development of backward classes will be started. Besides the programmes the ongoing schemes will be continued.

Minority Development

12.1.50 The Minority Development Department is a newly formed department favour the overall development of minorities. The Department is implementing many schemes for the economic and social development of Minorities and is proposed to continue the ongoing scheme in the coming three years of twelfth Five Year Plan.

Physical Targets and Deliverables

Scheduled Caste Development

12.1.51 Major schemes proposed to be implemented during the 12th Plan are educational schemes, housing scheme, land to landless SC families, health schemes, self-employment schemes and marriage assistance etc. Scheme-wise targets and deliverables are given below:

- Educational Scheme: Pre-matric educational concessions to about 15 lakh students and post-matric concessions to more than 5 lakh students. Online distribution of educational assistance through e-Grantz and introduced SBIEZ-pay card.
- Housing Scheme: Construction of 25000 houses. Online system of granting financial assistance for house construction through e-Housing.
- Land to Landless: Land for construction of house to 50000 landless families.
- Health Scheme: Treatment grant to 50000 persons.
- Self-employment scheme: self-employment ventures to poor SC people.
- Assistance for marriage of SC girls: marriage assistance to 20000 poor parents for marriage of their daughter
- Self Sufficient Village Scheme: Overall development of 436 SC colonies.

Scheduled Tribes Development

12.1.52 Major schemes proposed to be implemented during the 12th Plan are educational schemes, housing scheme, resettlement of landless tribes, health schemes, and marriage assistance etc. Scheme-wise targets and deliverables are given below.

- Educational Programmes: to provide pre-matric educational concessions to about 70000 students and post-matric concessions to more than 20000 students per year
- Housing Scheme: to construct 10000 houses to houseless ST families
- Health Scheme: to assist 50000 ST people as treatment grant per year
- Assistance for marriage of ST girls: to assist 1500 poor ST parents for marriage of their daughter
- Resettlement of Landless Tribes: to resettlement of about 5000 landless ST families

Welfare of Forward Communities

12.1.53 The Govt. of Kerala has formulated Kerala State Welfare Corporation for Forward Communities Limited as a Private Limited Company, fully owned by the Govt., with an Authorised Share Capital of ₹10 crore. The main objective of the company is to carry on business of promoting the comprehensive development and welfare of the Economically Backward Sections among the Forward Communities of Kerala through rendering assistance to its members. Share capital assistance, operational expenses, scholarships, integrated survey to create data bank, to organize and conduct coaching classes, term loan assistance, skill development programme, etc. are the activities envisaged during 12th Plan. An outlay of ₹1000.00 lakh and ₹2500.00 lakh has been provided for the implementation of the above activities for 2013-14 and 2014-15 under Annual Plans during 12th Plan period.

12.2 Women & Child Right

Women Development

12.2.1 According to 2011 census, 52 percent of Kerala's population constitutes women. The state has made strenuous efforts in securing gender equality in various aspects of social, economical and political empowerment. In the state, major women development programmes have been implemented through the Social justice Department. In addition, two women specific organizations Kerala Women's Development Corporation and Kerala Women's Commission are implementing sustained gender based interventions and taking effective measures to implement PWDV Act.

Recommendations of the Working Group / Strategy and Thrust Areas

12.2.2 With a view to overcome the challenges, the Twelfth Plan has adopted the approach to endeavor empowering women especially those from the weaker sections and prevent gender injustice. The thrust areas identified by the Working Group and their recommendations for empowering women for the Twelfth Plan are:

12.2.3 Economic Empowerment: The poverty eradication measures of Kudumbasree and LSGs has made some impact on reduction of poverty and vulnerability among the weaker section of the society. These efforts need to be made sustainable and include the marginalized groups like tribal women, women from fishing communities and other SC groups. Women who work in the agriculture and construction sectors and other unorganized sectors face much wage discrimination and job insecurity. The women labour force working in the traditional sectors like coir, cashew, fish selling and processing is often paid low and they are exploited and forced to work in inhuman

conditions. In order to overcome the present challenges and issues, the 12th plan has adopted the following strategy.

- The concept of woman farmer will be encouraged as a pioneering intervention for sustainable livelihoods as well as food security.
- Formation of Land bank in each Panchayat to help women engaged in agriculture and related activities for ensuring credit and marketing facilities.
- Development and dissemination of appropriate technology to help women in traditional occupations, agriculture and small scale industries will be encouraged.
- Appropriate policies will be formed to ensure basic facilities at workplace to prevent sexual and all forms of workplace harassments.
- Women entrepreneurs are to be encouraged and supported with adequate capital, skill development and marketing facilities.
- Necessary steps including legislation will be taken for the protection of domestic workers and migrant women workers from Kerala to other states.

12.2.4 Health: Though the state achieved significant reduction in maternal and child mortality rates the maternal mortality of women from tribal, fishing and other marginalized communities is still not at the desired level which emphasizes the need for further attention. Unhealthy life styles and physical inactivity leaves women at high risk of lifestyle diseases like blood pressure, diabetes, obesity and heart diseases. The high incidences of breast cancer and gestational diabetes among women are other indicators of life style changes impacting on health. Other areas of concern are anemia among pregnant women and obesity among women. These problems will be addressed in the 12th plan by evolving following strategies.

- Specific action plan will be formulated to reduce maternal mortality, especially among tribal, fishing and other marginalized communities.
- Special schemes to be introduced for protection of newborns and mothers in tribal areas.
- As life style diseases are becoming major killers, health education and preventive programmes will be started at the PHC level.
- Public awareness on healthy food habits, nutrition and exercises to combat life style diseases should be imparted through visual media.
- Medical camps among unorganized sector workers to identify occupational health issues and corrective measures will be undertaken.
- Special cancer detection camps will be started at PHC levels for early detection of cancers.
- Special measures will be taken for promotion of positive mental health, counseling and services of clinical psychologist and Psychiatrist at CHC level.
- Measures will be initiated to give subsidized medicines to women from BPL families who are affected with chronic diseases such as cancer, diabetics, BP etc.
- Family life education for youth will be made compulsory.

12.2.5 Violence against women: Though Kerala is top in female literacy (91.98%) the incidence of domestic violence and crimes against women are on increase. As per the ranking of National Crime Record Bureau in 2011, Kerala stands in 3rd position. For protecting women from violence the 12th plan will develop the following strategies

- Specific budgetary provision to be made for 'Nirbhaya' a state -level committee for protection of women and girls from sexual violence
- Very conscious and systematic attempts will be taken to strengthen Jagratha Samithis in all local governments
- The PWDV Act should be enforced strictly by imparting training to the stakeholders
- Laws against ragging should be strictly implemented in all educational institutions
- Fast track courts for early disposal of cases and Women police stations/cell to be constituted in every district
- Existing victim compensation and indigent convict scheme of social justice department, to be restructured so as to offer financial support to affected women and children after submission of charge sheet and not after conviction.
- Ongoing campaign against early marriage and dowry will be strengthened in schools and colleges

12.2.6 Education: Health and education is a critical determinant of the status of women. In Kerala, the rate of enrolment of women in professional and technical institutions is comparatively low. Girls from adivasi, dalit, fishing and minority communities are still lagging in education. The strategies suggested in the 12th plan are

- Life skill education with focus on Gender and Child Rights to be included as part of the school syllabus
- Sensitization programmes will be introduced for teachers and other school staff to make educational institutions gender friendly
- Gender desks to be formed in all schools to work in collaboration with Panchayat level Jagratha Samithis
- In collaboration with local governments, Anganwadi buildings should be made women resource centers with library/reading room, health monitoring, recreation facilities etc.
- In districts where dropouts of girls are high, special monitoring mechanisms to be constituted to identify reasons and take necessary action
- Literacy skills, integrated with gender and social concerns is to be imparted among tribal, dalit and other marginalized groups; curriculum to be made appropriate to
- Prevent drop out of such children
- Gender should be made a part of the curriculum of teachers and in other professional training institutes/colleges

12.2.7 Institutional Services to Women: There are 26 institutions for the care and protection of widows, mentally cured women and women under immoral traffic.

Though there are needy women who require secure shelter, revamping of the institutions as per the provisions visualized in State old age policy and women policy need improvement measures in the 12th plan period.

- One day home/night shelter needs to be started in cities and towns of the state
- Women welfare institutions of Social Justice Department (Mahila Mandiram, Ashabhavan, Aftercare home, Short stay home etc) need to be renovated with modern facilities.
- Regulating and monitoring the functioning of welfare institutions for women run by private organizations based on prescribed norms and conditions will be developed
- New self-employment schemes for widows/deserted /single women with forward and backward linkages will be started
- Effective schemes will be taken for the protection and rehabilitation of mentally and physically challenged women and girls
- The Kerala Women's Commission will be redesigned for creating awareness on women's issues. Women's Development Corporation to be strengthened as an institution which helps women entrepreneurship and provides management skills and support with forward and backward linkages.

12.2.8 Media, Culture and Tourism: Tourism is an important revenue source for the state. In areas where tourism has grown indiscriminately, women are the worst sufferers in terms of projection of women. Hence adequate safeguards have to be taken to shape tourism in a more equitable and gender- just manner, respecting local cultures and traditions. For this the 12th plan will adopt the following strategies.

- Good working environment for women working in the media will be ensured
- The media monitoring cell operating under the Women's Commission to be made effective in order to prevent negative portrayal of women in the media
- Gender sensitization of personnel working in the media be undertaken in collaboration with Press club, journalists associations etc.
- Women's libraries to be encouraged and linked to women's cells of universities and women's study centers
- Akshaya project to be expanded with suitable infrastructure to include more young girls and women from marginalized communities
- The "responsible tourism" initiatives should be made gender responsive, engender the tourism policy and examine its impact on women.
- Labour practices in tourism sector should be monitored to prevent exploitation of women labourers

12.2.9 Physical Accessibility: In Kerala, women's control and access to income from land is limited. Women living in slum areas and in colonies do not have any rights of ownership, making their lives more vulnerable. Right to resources is crucial to women who earn their livelihood through agriculture and related occupations. So it is

important that efforts are made to create assets in the name of women and help them to use that asset to live a life with dignity. The strategies recommended in the 12th plan are:

- When land is given by government, titles should be in the name of the woman or jointly with her husband.
- Land use patterns to be examined and stringent measures undertaken to see that cultivable land is not used for commercial purposes. This is to ensure food security.
- Tribal women's access to forest produce should be enhanced
- When public buildings/spaces, (parks, bus stations etc.) commercial complexes etc. are constructed, sufficient and clean toilets for women in safe locations with water and sanitary towel disposal facilities, child care facilities, feeding and changing rooms etc. should be considered.
- Similarly in the construction of fishing harbours, women fish vendors should have their place. Women should be consulted in planning of such spaces.
- Market designs should cater to the basic needs of women vendors

Key Initiatives of the first two years

12.2.10 Gender Park: This is a project promoted by Social Justice Department in 2012-13 to resolve the gender inequality in development by converging various gender based developmental activities to a common platform for tackling the problems of women for social security and wellbeing.

12.2.11 Snehasparsham: The project started in 2012-13 provide a monthly assistance of 1000/- for all unwed mothers of SC/ST families especially in Wayanad district and to other communities of BPL families who are victims of the exploitation and their children are inexplicable and cannot be gauged by any standards of human understanding.

12.2.12 Nirbhaya programme: The newly introduced Nirbhaya programme envisages setting up of shelters for sexually abused women, where they will get a life skill education to earn a living and providing them employment opportunity. It has been decided to set up Nirbhaya homes in all districts. Six such homes are proposed to be constructed during the year 2013-14 at an estimated cost of ₹2 crore per single home.

Critical gaps to be addressed in the next three years

12.2.13 Though the state have made some efforts to the empowerment of women, some social as well as economical challenges which still remain need concentrated efforts in the 12th plan. Violence against women, in both public and private sphere, is a major challenge requiring specific attention in the 12th plan. Gender is one among many issues of injustice and is an integral part of the socio-economic, political and cultural system and not to be seen in isolation. Moreover elderly women have specific problems such as economic dependency, mental and physical health problems, malnutrition, loneliness and domestic violence. Emerging new challenges such as low women participation rate in the labor force, increased number of female headed households and changing labour markets that require new skill sets and rapidly changing technologies have also to be addressed.

Physical Targets and Deliverables

12.2.14 In the state, the department of Social Justice is the nodal department implementing various schemes for empowering women. During the 12th plan period, the department aims to give assistance for nearly 6 lakh women through various women development programmes. Under Nirbhaya scheme it is decided to set up Nirbhaya homes in all districts for sexually abused women. Also it is decided to start shelter homes for the victims of domestic violence in each district in Kerala. The Kerala State Women's Development Corporation would support around 20 lakh women in the 12th plan period through self-employment loan schemes and STEP programme for employment and training. The Social Justice Department developed separate adolescent health clinics in 500 selected schools with the support of concerned PTAs and LSGIs. This programme will be extended to 172 schools during the 12th plan period.

12.3 Child Development

Recommendations of the Working Group / Strategy and Thrust Areas

12.3.1 Based on the analysis of the current situation of children in the state the Working Group has identified the key areas and evolved the following recommendations for the welfare of children in the 12th Plan.

12.3.2 Child Development and Adolescent Care: The life cycle approach to child and adolescent development is a novel initiative and the model will not miss any opportunities for strategies for child welfare activities. The marginalized, vulnerable and deprived sections of the community will benefit through these actions. The new strategies to be taken in the 12th plan to promote child development are

- Identification of low birth weight babies (<2500gms) and panchayath based skill training program to be provided to mothers of low birth weight babies regarding handling of the baby and early stimulation
- Nutrition intervention program for class 3 & 4 students (8-10 years) will be initiated
- A massive state wide health education program on “the detrimental effects of alcoholism on the family and children”, need to be initiated
- Anganwadi based “mother-daughter pair” reproductive health check-up camps with the help of a lady Medical Officer to tackle the reproductive health problems of adolescent girls
- Panchayath based counseling service camps with the help of School Health Counselor to tackle the mental health problems of adolescents
- Premarital and newly wed counseling for all using the opportunity of mothers meeting at Anganwadi level need to be initiated

12.3.3 Protection of Children in Child Rights Perspective - Children under Institutional Settings: The children under institutions are over stressed and majority of the institutions do not have child friendly care takers, teachers and care givers. Minimum standards for the services are not fixed in almost all the institutions and there is no planned programme to sensitise all the functionaries about child rights. The strategies and suggestions to be developed to improve the service delivery system of the institutions are:

- Steps will be taken to include child rights in the educational curriculum and in the teacher's training manual
- Specialised training will be imparted to all stakeholders on various children issues
- Minimum standards for service delivery will be ensured at all levels of institutions
- School / college level orientation programmes to be given to all children, parents and teachers on issues affecting children and on the preventive and protective life skill.
- Child Rights Clubs will be established in all educational institutions
- CHILDLINE – 1098 and other helpline numbers and basic contents of child rights will be displayed in every school and child care institutions

12.3.4 Juvenile Justice Administration: Juvenile justice endeavors to undertake steps for all round development and rehabilitation of children in the age group of 5 to 18 years. Now, there are 9 Juvenile Homes, 14 Observation Homes and one Bala sadanam (certified as juvenile home) in the State. Juvenile justice board and child welfare committees are functioning in all the 14 districts. The strategies and suggestions recommended are

- Establishment of at least one institution in every district under the JJ Act and provide minimum standard of facilities and services in the institution
- Steps will be taken to impart training to all functionaries and other stakeholders
- The existing institutional facilities will be upgraded at par with JJ Act and Rules
- Facilities will be provided to children to develop educational, vocational, artistic talents with the help of nearby reputed Govt./Private agencies
- Social audit will be initiated for child welfare institutions with the help of reputed institutions once in three years
- Non-institutional services will be improved under the JJ Act

12.3.5 Adoption Services: The Kerala State Council for Child Welfare started this programme in 1979 and now 3 adoption centers and 17 registered placement agencies are functioning. The statutory bodies under ICPS, like State Adoption Resource Agency (SARA), Adoption Coordination Agency (ACA), Specialized Adoption Agency (SAA), etc. need to be effectively monitored. In addition to this, following strategies will be developed to speed up an effective adoption process in the State viz. (i) Strict enforcement of the provisions for adoption and foster care laid down in the J.J Act 2000 and Supreme Court guidelines (ii) Cradle Baby Centres (Ammathottil) will be established in all districts, one each with the support of NGOs (iii) Adoption awareness programs and Adoptive parents organization will be strengthened in all districts, and (iv) Necessary IEC materials on adoption will be developed for print and visual media and disseminate information.

12.3.6 Street Children and Begging Children: Most of this group of children are victims of physical, sexual or emotional abuse at home, in the school, in the work

place, institutions etc. before they land up on the street. Usually they are independent in nature and are averse to institutional care and control.

- Shelter homes will be started for the street children and begging children
- Rehabilitation programmes will be initiated at the LSG level for the rehabilitation and social reintegration of these children
- The missing child search and child protection home link network is to be linked with all the shelter/children's homes across the State to identify the unaccompanied children sheltered there and to trace their families as well as to trace the missing children.
- A state level awareness campaign will be evolved to create awareness on the plight of street children, their rights and responsibilities
- The network facilities with the Governmental and Non-Governmental agencies within and outside the state will be improved to facilitate the care and protection of the children in their own socio-cultural environment
- Awareness campaigns will be started for educating the public for complete elimination of the child beggary
- The Anti-Beggary laws, the JJ Act and CRC will be strictly enforced

12.3.7 Child Labour: The prevalence of child labour is mostly in sectors like agricultural sector, coir industry, hotel industry etc. The long hours of work with less pay, no leisure, no weekly holidays, no proper ventilation or toilet facilities etc., is most hazardous to the health and mental development of the children. The strategies and suggestions for preventing child labour will include (a) Steps will be chalked out for the effective implementation of Child Labour Laws and JJ Act (b) Mass awareness will be created on child rights and the ill effects of child labour and the need for the prevention of migrant child labour (c) Kerala Children Act that is in line with CRC and Juvenile Justice Act which prohibits child labour and protects children from all forms of abuse – mental, physical and sexual, and promotes compulsory education up to the age of 18 will be promoted and (d) The Child Labour Rehabilitation cum Welfare Society under the chairmanship of District Collector should be strengthened.

12.3.8 Orphans, Destitute and Neglected Children: In Kerala there are over 1500 orphanages registered under the Orphanages and other Charitable Homes Supervision and Control Act 1960 and monitored by the Orphanages Control Board. Also there are many unauthorised children's institutions. The human resources and infrastructural facilities in most of these homes are not adequate or not in line with CRC or JJ Act. Hence, these institutions should be streamlined and facilitated and monitored with following strategies viz. (i) Encouraging adoption and community based rehabilitation (ii) Registering all homes for children below 18 years under Juvenile Justice Act and ensuring every children's homes have the adequate facilities for a homely and healthy development of children (iii) Promoting sponsorship and scholarship facilities for de-institutionalisation, and (iv) Identifying talented children and promoting their innate ability /skill.

12.3.9 Sexual Exploitation: The abuse of children economically and sexually is certainly a very dangerous situation as it denies the child the right to life, survival, protection and development. Gender discrimination, domestic violence and abuse of

women and children have led such victims to leave their homes and fall prey to the traffickers. The Immoral Traffic Prevention Act is not implemented effectively and all those sexual exploitation and trafficking cases are not adjudicated properly or time bound.

- Formation of State plan on the lines of the National Plan to prevent the exploitation and abuse of children like engagement of children in commercial sex work
- Strict enforcement of Juvenile Justice Act, Child Marriage Prohibition Act, 2006, Immoral Trafficking Prevention Act and other related laws along with public cooperation
- Constitution of State Child Rights Commission to deal with children issues
- Establishing children's court for speedy disposal of cases on violation on children
- All children who are in need of rehabilitation will be admitted to various institutions run by Government and NGOs and a comprehensive rehabilitation scheme including care, protection, vocational training, counseling, marriage placement, housing etc. to be implemented by the Social Justice Department.
- Implementation of "SWADHAR" programme at block level

12.3.10 Children affected by Violence and Abuse: As per the report published by the National Crime Records Bureau, the crime against children in the state has increased by 164 % from 2008 to 2011. There are occurrences of violence, cruelty, exploitation, degrading treatment to the children and adolescents in homes, educational institutions and workplaces and at community level and other institutions.

- Suitable training modules will be developed for care givers and professionals and impart training in a phased manner
- Sensitizing programmes will be strengthened for the parents, teachers and general public on the existing laws on offences against children.
- The State Children Act will be modified for the protection of children from all forms of violence and abuse
- Cyber safety tips will be provided to parents on cyber crimes by children through PTA forum

12.3.11 Girl child: While the overall sex ratio (0 to 6years) in Kerala improved from 1058 in 2001 to 1084 in 2011, the child sex ratio decreased from 960 in 2001 to 959 in 2011. In order to raise the overall status of the girl child and bring about positive changes in the attitude of the family and community and to promote gender equality through awareness and education, the strategies recommended are (a) Disseminate data on sex ratio between ages 0-6 years at Panchayath level through the ICDS network and sensitize the general public the adverse impact in this regard (b) Girl child protection scheme on the pattern of Balika Samridhi Yojana with the financial support of Central/State and Local Bodies to be implemented in order to ensure education and employment of the girl child (c) Mangalya scheme to be implemented by covering the girl child of all the destitute families, and (d) Financial help to BPL families with girl children for their education, development, and medical and social needs up to 18 years.

12.3.12 Child Participation: Kerala's model of Bala Sabha and Bala Panchayat as neighborhood network of children in LSGIs for holistic development of child health has been widely acknowledged. As on March, 2012, the formation of 50618 number of Bala sabhas across the State has been completed with a membership of 878826 children. This programme need to be further strengthened with effective strategies such as (a) Child Rights Clubs and Children's Parliaments will be promoted under LSGs (b) LSGs will be supported for Bala Sabhas and Children Associations, and (c) Child representations will be ensured in child related decision making process.

Approach, Strategy and Thrust Areas

- Right Based approach will be adopted to create a preventive and protective environment for children
- Since current focus and coverage of the children between the age group of 0-3 years in ICDS is inadequate the coverage of target beneficiaries will increased particularly with respect to the under privileged communities of the backward and remote areas
- Concerted effort will be taken to ensure quality oriented services to the beneficiaries of welfare homes, and orphanages

Key Initiatives of the first two years

12.3.13 Sruthi Tharangam: The project started in 2012-13 intended to provide cochlear implant to children selected by regional and state level technical committees and to provide financial support for Auditory Verbal Habilitation (AVH) to operated children through empanelled hospital/centers. The average number of beneficiaries to be covered every year is 200.

12.3.14 Snehapoorvam: Government of Kerala launched this scheme in 2013-14 as a noble initiative to provide financial support to children who are living in the family with their relatives, friends, or the support of the community. It is proposed to assist 5000 beneficiaries every year under the scheme.

12.3.15 Model Anganwadis: Model Anganwadi is a new concept introduced in 2013-14 in which the aged persons are brought along with the children below six years, adolescent girls and mothers into a common centre. The centre shall have facilities for all the functions of the regular Anganwadis such as class room, dining area, kitchen, immunization room, a hall for mothers, etc. It is proposed to start one such Model Anganwadi in each assembly constituency during the 12 plan period.

Critical gaps to be addressed in the next three years

12.3.16 Though the constitutional provisions and the Five year plans are all aiming to bridge the gap in ensuring the child empowerment and child rights, some social as well as health issues still exist which needs priority attention in the 12th plan. The data on ICDS reveals that coverage of beneficiaries has not been significantly improved. The coverage of ICDS programme need to be further strengthened in the remote areas and among under privileged communities in Idikki, Wayanad and Palakkad districts. At present, 33115 Anganwadis are functioning in Kerala, of which only 17845 have proper buildings and rest of them are in temporary sheds and other rented buildings that have no basic infrastructure facilities. This can have a significant negative impact on the delivery of services if left unaddressed. As nutritional status is a sensitive proxy indicator of the effectiveness of the ICDS programme, strengthening and restructuring

of ICDS in the 12th Plan will be given top priority by the state. Since the prevalence of anemia is on increase in children, chalking out of proper programmes to reduce its prevalence to 16 percent needs top priority in 12th Plan.

Physical Targets and Deliverables

12.3.17 The Kerala Social Security Mission under the Department of Social Justice is the major agency providing social security to children. During the 12th plan period, the mission proposes to give assistance to around 6500 child patients for cancer treatment and 1500 children for cochlear implantation surgery. Under Thalolam scheme the Mission aims to provide free treatment to 5000 children who are suffering from life threatening diseases. The newly introduced Snehapoorvam scheme will intend to provide financial support to nearly 25000 orphaned children. During the 12th plan period, to address the increasing tendency among the youth and adolescents to indulge in deviant behavior, the Social Justice Department has planned for community intervention programmes in selected schools in all the districts. It is also proposed to start one Model Anganwadi in each assembly constituency of the state during this period. A POCSO division is to be created in the State Commissionerate for Protection of Child Rights for monitoring and implementation of the Sexual Offences Act, 2012.

12.4 Nutrition

12.4.1 In Kerala about 43 % of the children are suffering from general nutritional deficiency indicated by underweight and 16% are severely underweight. Micronutrient deficiency is a serious contributing factor to childhood morbidity and mortality. Iodine deficiency disorder is a major public health problem for populations throughout the world, particularly for pregnant women and young children. The Government of India adopted a policy to achieve universal iodization of edible salt, but only 51% of households in India and 74% in Kerala are using adequately iodized salt (NFHS-3). Nutritional needs of all sectors of population from “womb to tomb” to be addressed to protect the health of the population and this necessitates the need for a life cycle approach in nutrition.

Recommendations of the Working Group

12.4.2 The important department wise recommendations are as follows:

12.4.3 Social Justice Department: (i) Restructuring of ICDS as per the modalities suggested in the 12th plan of Central government will be given priority (ii) The nutrition services such as promotion of breast feeding, complementary feeding, promotion of home based food, nutrition education, iron and folic acid prophylaxis, use of iodized salt, growth monitoring, obesity prevention etc. will be initiated

12.4.4 Health Services Department: Correction of anemia, moderate and severe degree malnutrition, vitamin A prophylaxis, correction of vitamin A deficiency, immunization, obesity prevention.

12.4.5 Panchayath Raj Institutions: Infrastructure development, resource allocation for procuring food supplements.

12.4.6 State Government: (i) An independent nutrition surveillance system should be established to monitor the progress made on malnutrition at least once in two years, at district level (ii) A high level technical agency should be established to monitor the implementation of health and nutritional activities through ICDS.

Approach, Strategy and Thrust Areas

- An independent nutrition surveillance system will be setup to monitor the progress made at least once in two years, at the district level
- For effective implementation of ICDS and related interventions, steps will be taken to establish a high-level oversight authority, serving as a technical body that centrally monitors both health and nutrition outcomes of children under six
- Nutrition Rehabilitation Centres (NRCs) will be setup for identification and treatment of severely malnourished children

Twelfth Plan Outlay

12.4.7 A projected outlay of ₹2657 crore has been made for the Social security and welfare sector including nutrition. This includes a tentative allocation of ₹256.50 crore for women development, ₹617crore for Persons with Disabilities and ₹526.50 crore for child development.

Chapter 13

SOCIAL SECURITY

...old age policy will be implemented in full-fledged manner to promote health, wellbeing and independence of the senior citizens... more resources will be set apart for addressing disability related problems... this chapter elaborates details of labour and labour welfare, social security welfare, senior citizens etc.

13.1 Labour and Labour Welfare

13.1.1 Kerala has genuine concern and commitment to the protection of the interest of the labour and promotion of its welfare. The state is fast shedding its image as a 'militant labour' with industrial relations and improving considerably over a period of time. At a time, when the 12th Plan has given top priority to accelerated industrial growth, a major area that requires urgent attention is 'conflict resolution' in the industrial landscape. Though there are certain institutional mechanisms to resolve the conflicts, the problems of the un-organised labours' still persist. While the workers in the organized sector could leverage their unionized power, the unorganized sector labour seldom finds its voice heard in the corridors of power. The very nature of the sector often puts the workers at the receiving end and their living conditions are often predicated upon the employers' choice. For plantations, since the nebulous service is the major source of employment for labours, the working conditions and living standards of the workers employed in this sector varies considerably from one vertical to other.

13.1.2 An activity under Labour Sector is the central area which addresses multi dimensional/socio-economic aspects of labour welfare, productivity, living standards of labour force and social security etc. Manpower development to provide adequate labour force of appropriate skills and quality to different sectors are essential for rapid socio economic development. In this context, efforts are being made for providing the environment for self-employment both in urban and rural areas. Implementing agencies coming under the sector Labour & Labour Welfare are Labour Commissionerate, National Employment Services (Kerala), Industrial Training Department, Kerala Institute of Labour and Employment (KILE), Factories and Boilers Department, Fire and Rescue Services Department and Non-Resident Keralites Affairs Department (NORKA). Total outlay provided for the Labour sector during the 11th Plan was ₹70620 lakh and the expenditure incurred for the corresponding period is ₹47311.28 (66.99%).

Recommendation of the Working Group

- Labour Camp is to provide the migrant workers a low cost accommodation with all necessary amenities in places not far away from their workplace or in convenient places from where they can proceed to their work places every day, under Public Private Partnership (PPP) arrangement.
- E-payment of wages through Banks would ensure the payment of minimum wages in textiles, IT, ITes, Private Banks and Private Education Institutions.
- A higher budgetary provision and Plan allocation to the Labour Department for the welfare of unorganized sector may be looked into
- Welfare schemes should also be extended to thousands of workers employed with shops and business establishments
- Workers employed in the healthcare sector too should be brought under the ambit of the new scheme
- Social security for workers in the un-organised sector is a priority area which needs immediate attention
- The government should take steps on a war footing to set up a skill development institute with international standards with various quality benchmarks to impart training to workers in the unorganized sector in different trades
- Government should come out with a single window to redress the grievance of old age problems of workers
- It should also set up micro level conflict resolution bodies with representatives of migrant workers, local population, employers and officials of the Departments concerned to avert any potential confrontations between the locals and migrant workers. A better coordination with the Health Department is desirable to inculcate the high level of hygienic standards the locals follows.

Approach, Strategy and Thrust Areas

13.1.3 Fundamental goal of the 12th Plan is to look into the qualitative dimensions of employment in terms of equity, dignity, social security, status of employment and so on. This would help in formulating strategy for future challenges in generating productive employment, with decent working conditions. Migration of surplus workers to other sectors for productive and gainful employment is necessary for inclusive growth. It is also necessary to focus on demand aligned skill development, and aim at significantly stepping up growth in employment in manufacturing, so that under-employed labour force can speedily move from low-paid jobs to better paid, more productive sectors. Skill development is critical for achieving faster, sustainable and inclusive growth on the one hand and for providing decent employment opportunities to the growing young population on the other. This would be addressed in a mission mode manner and sector specific strategies need to be adopted to ensure sustained expansion of employment opportunities in these areas.

13.1.4 Regarding the labour disputes it is essential to overcome the negative publicity by way of special efforts to disseminate the fact of peaceful management labour relations in the state. Innovative programmes will be evolved for solving disputes that give rise to such adverse publicity. The gender gap in industrial training will be

bridged by starting Women ITIs in four uncovered districts. Restructuring and integration of labour welfare fund boards after proper consultation with stake holders will be considered. In view of increasing safety risks and occupational hazards, special emphasis will be given for safety education and practices. One occupational health centre will be established in the state. Special efforts will be made to solve the problems of inter-state migrant labourers. Effective mechanism will be evolved for attracting more youths to jobs other than in the Government Sector. Social security of the unorganised labour will be strengthened. Effective mechanisation will be introduced to reduce drudgery in work and reduce stress levels. This will be done without reducing the work force in the state.

- The system of resolving labour disputes, which is widely noted to have been working well, leaves scope for further improvement in the Twelfth Plan
- The focus of the Plan will be on overcoming negative publicity by way of special efforts to disseminate the fact of peaceful management labour relations in the State. Innovative programmes will be evolved for resolving disputes that give rise to such adverse publicity.
- The gender gap in industrial training will be bridged by starting women it is in four uncovered districts
- Through overhauling and integration of all self-employment and entrepreneurship development programmes will be an area of focus
- Re-structuring and integration of Labour Welfare Fund Boards after proper consultation with stake holders will be an objective of the plan. Appropriate programmes to address problems related to the emigrants from other States will be ensured.
- In view of increasing safety risks and occupational hazards, safety education and practices will be given special emphasis in the Plan. One occupational health centre will be established in the State.
- Special efforts will be made to solve the problems of inter State migrant labourers
- Effective mechanisms will be evolved for attracting more youths to jobs other than in the Govt. sector
- Social security of the unorganised labour will be strengthened
- Effective mechanisation initiatives will be introduced to reduce drudgery in work and reduce stress levels. This will be done without reduction in the work force.
- Smart Employment Exchanges will be setup in the State

Critical gaps to be addressed in the next three years

13.1.5 Migrant Labour: A recent trend in the employment sector in the State is the inflow of inter-state migrant labour from other States like West Bengal, Bihar, Orissa, Chattisgarh, Jharkhand etc. These workers are less advantaged group in the labour market working for a subsistence living in the state. Even though a comprehensive recent data on migrant labour is not available, different micro studies indicated that the incidence of migrant labour has been increasing over the years in the State. Since they are not engaged through a contractor or an intermediary, the legal protections

envisaged under the Interstate Migrant Workmen (Regulation of Employment and Conditions of Service) Act, 1979 are alien to them in their employment. Though these workers are predominantly engaged in the construction, plywood and steel industries, their presence is noticeable in almost all employments including service sector in the State. Because of their lower levels of reservation wages; and they do not have organization and union and lack of 'voice', recently there is an increasing tendency to employ migrant labour; especially in the field of constructions. Since serious measures had not been developed to improve the weak conditions of these labour, Social Security, health activities, compensation in case of job loss etc. have to be strengthened. The working conditions of the migrant labours are very pathetic, for the reason that they are large in numbers and lacking any organizational protection, employers are reluctant to provide better service conditions and residential accommodation to them. Consequently they are constrained to live in unhygienic residential areas of the State that most of them are suffering from contagious diseases due to lack of sanitation and health facilities. Lack of proper waste management is also creating a hazardous environment. To overcome this issue, accommodation with all necessary amenities in places not far away from their workplace or in convenient places from where they can proceed to their work places every day has to be provided at low cost. Such an initiative can be made under Public Private Partnership (PPP) arrangement. This will also enable the LSG/Government to tackle many of the social issues.

13.1.6 Unorganized Labour: Unorganized sector labour has been persistently a distressed category to the economic system despite the fact that government has been undertaking various initiatives through enactment of legislation, creation of welfare funds, spreading workers' education and supporting non-government organization to bring this deprived class into the main stream of our work force. XIth plan had made interventions in improving the life situation, education, health etc. to the workers engaged in unauthorised sector.

13.1.7 Industrial Relations: The Labour Department is the agency for maintaining a harmonious industrial relations in industrial establishments. Due to the constant endeavour of the Industrial Relations Machinery of the State Government, the overall industrial relations climate has generally remained peaceful and cordial. For this purpose, several labour laws and labour welfare schemes have been enforced. There are 30 labour enactments administered by the Department and 83 categories of employment have been covered by the Minimum Wages Act, 1948, out of which minimum wages are notified in 46 employments. During 2009-10, total number of disputes which had to be settled was 5122, of this 2357 disputes were settled. Three Regional Joint Labour Commissionerate and the State Commissionerate have been providing support for this process.

13.1.8 Safety of workers: The Department of Factories & Boilers is the Statutory Authority to ensure safety, health and welfare of factory workers and the general public living in the vicinity of factories by implementing various laws. The Department is in the pursuit of prevention of industrial accidents and creation of an environment conducive to industrial hygiene as well as prevention of occupational diseases by inspection and advisory services. During 2009-10, detailed Occupation Health Survey has been conducted in Alappuzha District in the coir factories to diagnose and manage occupational disease. State level license adalat has been

conducted by the Department at Ernakulam as a part of public interaction. First aid training has to be given to the public also.

13.1.9 Labour Welfare: Kerala is a model State for labour welfare measures. About 28 labour welfare fund boards are functioning in Kerala under different departments. Out of this, 16 are under the control of Labour Department. Major welfare measures provided by different labour welfare fund boards are the maternity benefit, marriage benefit, medical benefit, death relief, pension/ family pension, superannuation benefits, assistance for permanent disability, educational assistance house building advance etc. Restructuring and integrated approach has to be adopted to enhance the labour welfare activities in the state.

13.1.10 Child Labour: The magnitude of child labour problem could be considerably reduced through rehabilitation measures and enactment of laws. However, the need for awareness generation among the public has to be highlighted. In Kerala, special attention has to be paid to the Programmes on eradication of child labour from the society such as sensitization programmes through radio and district level seminars and re-enrolment of dropout students into formal education.

Measures for Social Protection

13.1.11 Aam Admi Bima Yojana (AABY): AABY was launched on October 2, 2007. Under this scheme, insurance will be provided for natural as well as accidental death and partial/ permanent disability to the head of the family of rural landless households in the country. The premium is shared equally between the Central and State Governments. Upto September 2009, the scheme had covered 81.99 lakh lives in India.

13.1.12 Rashtriya Swasthya Bima Yojana (RSBY): The RSBY was launched on October 1, 2007 for BPL families (for maximum five members) in the unorganised sector. The premium is shared on 75:25 basis by the Central and State Government. The beneficiary is entitled to cashless transactions through a smart card.

13.1.13 Comprehensive Health Insurance Scheme (CHIS): It extends to all the families in Kerala State other than the BPL families (absolute poor) who comes under the RSBY and listed as per the guidelines of Planning Commission.

13.1.14 Employment Market Information Programme: Employment Market Information Units are functioning in all the 14 District Employment Exchanges. The main objective of the programme is to collect on a regular and continuous basis, the information regarding (1) periodic changes in the level of employment, (2) occupational, educational, industrial and sectoral composition of employment and (3) shortages and surplus in manpower.

13.2 Social Security and Welfare

13.2.1 In every society there are people who require social support for a wellbeing. Poor income, unemployment and underemployment, physical disability, destitution, ill-health etc. are the main factors which hinder the well-being of these people. The State had given very much importance to the social security programmes in its earlier Five Year Plans and Annual Plans to bring these people to the mainstream of the society.

Approach, Strategy and Thrust Areas

13.2.2 Though the department of Social Justice made serious interventions in this area aligning with agencies including the LSGs, an overall perspective has not been evolved in the State due to a wide variety of new social sector challenges. This involves breakdown of joint family system, the decline in agricultural employment, low work participation of women, under nutrition and malnutrition, marked growth of the elderly people, exploitation of the weak, etc. In this process of social transformation, the weaker section of population who are unable to cope with these rapid changes need special attention of the state. To bridge the gap and to overcome the shortfalls and difficulties of the past, the 12th Five Year Plan has evolved the following approach and strategy.

- A thorough restructuring of the Social Justice Department will be initiated to improve the quality of services offered under the sector
- The coverage and shortage of welfare institutions will be addressed
- Gender issues will be given special attention. The protection and welfare of women, legal aid and counseling, effective implementation of legislation, shelter and security for victims of atrocities etc. will be prime areas of concern in the 12th plan.
- The 12th plan will endeavor empowering women and preventing gender injustice
- Strategy and effective policy instruments will be worked out to address the problems of persons with disabilities.
- Rights based approach will be adopted to create preventive and protective environment for children
- State Old age policy will be implemented in full-fledged manner to promote health, well-being and independence of the senior citizens.

13.3 Persons with Disabilities

13.3.1 Though some efforts have been made by the State, persons with disabilities continue to be marginalized and large sections of the disabled population remain uneducated, unemployed and ostracized by society. This is due to lack of focused intervention by means of awareness and training on the part of health workers, doctors, teachers and parents as well as the acute shortage of specialized rehabilitation professionals and other support staff. In addition to the above, there is lack of access to the physical environment, transportation, information technology, communication, aids and equipment. To counter this, 12th plan approach will cover the following area of disability (i) Prevention of disability (ii) Early identification of disability (iii) Early intervention of disability (iv) Rehabilitation (v) Education and (vi) Employment generation.

Recommendations of the Working Group

13.3.2 According to the Working Group, the 12th plan will adopt the following strategy and recommendations to address the problems of persons with disabilities.

- "State Rehabilitation Mission" will be established for speedy implementation of appropriate rehabilitation schemes and activities

- Vaccinations, prenatal screening and intervention for prevention of all kind of disabilities will be ensured
- Early detection of disability by birth screening and imparting training to health workers on screening to facilitate early detection during vaccination or health worker visits will be initiated
- The State will take action to replicate District Comprehensive Rehabilitation Centre (DCRC) existing currently at Kasaragode, Palakkad and Kollam under National Programme for Rehabilitation of Persons with disabilities (NRPD) to all the districts in the State.
- National Institute of Speech & Hearing (NISH) has already set up neonatal screening for hearing loss at all district hospitals in the state with the support of Health Department. This is to be extended to Taluk Hospitals and subsequently to Primary Health Centres to cover all infants and all disabilities.
- NISH will be designated and strengthened as a nodal agency for University education of persons with disabilities
- All public buildings and all government websites will be made accessible
- Initiate public campaigns to increase sensitization and awareness of the general public
- An independent external body (not the department itself) will be set up to monitor schemes and institutions mandated to execute government programmes

Key Initiatives of the first two years

13.3.3 Persons with Disabilities: As per 2011 census, nearly 2.28% of the total population in Kerala has one or other form of disabilities. Though the number is small, the need of these members of our society deserves special attention. In the state Social Justice, Health and Education are the major departments implementing schemes for the welfare of persons with disabilities. NISH, State Institute for Mentally Retarded Children and Kerala State Physically Handicapped Persons Welfare Corporation are the other three institutions working in this area to impart social security to the persons with disabilities.

13.3.4 State Initiatives on Disabilities: In 2012-13, Government had launched state initiative programmes for prevention, detection and early intervention of disabilities including education, employment and rehabilitation of disabled persons. The major activities visualized under the programme are setting up of Early Detection Centres, establishing Pre-schools for handling multiple disabilities in each district and developing NISH into a University for disability research and rehabilitation science. Govt. has appointed empowered committee and 4 expert committees for the smooth implementation of these programmes during the 12th plan period.

13.3.5 Support and Rehabilitation of Adult Mentally Challenged Persons programme: As a social security measure, in 2013-14, Government has initiated to implement a model programme for the support and rehabilitation of the mentally challenged persons. The model project has prepared by the National expert group and it is decided to implement the programme on a pilot basis in selected districts.

Major Initiatives of the Twelfth Plan of Govt. of India

13.3.6 The major initiatives for the empowerment of persons with disabilities are:-

- Rehabilitation Centres for treating mentally ill persons
- Model multi-disability independent living centres
- Setting up of State Spinal Injury Centres
- Provisioning accessibility in State Government institutions
- Making State Governments' websites accessible
- Preparation sensitization of State Governments, local bodies and other service providers
- Establishment of State Disability Resource Centres
- Establishment of Micro-enterprises Incubation Centres for persons with disabilities
- Grant of Association for Rehabilitation Under National Trust Initiative of Marketing (ARUNIM) for supporting its marketing activities
- Establishment of State Missions and District Coordinators
- Awareness generation and publicity

Critical gaps to be addressed in the next three years

13.3.7 In the state, as a joint venture of the State and Central Government, three District Disability Rehabilitation Centres (DDRCs) are functioning to facilitate the creation of infrastructure and capacity building at district level for awareness generation, rehabilitation, training and guiding rehabilitation professionals. There is a need to start new centres in the unserved districts during the 12th plan period for reducing the effects of disabilities and promoting their physical, social and psychological rehabilitation. The programme of issuing identity cards to disabled persons would be strengthened so as to issue ID cards to the entire disabled population by the end of the 12th plan. There are 10 different welfare institutions working under Social Justice Department for the mentally and physically challenged persons. All these institutions will have to be further strengthened and managed at the delivery end to attain the desired results. Concerted efforts are needed to give special focus on the requirement of persons with disabilities having Cerebral Palsy, Autism and Mental Retardation. Necessary steps should be taken to improve the involvement and co-ordination of the line departments for achieving the desired objectives of the state initiative programme on disability started during 2012-13.

Physical Targets and Deliverables

13.3.8 During the 12th Plan period, a database on disability of the state is targeted by conducting disability survey covering all types of disabilities for effectively intervening to facilitate this group. According to the Persons with Disability Act, 1995 it is mandatory to provide disability certificate to all disabled. It is proposed to issue identity cards to the entire disability population by the end of 12th plan. As part of the state initiative programmes on disabilities, District Early Intervention centres will be set up in 14 districts and mobile intervention unit in early intervention centres at Kollam, Ernakulam, Thrissur and Kozhikkode districts. NISH will be developed into a

university for disability and rehabilitation science. Model Rehabilitation Centre for paraplegic patients will be established at Kozhikkode and Kollam during the 12th plan on a trial basis. NISH will initiate to provide rehabilitation facilities and welfare measures to 70000 deaf and hard of hearing persons. The Kerala State Handicapped Persons Welfare Corporation aims to widen their services covering 7 lakh disabled persons through various self-employment schemes.

13.4 Senior Citizens

13.4.1 According to 2011 census, Kerala has the highest proportion (12.6%) of the elderly in the country. Consequent to the increase in life expectancy, the rate of growth of aging population in the state will be even faster in the coming decades. Hence more attention will have to be given in the 12th plan to address their problems.

13.4.2 Vayomithram programme launched by Kerala Social Security Mission in 2011 intended to give welfare services such as free medicine, palliative home care, and help desk facilities to persons above 65 years has achieved much popularity. Now the programme is being implemented in 5 Corporations and 20 Municipal areas benefiting nearly one lakh aged people.

Recommendations of the Working Group

13.4.3 In order to address the social, economical and health care aspects of the aged community, the Twelfth Plan has given stress to the following:

- Caregivers attending on senior citizens who need terminal and full time care should be provided appropriate financial support by the State.
- State old age policy will be implemented in full-fledged manner to promote health, well-being and independence of the aged community.
- Community based senior citizens programmes will be started at the LSG level. Special focus will be given to the treatment of diseases like Dementia and Alzheimer's.
- Care providers of ASHA workers will be made available for bed ridden patients
- Geriatric care facilities will be provided in all existing Old age homes
- In view of the new Policies and Acts of the Government all welfare institutions will be revamped by upgrading the institutions with better facilities to the inmates
- Schemes will be formulated in the 12th plan for providing income support, health insurance to those who are over 80, elder abuse, housing, bonding generations etc. to facilitate and sustain the concept of dignity in old age.
- The State should fully support and supplement all the ventures of the NGOs in getting appropriate schemes from the GOI under the Integrated Programme for Older Persons (IPOP).
- For Tribal and Coastal old persons, provision of the free meal programme will have to be implemented
- Multi Service Senior Citizens centre will be established in each Panchayat for strengthening the family in taking care of the old member

Major Initiatives of the Twelfth Plan of Govt. of India

13.4.4 With a view to ensure the well-being of senior citizens especially indigent senior citizens, the Twelfth Five Year Plan has focused on:

- Setting up a National Commission for Senior Citizens to look into their grievances by ensuring that services and facilities meant for them are being provided
- Establishment of Old Age Homes for Indigent Senior Citizens with integrated multi-facility centre of varying capacity (25, 60 and 120) in 640 districts of the country, through State Government
- Setting up of a Helpline and District level helplines for older persons
- Setting up of Bureau for Socio- Economic Empowerment of Senior Citizens at district level
- Issue of Smart Identity Cards and Health insurance for senior citizens
- Creation of National Trust for the aged

Critical gaps to be addressed in the next three years

13.4.5 Shortage of economic security coverage, less opportunities to the rehabilitation of elderly through special income generating efforts, weak labor force participation, inadequate health care facilities etc. are some of the new challenges faced by this category. So to ensure need-based maintenance for aged and senior citizens and their welfare, the 12th plan will have to give major priority to implement the programmes visualized in the State Policy on Older persons, 2013. The Maintenance and Welfare of Parents and Senior Citizens' Act 2007 is now implemented in the State with minimum staff and infrastructure. Because of this, the petitions received in the different Tribunals could not be acted upon promptly. As this is one way of checking elder abuse, the existing system should be expanded and made more effective. Currently, NRHM does not take care of older person's health. Since this Mission is assumed to be a grass root programme and has wide coverage in the rural areas and vast potential for reaching out to the old, it should be appropriately modified to include geriatric care.

Physical Targets and Deliverables

13.4.6 The Vayomithram programme presently being implemented in 5 Corporations and 20 Municipalities will be extended to all Municipalities during the 12th plan. 14 NGO managed Old Age homes will be started under Government-NGO partnership. The Old age homes managed by the department of Social Justice will be revamped with additional facilities.

13.5 Ex-Servicemen & Dependents

13.5.1 The Department of Sainik Welfare is looking after the welfare and rehabilitation of Ex-servicemen and their dependents. As on 30th March 2012, there were 163072 ex-service men and 243 war widows. For re-employment and self-employment of Ex-servicemen and their dependents, the department runs three computer training centers at Thiruvananthapuram, Kozhikode and Thrissur. During the 11th plan period the department utilized the entire budget provision and provided rehabilitation training to 1428 ex-service men and war widows. As the number of this category is increasing in every year the scheme will be continued and strengthened during the 12th plan period.

13.6 Prisoners

13.6.1 In Kerala, as on March 2012, there were 6538 prisoners, of which 183 were women. The jail infrastructure consists of 52 different types of jails. Modernization of Prisons and Welfare of Prisoners are the two major schemes implemented by the Prison department. During the 11th plan an amount of ₹63.75 crore was provided to the Prison department and the department utilized the entire allocation. For the development of prisons and welfare of the prisoners in the state, the 13th Finance Commission has recommended an amount of ₹154 crore. A long-term project has been formulated by the department for this. This amount is being utilized for implementing various schemes proposed in the GO (MS) No.110/2011/Home, Dated 21/05/2011. Solar energy system and energy saving measures in all 52 Jails is one of the new initiatives taken under this programme. The project has been commissioned on 3rd October, 2012 at Central prison, Thiruvananthapuram on a pilot basis. Now overcrowding in jails is the major problem faced by the department as it is very difficult to accommodate further prisoners. In order to overcome this, the 12th plan has concentrated on strengthening the jail infrastructure and additional facilities by carrying forward the existing schemes as well as initially new schemes.

Chapter

14

TOURISM & CULTURE

...to ensure community participation and benefits multi stakeholder mechanisms involving public, private and local community in tourism, planning & development... roll out of responsible tourism initiatives to other destinations... preservation of rare manuscripts and historical documents... this chapter provide various aspects of tourism and art & culture...

14.1 Tourism

14.1.1 Kerala Tourism was able to transform itself into one of the niche holiday destinations in India and one of the world destinations with the highest brand recall, over the past three decades. By the early 2000s, it has grown into a fully-fledged, multi-billion dollar industry in the state, contributing around 9% of State GDP. Kerala has been recognised as one of the best tourism brands in the world. The geographical features of the State with its rich and varied culture, its initiatives in eco-tourism, success in introducing diverse products, developing new centres of attraction and upgrading existing tourism centres along with massive marketing campaigns have made it one of the most sought- after destinations in the world.

14.1.2 The State Government have been actively supporting tourism sector in many ways. It was brought under the purview of Five Year Plan since the second Five Year Plan onwards. The Government highly focus on quality infrastructure creation, including better road connectivity, water supply, power supply, waste management and good visitor experience. The overall Plan outlay on Tourism has been increasing over the Five Year Plans. However the share of Tourism in the total State Plan increased very slowly till 9th Five Year Plan and which was only less than one percentage of total plan outlay. A significant increase was witnessed during 10th Plan. During 11th plan, the share of Tourism in the total State Plan fell to 1.34%.

14.1.3 Tourism industry plays a vital role in the economy in terms of employment, income, foreign exchange and regional development. It is mainly labour intensive in nature and helps in addressing unemployment and poverty reduction. The state government, in pursuit of the pro-poor policy propagated by the Planning Commission of India, initiated Responsible Tourism in the state which is a Tourism Management Strategy embracing planning, management, product development and marketing to

bring about a positive economic, social, cultural and environmental impact to the local community. Kerala Tourism has been piloting the responsible tourism initiatives at four destinations in the 11th Plan period, viz. Kovalam, Kumarakom, Thekkady and Wayanad with active support of the local self Governments, Tourism Industry, Kudumbasree, NGOs and the local community as a whole. The remarkable feature of Responsible Tourism is that it ensures better living conditions to the local community, generate extra income to local people, brings up new entrepreneurs and micro enterprises, and bring large area under cultivation also.

Recommendations of the Working Group

14.1.4 The Working Group reviewed the schemes of 11th Five Year Plan and recommended to continue 18 schemes and suggested to discontinue four. The working group has also suggested seven new schemes for the 12th Plan period. Development of Elaveezha Poonchira (Melukavu) as Tourist Centre, Basic Infrastructure Development, Skill development in Tourism Industry, and Thenmala Eco- Tourism Promotion Society are the schemes recommended to drop in the 12th Plan and the following are the newly recommended schemes.

- Kerala Waste Free Destination Scheme
- Development of New and Lesser Known Tourist Destinations
- Development of Innovative Tourism Products
- Kerala Tourism Promotion and Marketing Mechanism
- Development of State of the Art Tourist Information Centers in the State
- Development of Infrastructure and amenities at Major Tourist Destinations
- Development and Implementation of Tourist Master Plans at Major Destinations

14.1.5 The Working Group noted that for operational convenience the scheme ‘Development of Eco tourism Products’ and Thenmala Eco Tourism Promotion Society should be clubbed together in the Twelfth five year Plan. It was also noted that to enable an environment for private investment in Tourism, some incentives need to be provided. The Working Group assessed the need for HR development as a focus area which can improve the quality of Tourism service delivery and employment generation.

Approach, Strategy and Thrust Areas

14.1.6 The Tourism sector visualizes a growth rate of over 20%. To achieve this target, the government during the 12th Plan Period have to attend the thrust areas of development and to address the problems hinders the growth process. The strategy to sustain tourism in the highly competitive market, we have to ensure quality experience to the visitors while benefiting society and industry. Promotion of private entrepreneurs, development of quality man power etc. are the target areas to be focused

- Strengthening the infrastructure facilities of major existing tourist centres
- Developing infrastructure and tourist facilities in lesser known areas
- Special emphasis on the development of destinations in Malabar region

- Promotion of private participation in infrastructure projects
- Introduction of scientific waste management systems in major destinations
- Multi stake holder mechanisms involving public, private, and local community in tourism planning and development
- Exploring backward linkages for tourism to rely on local produce and local skills
- Developing Forest, Hill and Plantation Tourisms
- Innovations in products
- Setting up one museum in each district in a phased manner
- Brand promotion in national and international markets through print and electronic media, through fairs and road shows
- Marketing more budget packages for domestic tourists

Key initiatives of the first two years

14.1.7 The important key initiatives in the first two years (2012-13 & 2013-14) are: (i) Up-gradation, Creation of Infrastructure and Amenities (ii) Development of Eco tourism (iii) Conservation, preservation and promotion of Heritage, Environment and Culture (iv) Special heritage projects for Muziris and Thalassery (v) Modernization and Strengthening of Tourism Institutions (vi) Development of Innovative Tourism (vii) Incentives for Creation of Infrastructure Facilities and Tourism Products in Private Sector (viii) New campaign for ‘Kerala Waste Free Destination’ with the active participation of local bodies, NGOs, Self Help Groups, educational institutions and tourism trade (ix) Kerala Sea Plane Project connecting tourist destinations - Ashtamudi, Punnamada, Kumarakom, Cochin backwaters and Bakel, and (x) Responsible tourism initiatives

Major Initiatives of the Twelfth Plan of Govt. of India

14.1.8 The Government of India strongly support pro-poor tourism initiatives which redistribute resources and opportunities for the benefit of poor and marginalised in the economy. It is attained by expanding business opportunities and employment opportunities for the poor and enhancing collective benefits. The benefits include economic, non-economic and cultural and environmental impacts.

- Focus on identifying clusters having unique craft, ethnic art form, culture and heritage, natural spots for development as a tourism product and develop tourist circuits or destinations around them
- The existing schemes like PMGSY could be used to improve the quality of transport infrastructure. As far as the investments in tourist accommodations, changes in requirements due to the changes in the spectrum of travellers should be taken into account
- Setting up of new SIHMs, FCIs, Hospitality University, NCHMCT, Indian Culinary Institute, expansion of IITTM
- Launch a Clean India Campaign by adopting a multi-pronged strategy comprising of persuasion, education, sensitisation, training, demonstration and regulation

- Establish overseas tourism offices/ information centres
- Promote travel festivals, familiarisation trips, and international meetings
- Develop specialised website for tourism
- Promote developing niche products of tourism industry to overcome seasonality

Critical Gaps to be addressed in the next three years

14.1.9 Special attention to Malabar region, hitherto left out from main stream tourism development.

- Maintenance and upkeep of the infrastructure
- Curb the delays in implementation of projects and introduce efficient mechanism for monitoring and evaluation
- Better safety and security measures at the tourist destinations
- Providing better quality services matching with the international standards
- Reducing strain on the environment due to reckless tourism
- Attracting private investment in tourism infrastructure
- Setting up strategies for meeting severe competition from South-East Asian countries

Physical Targets and Deliverables

14.1.10 The following are the important physical targets: (a) Development of destinations in a circuit manner – especially northern circuit (b) Coastal tourism – Starting catamaran vessel service through the west coast (c) Hop on Hop boat service at the back water stations at Kochi and possible other locations of the state (d) Strengthen the Waste Free Destination Campaign and replicate to all tourism destinations - Master plans are being prepared for 6 mega destinations.

14.2 Art & Culture

14.2.1 Art and culture is a sector comprising of cultural institutions run by both government and government aided agencies .They include academic, performing and promoting institutions. Many plan schemes are implemented in the sector with an aim to preserve and promote the cultural and artistic values of our state .Financial assistance to the sector is mainly provided through the Cultural Affairs Department. Major implementing departments coming under the sector are Cultural Affairs Department, Department of Museum and Zoos, Department of Archives, Department of Archaeology, State Central Library etc.

14.2.2 Major institutions coming under the department of cultural Affairs are Kerala Kalamandalam, Chalachitra Academy, Kerala State Film Development Corporation, Folklore Academy, Sahitya Academy, Sangeetha Nataka Academy, Lalithakala Academy, State Library Council Vasthuvudya Gurukulam, Vylloppilli Samskrithi Bhavan, Gurugopinath Natana Gramam, Jawahar Balabhavan etc.

Recommendations of the Working Group

14.2.3 Major recommendations of Working Group Report on Twelfth Five Year Plan regarding Art and Culture are

- Increase the share of cultural institutions up to one percentage of the state budget
- Formation of an advisory council for Archaeology department
- Conducting regular Advisory council meetings of Archives and Museums department at least every two months
- Museum department should publish international standard catalogues
- Steps to be taken to handover the coins kept in Museums to Numismatics study centre under Archaeology department
- Divide Museum and Zoo Departments and attach Museums with Archaeology department
- Give priority for the construction of new building for Sree Chithra Art Gallery.
- Yearly evaluation of activities of all cultural institutions
- Establishment of Cultural Directorate for co-ordinating the activities of all cultural institutions
- Archaeological department should give importance to excavations; at least one pre-historic site must be excavated every year
- Request Central Government to relax the law regarding construction of buildings at least 200 meters away in the case of megalithic monuments considering special situation that exist in the state
- Establishment of Cultural Directorate for co-ordinating the activities of all cultural institutions
- Co-ordinate the activities of Kerala Book Marketing Society, The State Institute of Languages, State Institute of Children’s Literature, State Institute of Encyclopaedia publications etc. to avoid overlapping of activities.
- For internationally acclaimed art forms a nodal agency must be appointed to make use of economic prospects of that art form in international level
- To make the activities of Art & Heritage commission transparent & effective
- Support folk artists by increasing plan assistance to Folklore Academy
- Take steps to translate books related to Kerala art forms to English language
- To bring foreign “Keralan Scholars” under a common form called “Friends of Kerala”.
- To give instruction to cultural department to extent the cultural activities through arts-clubs, heritage-clubs, literary-clubs in colleges and other educational institutions.

Approach, Strategy and Thrust Areas

- Twelfth plan envisages for the implementation of a comprehensive plan for the preservation of the archaeological heritage and development of the monument complexes and museums.

- Due to the pressures of urban growth, encroachments pose a serious problem for monuments. In order to avoid this problem stress has been laid on demarcating the protected limits of monuments and to provide a grill/crimped-mesh fencing around them.
- Thrust in the Twelfth Plan will be on modernisation of preservation facilities to accelerate the pace of repair and rehabilitation of records. It aims to formulate perspective plans for the important monuments in each circle so as to ensure their integrated development.
- Preservation/digitalisation of rare manuscripts, historical document/paintings needs to be done in a time-bound manner to save them from the ravages of time.
- To widen the programme for bibliographic control documentation
- To keep pace with the latest developments in information technology in public libraries, the upgrading and networking of state and district libraries is also planned.
- Emphasis must be laid on strengthening inter-organisational networks to introduce a management-oriented approach in the administration of cultural institutions. Net-working amongst museums will be strengthened enabling these institutions to share their experience and resources in undertaking in-service training, organising exhibitions etc.
- Strengthen the process of modernisation of galleries, digital documentation of antiquities, and publication of catalogues, museum guides, picture post-cards and other informative material.
- Efforts are to be made for the preservation of archaeological heritage and development of monument complexes and museums, besides the archival heritage
- Strengthening of infrastructure, training and orientation, publication programme and research in physical anthropology.
- Involvement of University Departments of History and Archaeology in survey of heritage sites
- Need for greater support for performing arts and for correcting the distortions induced by selective support of market forces
- The possibility for outsourcing in areas like consultancy and maintenance needs to be examined. PPP models may be explored for development of monuments.
- Greater involvement of Universities in schemes of Lalit Kala, Sangeet Nataka and Sahitya Academies; Fine arts to be included as a subject in Universities.
- A Cultural Heritage Volunteers Forum will be set up in schools/colleges/universities

Twelfth Plan Outlay

14.2.4 The Twelfth Plan Outlay of this sector is ₹49100 lakh.

Key Initiatives of the first two years

- In the first two years of Twelfth plan, 2012-13 & 2013-14 an amount of ₹1400 lakh and ₹700 lakh were earmarked respectively for the setting up of Archaeological Heritage Museum at District level. It was proposed to set up Archaeology/Heritage Museums in each district. In the first phase steps have been taken to set up museums in 5 districts. In 2013-14 department intends to set up museums in other 5 districts on a priority basis.
- The three initiatives in the second year of the Twelfth plan are “Construction of Public Sculptures in Major Cities”, “Rejuvenation of Drama and organizing theatre workshop for School going students” and “revival of dying art forms of Kerala”.

14.2.5 The purpose of the scheme “construction of public sculptures in major cities” is to encourage Malayalee artist below the age of 50. The scheme “Rejuvenation of drama and theatre workshop for school going students” envisages the revival of drama through promoting performance on a regular basis. It is proposed that in phase I, which will be a pilot in Thiruvananthapuram, Kochi and Kozhikode would have a performance every week throughout the year and it also envisages famous theatre personalities conducting workshop for school going students at the locations where the rejuvenation of drama programmes take place. The scheme, “revival of dying art forms of Kerala” envisages the identification of dying art forms and artists and supporting them by encouraging performance in major cities and towns. This programme along with the programme on rejuvenating drama would lead to regular performance and the setting up of stages and venues in most cities and towns. The scheme will be implemented by Sangeetha Nataka Academy with the support of folklore academy.

Critical Gaps to be addressed in the next three years

14.2.6 While formulating the suggestions and recommendations in the working group report, focus is needed on the following critical areas for designing appropriate interventions: (i) All forms of art and culture should have an equal footing and deserve financial and other support. (ii) The upkeep and maintenance of museums and archaeological sites will be considerably improved with introduction of modern technology and redeployment of existing staff (iii) State /district libraries will develop special collections and technological support for visually challenged and hearing-impaired (iv) The possibility for outsourcing in areas like consultancy and maintenance needs to be examined. PPP models may be explored for development of monuments (v) Formulation of perspective plans for the important monuments is conceived in each circle so as to ensure their integrated development.

Physical Targets and Deliverables

- Department of Archaeology: (a) Conservation and preservation of 145 protected monuments in the state (b) Upgradation and conservation of 10 Archaeological Museums under the Department in a phased manner.
- State Archives Department: (a) Phased digitization of thousands of records in the Archival repositories (b) Scientific preservation, digitization, translation and publication of important Palm Leaf Manuscripts from the stock of over 1.5 crore Palm Leaf Manuscripts available at various repositories.
- Kerala Folklore Academy: Establishment of 5 new Kala Gramams

- State Institute of Encyclopaedic Publications: (a) Publish the last 5 volumes of the Malayalam Encyclopaedia (b) Publish the final 3 volumes of the Encyclopaedia of World Literature.
- Kerala State Chalachirita Academy: (a) One theatre complex in Thiruvananthapuram (b) International Film Centre in Kazhakkootam, Thiruvananthapuram
- State Institute of Children's Literature: 100 numbers of Children's Books to be published every year
- Kerala State Library Council: (a) Develop 14 Model Village Libraries (b) Develop 14 Academic Study Centres

14.3 Information and Publicity

14.3.1 State's public relation activities and information services are envisaged under information and publicity. These activities are essential in disseminating various information concerning the Government and Government departments, feeding the Government with the public views, and ensuring a healthy relationship between the Government and the public by acting as a meaningful link between them.

Approach, Strategy and Thrust Areas

14.3.2 During the 12th plan period, Department of Information and Public Relations proposes to strengthen the e-governance initiatives to make the office paperless by using the Digital Document Filing System (DDFS). Strengthening of the web and new media division for online website updating and designing and hosting a new web portal under the banner of human development report is to be implemented during the 12th plan. It is also proposed to strengthen and maintain the edit suit and expansion of the existing video clip mail service under the electronic media division of I & PRD. The activities related to the production and telecast of *Navakeralam* magazine programme presented by Hon'ble Chief Minister and Ministers on Doordarshan and AIR and other channels, the *Janapatham* Radio programme and Priyakeralam Doordarshan programme are to be further strengthened. The district cells started to settle the complaints at the grass roots level under Sutharyakeralam programme would be equipped as more user friendly to the public.

14.3.3 For promoting and coordinating study and research in the field of journalism in the state, the Kerala Press Academy visualized implementing the Vision 2025 project and Media Education and Research Kerala project during the 12th plan. The activities of C-DIT like capacity building and corporate restructuring, strengthening research and development activities, programmes focusing on gender equity, cyber darshan programme on cyber security etc. would be continued and implemented in highly developed mode.

Twelfth Plan Outlay

14.3.4 A projected outlay of ₹148 crore has made for the information and publicity sector. This includes a tentative allocation of ₹125.50 crore to I & PR Department, ₹17.50 crore to C-DIT and ₹5 crore to Press Academy.

Key Initiatives of the first two years

14.3.5 e-Governance: As part of Sutharyakeralam programme, a novel move to ensure transparency in administration was started with the 24 hour live webcasting from the official chamber of Hon'ble Chief Minister in the State Secretariat. The people can watch live meetings, press conferences and cabinet briefings by logging on to *www.keralacm.gov.in*. In addition to the above facilities, toll free numbers would be functional round the clock, for citizens to lodge petitions and track petitions given to the Hon'ble Chief Minister. People can submit complaints or suggestions through the call centre which can be accessed from all over the world.

14.3.6 Strengthening of the Scrutiny wing: The project introduced in the Annual plan 2012-13 intended for feedback survey through external agencies, scrutiny of news based visual media programmes and maintenance of digital archives.

14.3.7 Integrated Development News Grid: The scheme started in 2012-13 aims the timely reporting of the development news at the Local Self Government level and thus bringing the attention of the rest of the world to the day to day developmental activities.

14.3.8 Video wall Network: Dissemination of information regarding various development and welfare schemes of the Govt. through LED display board in the district HQs is the objective of the scheme. It is proposed to cover the video wall network system in all districts during the 12th plan.

14.3.9 Information, Education and Communication (IEC) Wing: The major activities of the project includes the setting up of an IEC unit under Information Public Relations Department to support various Government bodies in the dissemination of information and awareness generation regarding various schemes and programmes.

14.3.10 Media City: Media city visualized in the Annual plan 2013-14 proposes to create an appropriate environment for freedom to creativity in an ideal location with the presence of all kinds of media related firms viz: broadcasting, publishing, production and post-production, advertising and marketing services, new media and audio and music etc. in a single premise.

Physical Targets and Deliverables

14.3.11 As a part of strengthening the exhibition wing, the Department of I & PRD has started one mobile exhibition unit. During the 12th plan period it is decided to establish three mobile exhibition units. In addition to these the Department proposes to construct media centres at par with PR chamber in the Govt. Secretariat, in all the districts except Ernakulam and Wayanad. It is expected that the developmental activities of the Tagore Centenary Hall, Vazhuthacaud, Thiruvananthapuram into a multipurpose cultural centre for facilitating various cultural and entertainment activities will be completed by the end of 2014-15. The integrated development news grid project for reporting development news at LSGs has been on track in six districts and it will be extended to other districts also. The video wall networking system started for disseminating information regarding various developmental and welfare schemes of the Govt. through LED display boards installed at Thiruvananthapuram on trial basis will be extended in the remaining districts.

Chapter 15

OTHER SERVICES

...this chapter deals with various departments that are coming under other services... the important among them are police, disaster management, public distribution system and registration...

15.1 The 'Other Services' includes the following two sub sectors viz. (1) Stationery & Printing and Public Works, and (2) General Economic Services. Under General Economic Services following 23 departments/agencies are implementing various plan programmes, viz. (i) State Planning Board (ii) Central Plan Monitoring Unit (iii) Institute of Management in Government (iv) Centre for Development Studies (v) State Legislature (vi) Treasury (vii) Registration (viii) Kerala Public Service Commission (ix) Vigilance Department (x) Law Secretariat (xi) Local Fund Audit (xii) Police (xiii) High Court of Kerala (xiv) Directorate of Prosecution (xv) Excise (xvi) Gulati Institute of Finance and Taxation (xvii) Land Revenue (xviii) Institute of Land and Disaster Management (xix) Disaster Management (xx) SPV for development of Varkala (xxi) Economic & Statistics (xxii) Civil Supplies, and (xxiii) Weights and Measures.

15.2 All the above departments/agencies are implementing different types of programmes under plan and among these Police, Disaster Management, Civil Supplies and Registration are the important departments.

Department of Police

15.3 Kerala Police department has embarked on a major modernization program to tackle the challenges of the 21st century especially through implementation of various technology-intensive IT enabled projects. A number of projects are running successfully with considerable benefits to the department and to the citizens. The implementation of these projects will enhance the efficiency of the department especially in cutting edge areas of field level policing and it will also immensely improve the quality of public services rendered by the department. Some of the key initiatives proposed for the Twelfth Plan are (i) Community Policing (Janamaithri Suraksha Project) (ii) Student Police Cadet (SPC) (iii) Upgradation of Policing in Colonies (iv) Technology Upgradation of Cyber Crime Investigation (v) Developing of Professional Office Work Stations (vi) Improvement of Crime Investigation (vii) Internal Administrative Processing System (iAPS) (viii) ICT Enabled Citizen Helpdesk in Police Stations (ix) Upgradation of Telecommunication facilities (x) Streamlining

Police Response - Facilitating Intelligence Driven Policing for Better Service Delivery to Citizens (xi) GIS Enabled Law Enforcement for Better Service Delivery to Citizens (xii) Accident Reduction Management (xiii) Upgradation of Scientific Analysis of Evidence and Forensics (xiv) Gender Awareness and Gender Friendly Infrastructure Facilities in Police Department, and (xv) Upgradation of the Police Department (13th Finance Commission Award).

Disaster Management

15.4 The following are the schemes implemented by the Disaster Management Department with plan assistance viz. (i) SDMA Building Construction (ii) Preparation of Disaster management Plans and funding mechanism for implementing these plans (iii) Institutional strengthening of SDMA and DDMA's (iv) State/District Emergency Operation Centres (v) Science and Technology for DRR (vi) Natural Hazard Mitigation and Management, and (vii) Anthropogenic Hazards-Mitigation. Some of the challenges being experienced by the State in the realm of disaster management are the following.

- State Disaster Management Authority (SDMA) being the most important policy making body has no proper technical assistance and other backups, hence, not been able to be completely effective. Disaster Management (DM) Authority is not yet fully functional
- Lack of framework for implementation of the National DM Act, National Dm Policy and State DM Policy.
- Specific hazard risks and vulnerability of the State are not known and hence not able to specify measures to be taken for their prevention or mitigation.
- Lack of proper guidelines for preparation of disaster management plans at various levels and absence of workable DM Plans.
- Financing the measures for prevention and mitigation that include (a) Structural Measures (b) Non Structural Measures.
- Lack of guidelines for integrating of measures for prevention and mitigation in to development planning; Development tend to overlook disaster risks; PRIs do not have the capacity to react institutionally to disasters
- Absence of effective early warning systems and need for strengthening alternative communication systems; Delayed response; Coordinated and unified response in the event of any threatening disaster; monitoring of management of disasters in the State
- Promotion of general education, awareness and community participation. Facilitation of knowledge sharing
- No system for examining the constructions in the State and to ensure compliance of standards; Lack of capacities for compliance of building codes and other development control regimes
- Regular updation of DM plans, working of emergency communication systems and organizing of DM drills periodically
- Inadequate coordination among various government departments and also other stakeholders; Non-existent and non-familiarization with SOPs to be followed in DM

- Absence of a cadre of trained volunteers grouped into sectoral taskforces, in order to undertake emergency support functions at the community level.
- Lack of resources to undertake measures like mass evacuation & rescue; Setting up and/or operationalising Emergency Operation Centres (EOCs) at the state and district levels; Failures to keep essential inventories at various levels. Developing appropriate Search and Rescue capacity and state disaster response force
- Human resource development for DM and of DM authorities and institutions

15.5 The Working Group on Disaster Management recommended that the need of the hour is to develop a state specific 'Framework for Mainstreaming Disaster Risk Reduction into Development' and test it in the Twelfth Plan period. Such a framework having policy, politics & legislation, knowledge and practice aspects may be developed through a participatory process which will inter alia generate political will and ownership towards mainstreaming.

Public Distribution System

15.6 Civil Supplies Department with plan assistance is implementing the following schemes viz. (i) Annapoorna Scheme (ii) Capacity Building and Consumer Welfare Fund (iii) Council for Food Research and Development (CFRD) (iv) Food Quality Monitoring Laboratory (FQML) (v) College of Indigenous Food Technology (vi) Food Processing Training Centre, and (vii) Mega food Park.

15.7 At the national level, a number of initiatives have been taken to make significant improvements in the administration of Targeted Public Distribution System (TPDS). The foremost amongst them is the move towards facilitating rights-based approach under TPDS by enacting the National Food Security Act. It is expected to provide food and nutritional security, in human life-cycle approach, by ensuring access to adequate quantity of quality food at affordable prices to people to live a life with dignity. The Twelfth Plan document of Government of India envisages major reforms in the TPDS to bring about more efficiency in the system with enhanced transparency and accountability. It proposes implementation of end-to-end computerisation of the TPDS operations in the Country with the help of a comprehensive Central Plan scheme. This should not only address current challenges but also facilitate proper tracking foodgrains and lifting by consumers using Aadhaar numbers or adopting innovative methods like smart cards.

15.8 The Twelfth Plan Approach paper of Kerala also underlines reforms in the PDS. It says that reforms to plug the leakages in the PDS system such as end to end computerization of the entire PDS chain, introduction of GPS tracking and activating vigilance committees would be undertaken during the Twelfth Plan. To realize these objectives the Department of Civil Supplies has initiated actions on a fast track mode. A series of discussions and a national level workshop have been held and a detailed project report prepared based on the inputs and suggestions emanated. The objectives of modernization of PDS in the State will be as follows:

- Total transparency in the beneficiary database, implying that all ration cards are genuine without any fake or ghost claimant and put in a prompt and effective machinery to ensure that the ration card services to the citizen are offered in a very convenient and effective manner.

- Proper accounting in the food grains allocation and transparency at all levels in the allotment of food grains and kerosene, implying that each ration card receives its proper allotment of food grains and kerosene without any diversion.
- Accessibility to information on the allocation, quality, entitlement and stock availability of food grains & kerosene at all levels including Wholesale Depots, Authorized Retail Depots and to the primary level of the ration cards holder.
- A proper supply chain management which has a strong logistic backbone to ensure timely lifting of food grains and kerosene from FCI Depots and Refinery sale point stocking and issue of commodities at the wholesale and retail point.
- An effective and real time system able to detect stock and availability, and placement of stock to ensure that no breakdown in the entire supply chain management is there. Ideally this has been sought to be addressed through the provisioning of door to door delivery and ensuring tracking of food grain movement through a Geographical Information System (GIS) platform coupled with GPS (Global Positioning System) based Vehicle Tracking System which can provide real time input on stock location and quantity.
- A responsive grievance redress system that is able to record the complaint or grievance from the beneficiary/ ration card holders and respond to the problem area with a proper record of the response thereof. It has been suggested that toll free numbers, customers help lines and extensive use of the internet be done including bringing in the concept of M-governance or mobile governances wherein SMS alerts and feedback could be provisioned for from the computerized system to the end consumer /ration card holder.

Registration

15.9 Major initiative of the Twelfth Plan is to fully computerize the Registration Department with the objectives of; 1) streamlining its works such as document registering, storage and retrieval of the documents, 2) making its operation more transparent and 3) providing the public with better and efficient services. The key deliverables of this initiative are as follows: (i) Standardization of formats for all kinds of deeds (ii) E-Stamping & E-Payment (iii) Digitization of legacy records (iv) Linking fair value details with the registration system (v) Digitally signed certificate system for partnership and society registrations (vi) Integration with Revenue Department for online mutation (vii) Introduction of web-based application software in the Sub Registry Offices.

15.10 Another initiative required is to modernize the Registration Department with modern facilities. Infrastructure facilities of the Sub Registrar offices are to be improved. In Kerala, the component of modernizing the administration of land records under the Centrally Sponsored Scheme 'National Land Records Modernization Programme' (NLRMP) is implemented by the Registration Department with 75% Central assistance. The objective is to develop a modern comprehensive and transparent land record system with file guarantee with single window citizen interface. Thiruvananthapuram, Thrissur and Malappuram are the pilot districts selected for implementation of NLRMP in the state. Thrust areas are computerization of Sub Registry offices, Data entry of valuation details of 100 offices, data entry of Legacy encumbrance data, scanning and preservation of old documents (5 offices), data verification, providing additional nodes in Sub-Registry Offices, installation of

compactors in Record Rooms and providing stand-by digital cameras. An indicative outlay of ₹40.00 crore has been made for the Department of Registration for the Twelfth Five Year Plan. Of this an amount of ₹9.00 crore is earmarked as State share for the NLRMP.

Twelfth Plan Outlay

15.11 The department wise proposed outlay is given in Table 15.1.

Table 15.1
Twelfth Plan – Tentative Outlay

Sl.No.	Sub Sector/Department	Outlay (₹ crore)
1	State Planning Board	52.85
2	Central Plan Monitoring Unit	2.07
3	Institute of Management in Government	66.50
4	Centre for Development Studies	18.00
5	State Legislature	4.58
6	Treasury	55.00
7	Registration	40.00
8	Kerala Public Service Commission	10.00
9	Vigilance Department	8.00
10	Law Secretariat	4.5
11	Local Fund Audit	6.00
12	Police	210.00
13	High Court of Kerala	1.75
14	Directorate of Prosecution	5.75
15	Excise	10.50
16	Gulati Institute of Finance and Taxation	3.00
17	Land Revenue	100.00
18	Institute of Land and Disaster Management	4.50
19	Department of Survey and Land Records	4.00
20	Disaster Management	55.00
21	SPV for development of Varkala	10.00
22	Economic & Statistics	13.00
23	Civil Supplies	44.00
24	Weights and Measures	25.00
25	Stationery & Printing	69.00
26	Public Works	257.00

Chapter 16

DECENTRALISED PLANNING

...the grama sabha and ward sabha agenda should be well structured and discussions centered around the check list to be developed for the purpose... the five year plan of local govt. should be prepared and integrated into a district plan through an interactive process... independent social audit has to be incorporated in the laws... this chapter gives a detailed account of the decentralized planning initiatives in the state...

16.1 Kerala's Decentralization is unique in the State that has been able to assign well defined development responsibilities to its LGs. Critical areas related to human development, poverty reduction, basic minimum needs, social security and economic development especially in the Agriculture and allied sectors have been transferred to LGs.

16.2 In Kerala at present there are 1209 local bodies which includes 1144 Rural local bodies (978 Grama Panchayats, 152 Block Panchayats and 14 District Panchayats) and 65 Urban local bodies (60 Municipalities and 5 Corporations). These LSGs are provided plan allocation from the state plan for two purposes. One is for implementing their own schemes for local development of the LSG concerned and other is to implement Centrally Sponsored and State Sponsored schemes transferred to LSGs.

16.3 The fund provided from the state plan to LSGs in the form of untied plan grant is for implementing projects for local development. LSGs have full freedom in formulating and implementing schemes after deciding their priority subject to a general overall framework. The allocation of development fund to LGs is being done in three categories - General sector, Special Component Plan (SCP) and Tribal Sub Plan (TSP). The outlay for each category is fixed on the basis of the recommendations of the IVth State Finance Commission (SFC) during the 12th Plan. The Commission recommended that at least 25% of the likely plan size should be devolved to LGs for development purpose. The annual increase has to be @ 12% which is the average growth rate of the plan size over the last three plans.

16.4 Even while the yearly step-up is strongly recommended, it would be subject to the free plan outlay available each year. However under no circumstances should any year's allocation be less than 25% of plan size assumed by the commission for that year. The fund would be inclusive of the devolution from the 13th Finance

Commission and the amount flowing to LGs from the proposed World Bank supported project namely, 'Kerala Local Government strengthening and Service Delivery Project'. The Commission recommends an increase of 12% during 2011-12 over the previous year both for SCP and TSP. During the subsequent years of the award period of SFC – IV, the outlay for SCP and TSP should be jointly fixed by LSGD, Finance Department and State Planning Board. SCP/TSP portion of development fund should be distributed on the basis of SC and ST population respectively. The LSGs allocated their plan funds mainly in three sectors viz. Productive, Service and Infrastructure. The Productive Sector includes Agriculture and Allied Sectors, Soil and Water Conservation, Irrigation and Industries. The Service Sector consists of Education and Allied Sectors, Health and Allied Services, Women and Children Development, Labour and Labour Welfare. The Infrastructure Sector includes energy, Transportation and Buildings. As far as the LSGs are concerned, they have a vital role in eradicating poverty at the local level by achieving increased production, productivity, income and employment generation.

Recommendations of the Working Group

- Grama Sabhas should have sub –structured for modeled on the lines of Residents Associations. Neighbourhood Groups may be organized consisting of 32 to 40 houses based on contiguity and network. These could be developed as discussion fora. Meeting of these groups should be held atleast two weeks before Grama Sabha/Ward Sabha.
- The role of Grama Sabha and Ward Sabha may be clearly laid down in a language understood to the common man and issued as G.O.
- All Local Governments and districts should prepare perspective plan by fast tracking the methodology of spatial planning developed in Kollam. Local Government may prepare Five Year Plans.
- The five year plan of Local Government should be prepared and integrated into a District Plan through and interactive process
- The Local Governments and respective departments jointly prepare SCP/TSP using the survey data recently made available
- Government may directly conduct mapping of assets of Local Governments through an independent mechanism
- Disclosure of budgets, accounts and audit findings should be made mandatory under section 4 of the Right to Information Act and formats prescribed for this easily under should by the citizens
- A new Chapter titled 'Fiscal Accountability' be introduced in the Kerala Panchayat Raj Act and Kerala Municipality Act
- A high power committee may be constituted consisting of eminent political leaders preferably bi-partisan, activists, academicians and officials to oversee the entire institutionalization process of decentralized planning.

Approach, Strategy and Thrust Areas

- Planning process has to be simplified and move towards Five Year Plans both at LSG level and District level to be updated each year

- Grama Sabha/Ward Sabha will be institutionalized by setting up Community Centres of appropriate design and technology
- Local bodies will be empowered and encouraged to enter into PPP arrangements at their level for promoting investment in the areas under their jurisdiction
- Local bodies will also be empowered to commercially utilize lands under their control to garner more resources for development
- A systematic effort will be made to help and encourage local bodies to collect more revenue from different sources in their respective areas
- Local bodies will be required to undertake reform measures in administration to achieve more efficient use of resources
- The line departments and LSGIs will be encouraged to have a well-defined approach to empowerment of women and Gender Development
- A one – off grant will be made to enable urban local bodies to meet their immediate commitments so that they can use revenue streams for future development
- Some financial flexibility will be given to local bodies through untied grants from the State Government. The Centre will also be requested to create such flexi-funds for implementation of their programmes through local bodies.
- Special Grama Sabhas will be convened for the families of differently abled and the mentally challenged persons
- Formulation of District Master Plan with long term vision for spatial planning in all the districts will be carried out with the co-operation of LSGs
- Citizens Watch Committee will be established at the LSG level to watch the progress of schemes by conducting social audit
- Technical Advisory Groups which are seen to be points of delay in clearances will be dispensed with and normal procedures laid down in the rules will be followed and approval of competent authority obtained as per rules without going through the TAG process
- The line departments and LSGIs will also be encouraged to strengthen the Gender Budgeting initiative and also to move on to Gender sensitive monitoring and gender development programme
- Provision for burial/cremation ground will be ensured in all local bodies

Twelfth Plan Outlay

16.5 During the 12th Plan period, an amount of ₹25000 crores which is 25% of the total outlay of the 12th Plan is set apart for Local Governments for implementing projects based on local needs.

PLAN MONITORING AND GOVERNANCE

...while preparing plans for different departments at the state level, it is recommended that they have formal consultations with and consider suggestions from the district planning committees... there is a need for greater budget transparency especially regarding development schemes... all local governments and govt. departments should have a disclosure policy, stating the items which would be proactively brought into public domain in the prescribed disclosure format... this chapter comprises of the following two sub sections, plan monitoring and e-governance...

17.1 Plan Monitoring

17.1.1 The effective implementation of Plan Schemes depends on the timely and systematic monitoring of its progress at all levels. During the 12th Plan, besides the regular financial progress review, focus will be on physical achievements or in other words the approach will be ‘outcome’ based. Plan Monitoring will be strengthened and systematized at all levels right from Govt. Secretary to implementing agency level. Necessary training will be imparted to the officials involved in the plan monitoring process for which suitable institutional mechanism will be established in the State Planning Board.

17.1.2 The Plan expenditure, during the previous years, reveals that there is short fall in expenditure under the following categories of schemes, viz i) Centrally Sponsored Schemes (CSS), (ii) Other Additional Central Assistance (OCA), (iii) Externally Aided Projects (EAP),(iv) Finance Commission Award (FCA), (v) One Time Additional Central Assistance (OTACA), (vi) Rural Infrastructural Development Fund (RIDF) and (vii) flagship programmes. Hence there should be an effective mechanism for the close monitoring of the implementation of these schemes. Similarly, the implementation of Special Component Plan for Scheduled Castes and Tribal Sub Plan for Scheduled Tribes will be effectively monitored at the state level so as to ensure corrective course of action as and when required. The utilization of plan outlays provided for the development of the Backward Classes, Minorities and welfare of the economically backward sections among the forward communities will also be closely monitored during the 12th plan period.

Approach, Strategy and Thrust Areas

17.1.3 The approach of the 12th Five Year Plan is, ‘Monitoring of Implementation will be a key objective, so as to make most effective use of resources within given time

frames'. Plan Monitoring will be a continuous activity throughout the planning cycle to assess how well the plan is working. It will help determine the need for further corrective action, and possible changes and improvements in policy statements and plans.

17.1.4 Plan progress is reviewed in the Govt. level every month by the Chief Secretary in the meeting of Committee of Secretaries. It has been decided to bring in qualitative improvement in the review mechanism. As part of strengthening the Annual Plan review mechanism, an online plan review system (*planspace*) was introduced by the State Planning Board with the technical support of IIITM-K, a Govt. of Kerala undertaking. The *planspace* is a web based information system to monitor and evaluate the progress of implementation of all Plan Schemes across all departments in the State. Report generated from *planspace* is a real time data with latest information on the financial and physical progress of the scheme at various stages of implementation. The data generated from *planspace* is also used for plan monitoring at the Govt. level. Now, it has been decided to link *Planspace* with the Treasury Information System, which will help in real time updation of plan expenditure.

Key initiatives of the first two years

17.1.5 A Management Information System has been developed in order to help government Secretaries to review plan implementation progress frequently. Minister level reports can also be generated from this system. Govt. Secretaries can now closely monitor aspects of plan implementation such as Working Group approval, Administrative sanction pending, status of each of departments/sector's programme etc. on a real time basis. The Head of Departments and implementing agencies can also review plan progress on a real time basis using *planspace*. *Planspace* will be rolled out to the districts during the 12th plan so as to review the plan implementation at the district level by the District Collector and District Level Officers.

17.1.6 During 2012-13, an amount of ₹11,80,000/- was sanctioned for the above scheme and all the activities viz, additional development of the software application with customized reports, completed the training for 485 officers from 205 departments, hired a project officer for coordinating and monitoring the updation status of Departments have been completed. The sanctioned amount was also fully utilized. An amount of ₹14.50 lakh has been provided for the scheme, 'Plan Monitoring System (PLAN SPACE)' under 'Preparation of Plans and conduct of Surveys and Studies' during 2013-14.

17.2 Governance

17.2.1 Governance, the process of decision making and the process by which decisions are implemented or not implemented, is very important in the context of changing socio-economic scenario of the state. It is concerned with power, strategies policies, plans and projects that aim at improving the quality of life. Good governance is concerned with high quality in governance. Good governance has eight major characteristics. It is participatory, consensus oriented, accountable, transparent, responsive, effective and efficient, equitable and inclusive and follows the rule of law. It assures that corruption is minimized, the views of minorities are taken into account and that the voices of the most vulnerable in society are heard in decision-making. It is also responsive to the present and future needs of society.

17.2.2 An effective financial management system is the corner stone of good public administration. Overall economic development of the nation is dependent on

management of state finance and expenditure management. The Expenditure pattern is highly skewed in the state. The first two quarters of the financial year are mostly spent in preparing detailed project report and in getting sanction. The result is that the bulk of expenditure takes place in the later period of the year, particularly in the last quarter.

17.2.3 Good governance often requires delivery functions to be separated from policy-making functions in Government otherwise both can become less effective. Policy making and its delivery are two broad tasks of the government. Sound institutional arrangements play an important role in translating the vision, goals and strategic directions into effective action. A key structural reform in various countries towards achieving good governance has been the separation of policy and operational responsibilities.

17.2.4 Implementation of developmental programmes requires professional expertise. Provision for capacity building Training programmes should be made in each development programme and also for recruiting professionals from the open market. The role of civil society in planning and implementation process is relatively very low in the state. Civil Society which includes NGOs, academic and management institutions, and universities, has a crucial role to play. As per the present budget norms in the state, all unspent allocation lapse at the end of financial year. It leads to hasty expenditure or attempt to draw money and deposit it in bank accounts. Collaboration and co-ordination among different ministries and departments in the state are necessary for formulating and implementing strategic developmental programmes. Good governance also requires effective monitoring of flow of funds for development programmes. The present accounting system does not permit effective monitoring of the flow of fund from state government to districts and implementing agencies and its expenditure. On- line facility for tracking expenditure incurred in the field is limited in the state.

Recommendations of the Working Group

- Zero Base Budgeting (ZBB) is recommended to be taken up jointly by the State Planning Board and the departments concerned at the beginning of the Twelfth Five Year Plan. This is recommended for all the spill-over projects having commitments of more than ₹1 crore in the funds allotted for the Twelfth Plan as per a clear completion schedule.
- While preparing plans for different departments at the State level, it is recommended that they have formal consultations with and consider suggestions from the District Planning Committees. This is particularly essential for projects related to productive sectors, Irrigation, Roads, Health, Social Welfare, Water Supply, Power distribution, Education, etc.
- A single plan showing the flow of resources from all the sources, that is from the Local, State and Central Governments is recommended to be prepared for sectors like Agriculture, Animal Husbandry, Dairy Development, Social Welfare, Scheduled Castes and Scheduled Tribes Departments. At the implementation stage, the different components are to be followed as per the respective guidelines. This would to a greater extent avoid duplication and ensure synergy.
- From the first year of the Twelfth Five Year Plan, Result Based Framework (RBF) may be adopted. RBF means every plan proposal would unambiguously

indicate the objectives, activities, targets, costs, milestones, risks and mitigation measures, outputs and outcomes. To start with, Agriculture, Animal Husbandry, Dairy Development, Soil Conservation, Fisheries, Public Works Department, Irrigation, Water Supply and Urban Development departments may be taken up.

- If the RBF is adopted, it would be possible to approve the budget proposals meaningfully before the beginning of the financial year. RBF would also obviate the need for separate administrative sanction in most cases. Therefore, at least from the second year of the Twelfth Five Year Plan onwards, action may be initiated to prepare and present the budget in such a way that the discussion on the demands could be completed sufficiently early and the budget is passed before 1st April.
- There is a need for greater budget transparency especially regarding development schemes. Hence it is recommended that in the case of continuous infrastructure projects costing more than ₹1 crore there should be provisions to indicate the original cost and the original implementation period as well as the current estimated cost and the time period of completion.

Improving Citizen Participation

- It is recommended that the Grama Sabhas and Ward Sabhas need to be activated. A State-wide campaign may be launched for this purpose. The rights and duties of the members of such forum may be issued as in the form of a Government Order and sent to every household with a covering letter from the elected heads of the Local Governments / concerned. To make this forum effective in rural areas, sub systems may be put in place consisting of Neighbourhood Groups of 30 to 40 families on the lines of Resident Associations which exist in urban areas. Facilitators may be trained (at least 50 % women) for organising and conducting of Grama Sabha/ Ward Sabha meetings. [*One person per 50 families in rural areas and 100 families in urban areas*]. Grama sabha Kendras may be constructed in all Wards of Village Panchayats.
- Special Neighbourhood Groups covering tribal habitats may be organised through female members of families. These groups may be given focused training. Also educated youth may be properly equipped to function as social animators.
- In order to foster a sense of community among the differently-abled, Self Help Groups of such people may be organised. This would facilitate advocacy, demand for development, extension and feedback. In the case of mentally challenged persons who cannot participate directly, their guardians may be associated.
- A new campaign to inculcate civic culture may be launched in participation with Local Self-Governments and Kudumbashree
- Civil defence may be revived

Improvement of Services

- The proposed Service Delivery Bill which has been approved in principle may be strengthened to include the key features of the Service Delivery Policy of the

State which was approved by the Government during 2003, like Citizen Charters, Planning for service delivery, Public assessment of performance, etc.

- All Hospitals and offices of the Revenue, Civil Supplies, Registration and Police departments may be directed to prepare service delivery plans after consultation with stakeholders.
- Citizen Charters may be revised and reformulated by all Local Governments and all departments that provide public services
- Citizens Score Card System to evaluate public perception of services may be introduced in respect of hospital services, water supply, electricity supply roads and schools at the Panchayat and Municipal levels.
- Benchmarks may be developed for key services (to be identified) and performance indicators developed
- SEVOTTAM concept may be introduced in selected service delivery institutions. Based on experience, it may be extended to cover all major public service delivery institutions.
- Social Audit is recommended to be mandatory for all projects for which an independent system may be put in place directly under the Chief Minister

Implementation

- The recommendations of the High Power Committee to Expedite Projects set up under the Chairmanship of Shri. V. Ramachandran may be immediately implemented
- It is recommended that for all works costing ₹50 lakh and above it should be a mandatory to develop Project Evaluation Review Technique (PERT) charts using appropriate project management software which is to be put in the public domain
- Government may empanel institutions as well as experts whose services may be utilised for specialised technical functions like architecture, structural design, etc.
- Minimum standards and specifications may be developed for facilities and services of Anganwadies, schools and hospitals.
- Pay Clinics may be started in Taluk and District Hospitals as recommended by the Third Kerala Administrative Reforms Committee
- The schedule of rates for Central Public Works Department (CPWD) may be adopted for all centrally sponsored scheme, till such time the State is able to develop a cost sensitive Schedule of Rates (SOR).
- For all road works automatic five year maintenance should be built into the initial tender
- Third party Quality Assurance System may be put in place for all infrastructure works costing ₹25 lakh and more. For roads, the Quality Assurance System of Pradhan Mantri Gram Sadak Yojana (PMGSY) may be adopted.
- Government had come out with an Asset Management Policy (Appendix II). This may be operationalised without delay.

- For speedy clearance of files in Government / Departments the Desk Officer System may be introduced at the level of the Section Officer/ Superintendent and it must be ensured that there is only one intermediate level before final approval
- Financial Adviser System may be introduced in Secretariat departments as suggested by the Third Administrative Reforms Committee
- Heads of development departments may be declared as ex-officio. Additional Secretaries with the power to directly route files to the Secretary and the Minister for appropriate decision.

Staff Matters

- There should be a Human Resource Planning Wing within the State Planning Board which can make projections of Human Resource requirements for different public jobs and analyse the availability of such people for the next five to ten years period. Such information may be put in public domain.
- State Civil Service as recommended by the Third Administrative Reforms Committee may be created. This is absolutely essential for improving government performance and ensuring co-ordinated functioning of different departments.
- The scheme for placing Guest Officers from departments in the Secretariat to look after specialised tasks may be introduced. This would not require creation of new posts and can be achieved through redeployment.
- Civil Services Act may be brought into effect on the lines recommended by the Third Administrative Reforms Committee and the Second Administrative Reforms Commission of Government of India.
- The present system of conduct of work study is out-dated. Therefore, under the leadership of the Administrative Reforms Department, public agencies may be accredited and suitably oriented to carry out scientific work study which covers different aspects like simplification introduction of Information Technology (IT) based solutions, change of qualification of staff, outsourcing, etc. in a holistic manner.
- It is recommended that a new executive cadre of higher calibre - Chief Development Officers may be created for each Local Government. This service can seamlessly merge with the State Civil Service and later with the Indian Administrative Service.
- Strict placement norms should be introduced in all departments to ensure that backward areas like Wayanad, Idukki and Kasaragod, do not have unfilled vacancies. To ensure transparency, draft transfer orders should be put on the website and 10 days' period given before it is finalised.
- Considering the fact that there is difficulty in getting new recruits in the Health Services department, the retirement age of doctors is recommended to be raised to 60 years. Also a programme for developing specialists who are willing to work in the Health Services for the remaining part of their career (minimum of 10 years) may be put in place. A functional review of Secretariat and major Departments may be carried out, not to identify redundancy but to redefine roles

and responsibilities. This could be entrusted to special teams who could be trained by institutions like IIM, Bangalore.

- In the case of hostels and care institutions a policy decision may be taken to post qualified personnel (from social work and allied disciplines). For care institutions reputed NGOs may be hired on management contract after a transparent process of selection. Persons of repute may be appointed as honorary Wardens/ Managers in Hostels run by Scheduled Caste/Scheduled Tribe Departments and in Care Institutions in the Social Welfare Department. These institutions should also have Management Committees consisting of professionals and experts.
- For the posts of Tribal Extension Officers and Block Extension Officers, at least two-third of new posts should be earmarked for Post Graduates in Social Work and allied disciplines.
- For strengthening decentralised planning, District Planning Offices may be strengthened on the basis of number of Local Bodies. A separate monitoring unit in all District Planning Offices may be established for effective monitoring of plan/projects implementation under decentralised planning.

Training

- Mandatory training should be made compulsory for all incumbents at the induction stage as well as before each promotion
- A training network may be set up under the leadership of Institute of Management in Government (IMG) linking all the Government Training Institutions so that everybody can be trained according to a Comprehensive Training Plan
- To start with one per cent of the plan may be set apart as Corpus Fund for training and distributed among various training institutions according to proposals. A high level committee consisting of Chief Secretary, Finance Secretary and Secretary in charge of training could approve the proposal.
- A Centre for Good Governance may be set up in IMG on the lines of Centre for Good Governance (CGG), Hyderabad with focus on renewal of public system.
- A panel of Chartered Trainers may be created through vigorous selection process. These trainers-on-call could be utilized by different training institutions.
- A pool of experts/trainers may be created in the state-of-art project preparation and evaluation of Government projects from among officials of the departments, training institutions, technocrats, academic scholars and professionals.

Good Governance

- All Local Governments and Government Departments should have a disclosure policy, stating the items which would be proactively brought into the public domain in the prescribed disclosure format. As part of this, the list of beneficiaries of public programmes should be published. Also, every payment in works costing more than ₹5 lakh should be put on the web at least 5 days before actual payment.

- Queue System may be ensured in all cases where public file applications for getting certificates, licenses and other services from Government or Local Governments. This should be promptly exhibited and tear-away receipts should be given when applications are submitted, indicating the queue number and probable date of issue. Where ever possible software based approvals may be given. This is particularly relevant for Building Rules. This is recommended to be introduced in all the Corporations, Municipalities. The Public Distribution System (PDS) system may be fully computerised up to the ration card holder whose bio metric identity could be linked to the PDS outlet to track off take. Best practices of Tamil Nadu and Chhattisgarh in this regard may be suitably adapted in the State.
- Planning Board may set apart one per cent of the Plan as Good Governance. Fund to be given for proposals from departments and Local Governments which are path breaking in respect of Good Governance.
- As recommended by the Second Administrative Reforms Commission a Vigilance Commission may be set up in the State Government.
- A Law may be enacted as in Bihar for empowering Government to seize ill-gotten gains of public servants including elected officials obtained through corrupt means.

e-Governance

- All public assets may be mapped on Geographic Information System (GIS) and placed in the public domain with photographs, dimensions, year of construction and other relevant details.
- E-District Programme, now being piloted in two districts may be extended to all fourteen districts.
- Asset mapping done by Bhaskaracharya Institute for Space Applications and Geo-Informatics (BISAG) in Gujarat on GIS, a Government of Gujarat organization, may be adapted.
- Real time Expenditure Monitoring system may be operationalised by modifying the software deployed in Treasuries on the lines of the Central Plan Scheme Monitoring System. Only data related to their department need be accessible to the Heads of Departments and Secretaries concerned.
- E-Tendering may be made mandatory for all works costing ₹50 lakh and more covering all sectors.
- E-Procurement may be introduced in all departments for purchases other than local purchases. To start with five major purchasers of goods in Government may be included.
- For computerisation in Local Governments, National Informatics Centre (NIC) should be involved to work as formal partners of Information Kerala Mission (IKM) with defined roles and responsibilities.
- Grievance Redressal Software may be introduced in all districts, cities, corporations and major service delivery departments at the Government level. This would enable e-filing of complaints/ grievances which would automatically

be directed to the responsible officer. The software would bring it to the notice of the higher officer after a specified number of days if no action is taken. In this manner it can be taken up to the higher level. This would be a great boon to the senior officers to ensure timeliness, and the public to track their complaints.

- An Enquiry Counter should be opened in all offices having public dealings at the Taluk level and above. All departments may be directed to analyse the type of grievances received and streamline their procedure for grievance redressal. Just like Information Officers Notified Grievance Redressal Officers at appropriate levels need to be designated.

17.2.5 It is vital that systems for delivery of public services should be made citizen-friendly and time-bound. This requires reforms in implementing agencies, including the State Governments where most of the public services are delivered at the grass root level. Information and Communication Technology (ICT) can play a major role in achieving these results.

Approach, Strategy and Thrust Areas

- There is a need for taking a holistic view of the several e-Governance initiatives implemented in the State. A mission approach would need to be adopted, guided by a common vision, strategy and approach focusing on transforming Govt. services accessible to the common man through an integrated E-Governance initiative.
- The ongoing capacity building programmes on E-Governance would be strengthened. A partnership arrangement with premier management institutes would be worked out for capacity building for senior Govt. functionaries on governance.
- A major modernization initiatives for service delivery would be launched covering modernization of District Collectorates, Village Offices, Krishi Bhavans, and other E-Government offices with streamlined procedures, increase delegations and extensive use of ICT to improve faster delivery of services. E-administration is the right tool for introducing transparency and accountability in administration for rendering pro-poor services.
- It is proposed introduced a Service Delivery Bill for ensuring service delivery by Govt. officials within given time frame
- The Result Framework Document (RFD) system has been introduced in the Govt. Seretariate. It will be extended in phases to District Administrators, Local Bodies, Public Sector Enterprises, and Govt. Supported Bodies.
- The key to good governance lies in effective monitoring and review. Govt. will strive to put in place a strong review and monitoring mechanism for the Plan, based on physical and financial outcomes. A systematic evaluation exercise will also be undertaken, inclusive of third party evaluation. Such monitoring, review and evaluation will also be extended to identify iconic projects.
- Whenever any project is placed for approval of competent authority, it shall include an implementation schedule, indicating the activities involved, the time frames, the cost and approximate date of completion. Any extension beyond the

date of completion or any cost over-run will entail explanation of reasons for delay and fresh approval of competent authority.

- Effective campaign will be launched to make people aware of the Govt. programmes to remove disconnect between the target group and Govt.
- In order to promote co-ordination between Departments in service delivery and implementation of schemes, inter departmental mechanisms will be created wherever necessary.

Key initiative of the first two years

17.2.6 The State Government introduced hundred days program after assuming power to achieve faster development with transparency, protection and care. The programme includes disclosure of wealth and asset of ministers, their personal staff and senior officers, uploading of all government orders, contracts and agreements in Government web site, On line facility for filing of applications and for receiving fees for information as per “Right to Information Act”, formulation of Citizens Charter in all Government departments, formulation of system for Financial and Social Pre Audit for major projects in Kerala, ensuring transparency, planned resource spending and social gain from these Projects , round the clock functioning of Chief Minister's office, webcast live of functioning of the Chief Minister's office, Grievance Redressal Cell in all District Collectorate, Mass Contact Programmes, Special arrangements for monitoring programme implementation and evaluation; implementation of Performance Management and Evaluation System; department level coordination and combining of e-governance programmes; 25 kg. rice at Rs.1 per kg to all families living below the poverty line; effective implementation of Health Care Insurance Programme; “Ashraya Scheme” for the poorest of poor and the helpless; package for Endosulfan victims, implementation of “Moolampilly package”: rehabilitation of unmarried mothers of Wayanad; Insurance Package to meet hospital expenses of road accident victims; model Social Audit in all 14 districts; steps to make Kerala an investor-friendly State; formulation of an Investment Promotion and Employment Creation Agency and Investment Advisory Council; Special Economic Zone (SEZ) policy of the State, formulation of an Environment Impact Study Committee; steps to implement Smart City, Vizhinjam Harbour, Kochi Metro, Kannur Airport, Capital City Development Programmes etc; new policy for land acquisition; formation of development authorities; transparency in appointments etc.

17.2.7 The State Government announced a year-long (November, 2011 to October, 2012) action plan for the overall development of the state which aims at a stream programme which ensures corruption-free and transparent administration, protection of environment and solid waste management, higher growth and creation of employment opportunities, improvement of basic infrastructure and health care and skill development. The programme also focuses on development of knowledge based society, social security and welfare of people.

17.2.8 The State Government conducted mass contact programmes under the leadership of the Chief Minister to redress the grievances of people as announced in the 100 days programme. The programme was started in November, 2011. There were 501808 complaints were received in the mass contact programmes conducted in district centres. Out of the total complaints received, 281075 were disposed and an amount of ₹20.02 crore were dispersed.

Part II

Chapter 18

PERFORMANCE OF 10TH & 11TH FIVE YEAR PLAN

...a brief analysis of the performance of tenth and eleventh five year plan is attempted in this chapter...mainly consists of overall performance and sub sector wise details from agriculture and allied sectors to decentralized planning...

18.1 Overall Performance

18.1.1 The overall financial achievement during the Tenth Plan was 82% against the outlay of ₹25226 crore. The corresponding figure for the Eleventh Five Year Plan was 95% and ₹45605 crore. The sector wise details of outlay and expenditure during Tenth and Eleventh Five Year Plan are given in Table 18.1. Among the sectors, Agriculture, Special Area Development, Education, Industry and General Services exceeded their financial target by achieving expenditure above 100 per cent during the Tenth Five Year Plan. An analysis of financial achievement during the Tenth Plan further reveals that the lowest expenditure was incurred by General Economic Service (58%) followed by Social Service (67%) and Rural Development (76%), Energy sectors (76%). Fig.18.1 shows the sector wise outlay and expenditure during the Tenth Plan. During the Eleventh Five Year Plan Industry, Transport, Science & Technology, LSGD exceeded the outlay and achieved financial progress above 100 per cent. The performance under Special Area Development was the lowest (67%) followed by Irrigation (70%) and Social Services (74%) during the Eleventh Five Year Plan.

Table 18.1

Sector wise Outlay and Expenditure during 10th & 11th Five Year Plans

(₹ Crore)

	Sector	Tenth Plan (2002-07)			Eleventh Plan (2007-12)		
		Outlay	Expenditure	%	Outlay	Expenditure	%
1	Agri. & Allied Sector	1061.94	1160.15	109	2763.12	2698.03	98
2	Rural Development	1625.53	1242.87	76	1575.85	1492.9	95
3	Special Area Development	67.52	68.52	101	426.53	286.67	67
4	Irrigation	781.63	866.82	111	1707.43	1199.09	70
5	Energy	3608.09	2758.16	76	5077.34	4185.57	82
6	Industry	996.95	1157.6	116	1492.88	2070.11	139
7	Transport	2477.71	2378.19	96	4458.81	6580.46	148
8	Science & Technology	682.76	672.35	98	1192.07	1262.74	106
9	General Eco. Service	1230.79	716.33	58	1307.96	1300.23	99
10	Social Service	5749.13	3859.15	67	14957.11	11006.9	74
11	General Service	160.38	187.09	117	122.03	304.22	249
12	Plan Assistance to LSGI	6784	5521.76	81	10524.34	11009.95	105
	Total	25226.43	20588.99	82	45605.47	43396.87	95

Source: Plan Outlay and Expenditure (1951-2007), Vol. I & II, SPB, Govt. of Kerala, 2010

Fig. 18.1

Tenth Five Year Plan (2002-07) - Outlay and Expenditure

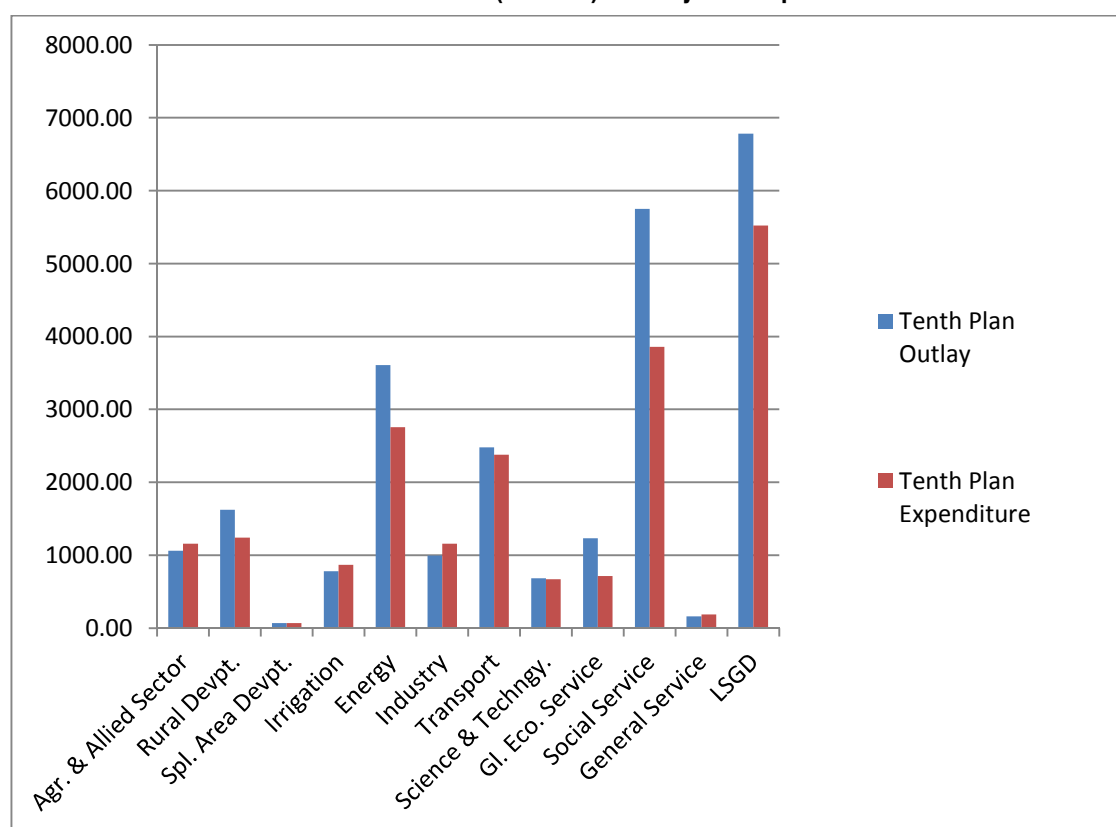
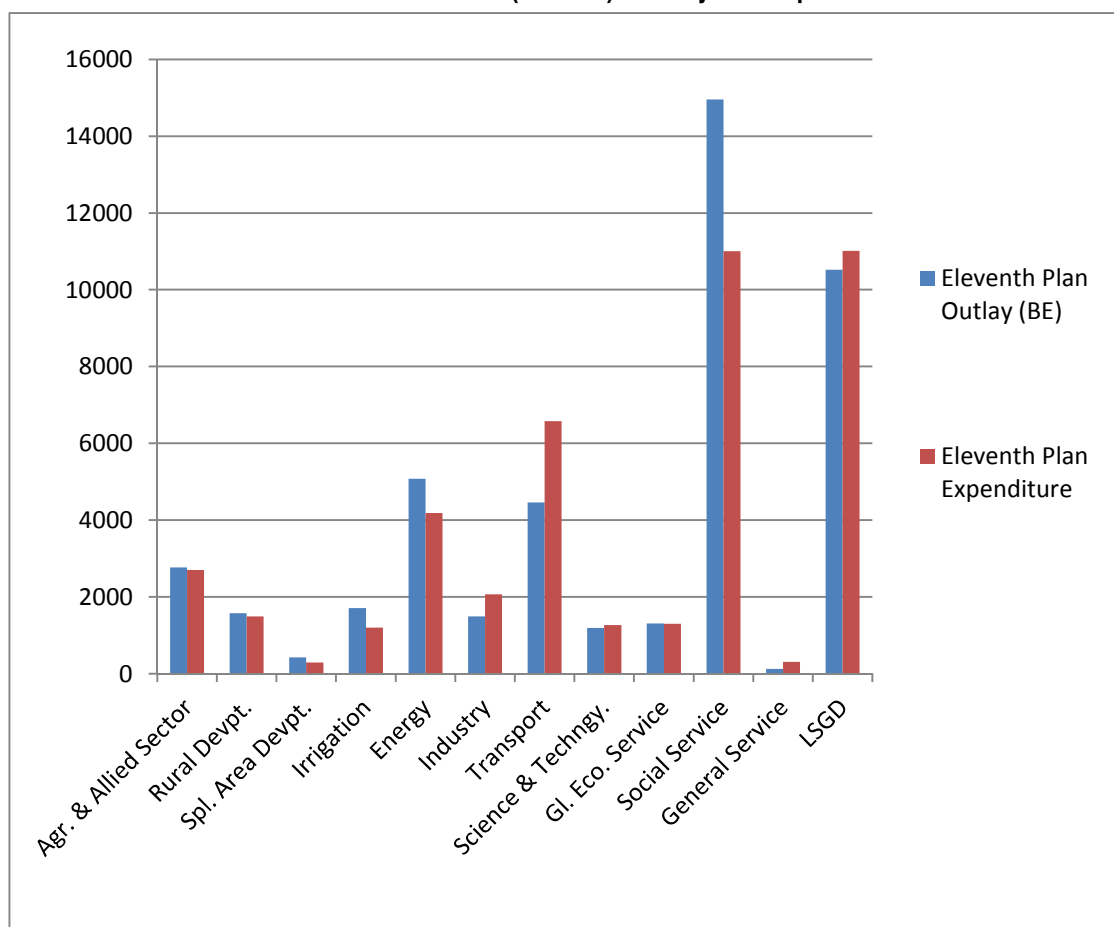


Fig. 18.2
Eleventh Five Year Plan (2007-12) - Outlay and Expenditure



18.1.2 A comparative analysis of the sector wise outlay and expenditure during the Tenth and Eleventh Five Year Plans reveals that the Social Service sector received 23 per cent of the total outlay during the Tenth Five Year Plan and 25 per cent during the Eleventh Five Year Plan (Please see Fig. 18.3 & 18.5). However, the share of expenditure of the Social Service Sector was 19 per cent and 25 per cent respectively during Tenth and Eleventh Five Year Plan (Please see Fig. 18.4 & 18.6). The LSGD's share of expenditure was 27 per cent and 25 per cent respectively against the share of outlay of 27 per cent and 23 per cent during Tenth and Eleventh Five Year Plan. Even though the share of outlay of Agriculture and Allied sector was 4 per cent and 6 per cent respectively during the above Plan periods, the share of expenditure was 6 per cent in both Plans. There seems to be considerable decrease in the share of outlay of Energy sector in the Eleventh Plan (10 per cent) compared to Tenth Plan (14 per cent). The share of expenditure also declined to 10 per cent and 13 per cent respectively. The share of the outlay of the Rural Development sector also sharply declined to 3 per cent in Eleventh Plan from 6 per cent in the Tenth Plan. However, the sector has succeeded in keeping the share of expenditure equal to the share of outlay. The Transport sector has utilized 12 per cent of the share of expenditure against 10 per cent of the share of outlay during the Tenth Plan. This trend continued during the Eleventh Five Year Plan also by keeping 15 per cent of the share of expenditure against the share of outlay of 10 per cent.

Fig. 18.3
Tenth Plan Outlay - Sector wise Share (%)

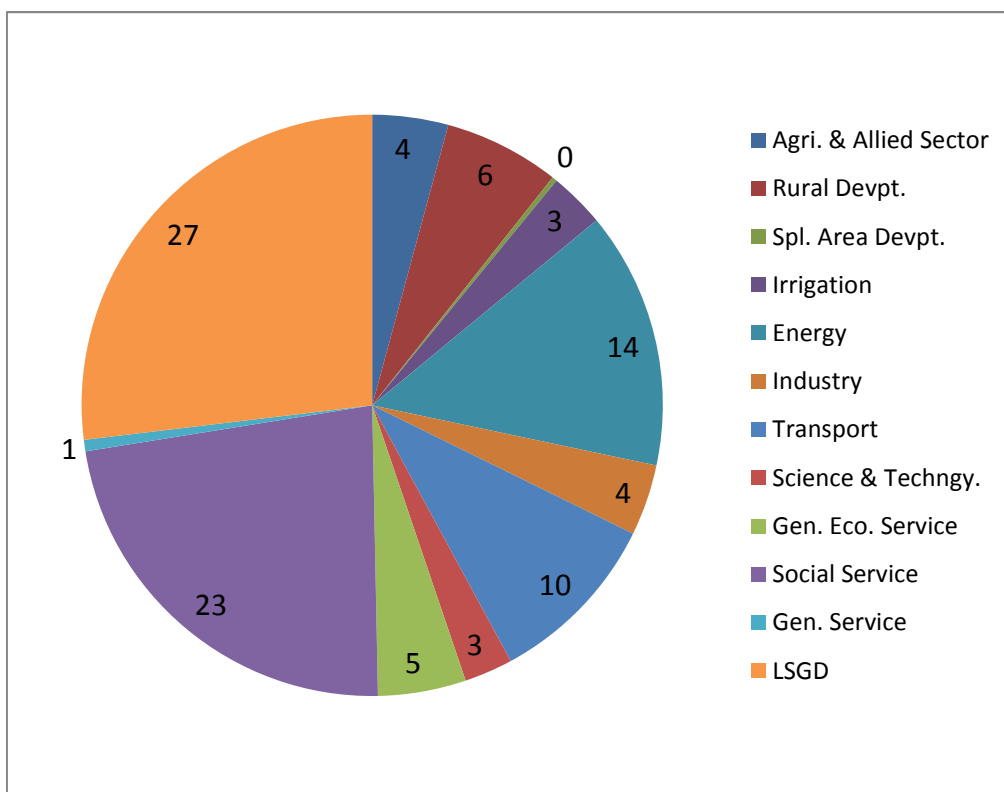


Fig. 18.4
Tenth Plan Expenditure - Sector wise Share (%)

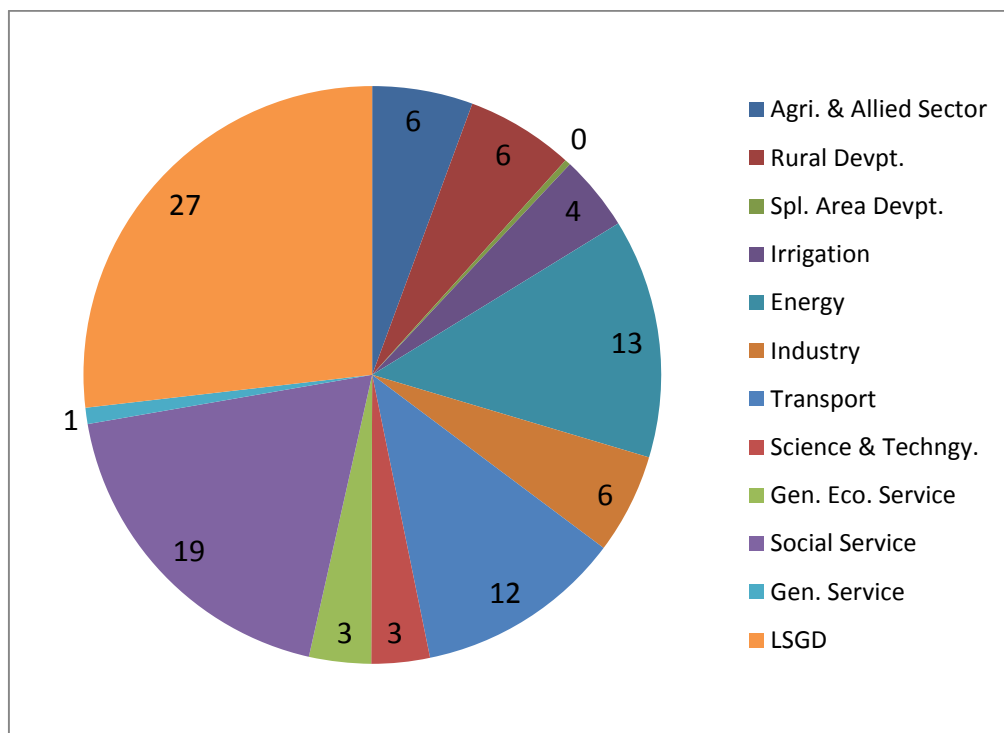


Fig. 18.5
Eleventh Plan Outlay - Sector wise Share (%)

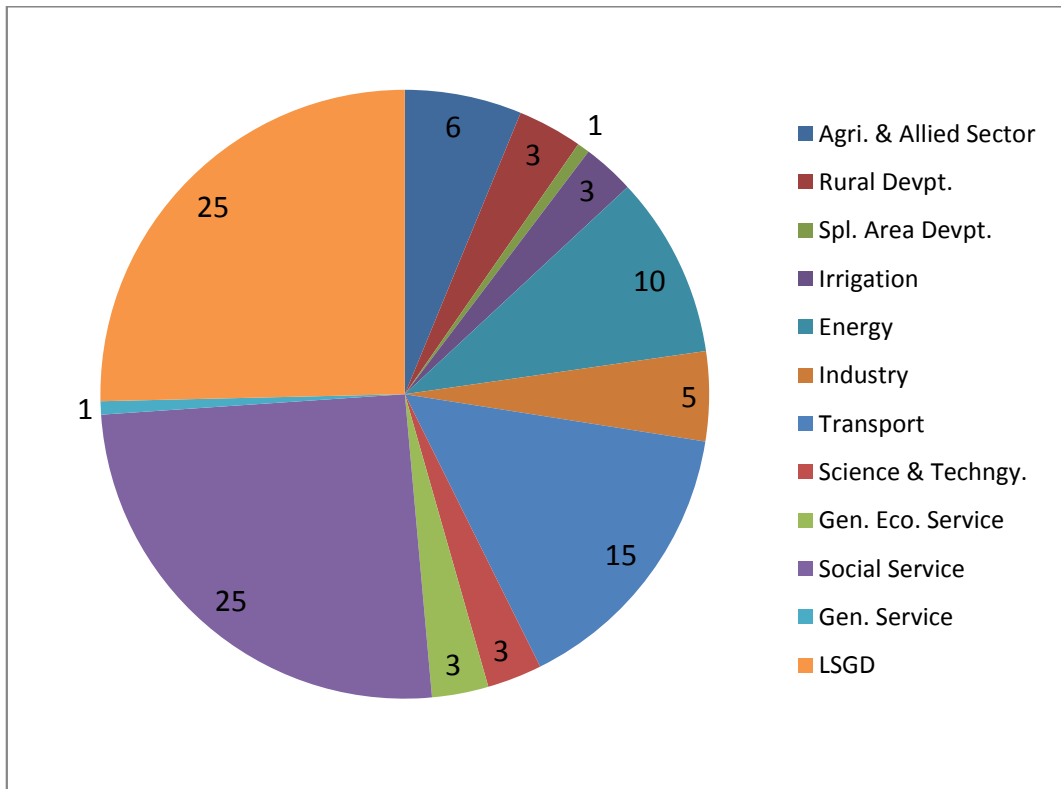
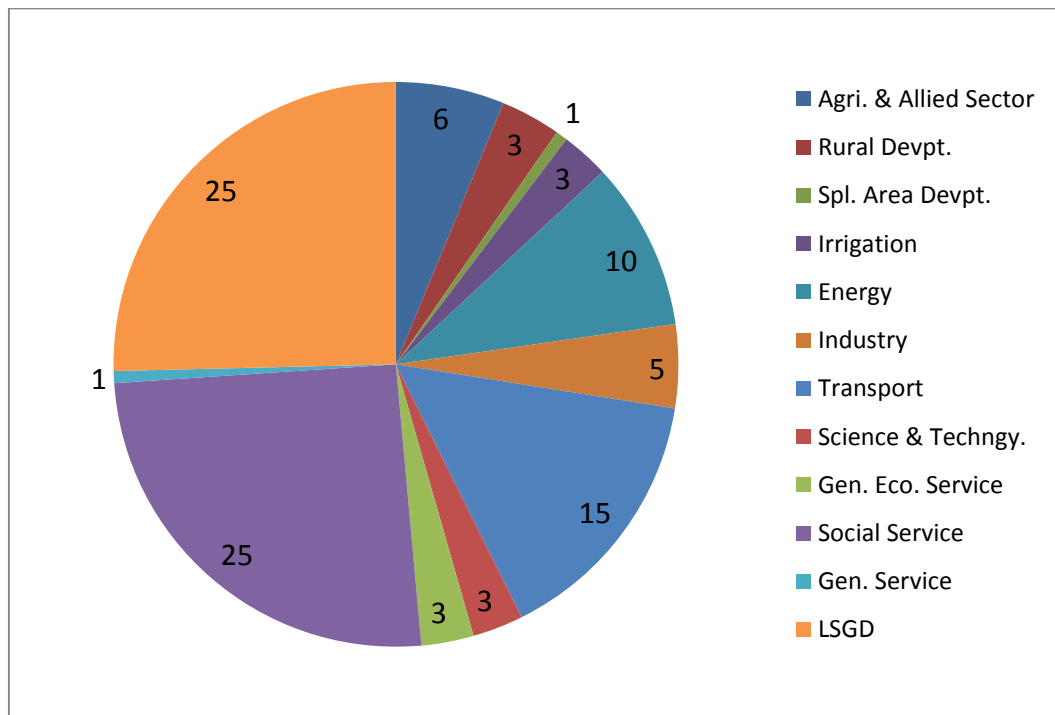


Fig. 18.6
Eleventh Plan Expenditure - Sector wise Share (%)



18.1.3 The year/sub sector wise Outlay and Expenditure during Eleventh Plan given Appendix II. The sub sector wise performance during the Tenth and Eleventh Plan are analyzed in the following paragraphs:

18.2 Agriculture and Allied Sectors

18.2.1 During the 10th Five Year Plan period the budgeted outlay for the Agriculture and Allied sectors are ₹1061.94 crore and the expenditure reported is ₹1160.14 crore. In the 11th Five Year Plan period the budgeted outlay for the Agriculture and Allied sectors are ₹2763.12 crore and the expenditure reported is ₹2698.04 crore. On 11th Five Year Plan period the total budgeted outlay for Agriculture and Allied sectors has been increased 160% compared to the 10th plan period. The expenditure during 11th plan is also increased 133% compared to the previous Plan period. The outlay and expenditure under tenth five year plan and eleventh five year plan are shown in Table 18.2.

Table 18.2

Outlay and expenditure for Tenth and Eleventh five year plan

(₹ in crore)

Sl. No.	Head of development	10 th FYP Budgeted outlay	10 th FYP Expenditure	11 th FYP Budgeted Outlay	11 th FYP Expenditure
1.	Crop Husbandry	317.06	284.28	424.88	535.97
2.	Soil & Water Conservation	90.63	107.36	153.74	122.59
3.	Animal Husbandry	229.34	163.56	500.43	466.69
4.	Dairy Development	11.12	12.66	71.50	67.92
5.	Fisheries	161.28	190.56	380.01	456.34
6.	Food Storage & Warehousing	2.50	0.75	2.25	1.75
7.	Agricultural Research and Education	117.60	116.32	181.25	170.94
8.	Investment in Financial institutions	24.50	22.55	3.50	4.70
9.	Co-operation	72.00	47.26	135.60	148.62
10.	Agricultural Marketing & Quality Control	35.91	85.19	113.70	38.50
11.	Other Programmes		129.65	796.26	684.02
	Total	1061.94	1160.14	2763.12	2698.04

18.2.2 The financial performance of agriculture including Crop Husbandry, Agriculture Marketing, Other Agriculture Programmes, Storage and Warehousing and Agriculture Research & Education is shown below in Table 18.3.

Table 18.3
Sub Sector wise Outlay and Expenditure

(₹ crore)

Sector	10 th Plan			11 th Plan			
	Outlay	Expenditure	%	Agreed outlay	Budgeted Outlay	Expenditure	%
Crop Husbandry	317.06	284.28	105	591.80	424.88	535.97	126
Agriculture Marketing	35.91	85.19	310	268	113.70	38.50	34
Other Agriculture Programmes		129.65		190	796.26	684.02	86
Storage and Warehousing	2.50	0.75	23	5.00	2.25	1.75	77.8
Sub Total	355.47	499.87	166	1054.8	1337.09	1260.24	
Agriculture Research & Education	117.60	116.32	99	187	181.25	170.94	94.3
Total	473.07	616.19	147	1241.80	1518.34	1431.18	94

18.2.3 During Xth Plan ₹616.19 crore had been expended (130%) against the budgeted outlay of ₹473.07 crore under Agriculture. During this period a comprehensive project for rehabilitation of root wilt affected palm was initiated. A scheme on promotion of paddy cultivation in fallow lands was also initiated.

18.2.4 Against the projected XIth plan agreed outlay of ₹1241.80 crore, an amount of ₹1518.34 crore was budgeted during the five years and the expenditure incurred was ₹1431.18 crore (94 %). During XIth Plan period a major Centrally Sponsored Scheme on RKVY was launched in 2007-08. Another major CSS implemented during this period is NHM. Financial performance of Crop Husbandry Sub Sector during XIth Plan is given in Table 18.4.

Table 18.4

Financial Performance of Crop Husbandry sub sector during 11th Plan

(₹ in Crores)

Sl. No.	Item	Budgeted outlay for 5 years	Expenditure	%
1	State Plan Schemes	424.88	535.97	126
2	Centrally Sponsored Schemes – Central share	187.67	121.95	65
	Total	612.55	657.92	107

Eleventh Plan

18.2.5 The key initiatives, achievements and shortfall during the Eleventh Plan period in agriculture are indicated below.

18.2.6 State Food Security project: A project on State food security covering rice, milk and egg production has been launched in 2008-09. The total outlay under food security provided to the department of Agriculture additionally over and above rice development programme during the plan period is ₹92 crore and the expenditure incurred is ₹87.46 crores. The procurement price of paddy also has been increased to ₹15/Kg as part of the initiative to support paddy production in the state. The Paddy Land and Wet Land Conservation Act was passed by the Government to protect the paddy land for food production purposes. Pension scheme for paddy farmers was also introduced during the plan period. A major fallow land cultivation programme was initiated to bring additional land for food crop production.

18.2.7 After a long period of continuous decline, area under rice increased to 2.34 lakh ha during 2008-09 compared to 2007-08 level of 2.29 lakh ha. Thereafter it declined to 2.13 lakh ha during 2010-11. Even though additional support was provided for upland rice cultivation in potential areas and food security project was launched, the outputs in terms of area as well as production of rice are discouraging even after enacting Paddy land and wet land conservation act as well as enhancing the procurement price.

18.2.8 Debt Relief Commission: The Kerala State Farmers Debt Relief Commission has been set up by an act of the State Assembly and it is functioning in the state since 9.4.2007. Government have approved the recommendations of the commission regarding Wayanad package and issued orders in August 2007 declaring the district as Distress affected by taking over loans upto ₹25000 taken by farmers holding less than one acre of land from co-operative institutions. Total amount recommended by the commission upto March 2012 is ₹112.55 crore of which ₹84.63 core had sanctioned by Government and balance amount pending in Government was ₹27.92 crore. The expenditure incurred during the plan period was ₹72.31 crore.

18.2.9 Soil Testing Services: A comprehensive soil testing project was launched for the testing of micronutrients, macronutrients and secondary nutrients from all panchayats of the state with the support of KAU, central institutes and the laboratories under the department of Agriculture.

18.2.10 Organic Farming: The organic farming policy was announced and the implementation of the organic farming project was initiated in selected areas in 20 identified blocks. An amount of ₹546.89 lakhs was provided exclusively for the project apart from assistance from NHM and pepper rehabilitation package.

Centrally Sponsored/Central Sector Schemes

18.2.11 State Horticulture Mission: The National Horticulture Mission was launched in 2005-06 in order to give new momentum to the development of horticulture to generate employment and enhance farm income. The mission aims at addressing problems related to generation of technology, production, post-harvest management, processing and marketing under one umbrella in the horticulture sector. Establishment of new gardens, planting material production, rejuvenation of pepper, cashew, cocoa, creation of water resources, promotion of IPM and post-harvest management are part of the project activities. The expenditure incurred during 11th Plan is ₹299.4 crore including state share of ₹43.85 crore.

18.2.12 Rashtriya Krishi Vikas Yojana (RKVY): RKVY was launched in 2007-08 in pursuance of the decision taken in the 53rd meeting of the NDC held on 29th May 2007

to incentivize the states to enhance public investment to achieve the envisaged 4 percent growth rate in agriculture and allied sectors during 11th plan with an outlay of ₹25000 crores. The scheme aims to assist states to achieve a quantifiable increase in production, productivity and farm income and to reduce the yield gaps in the agriculture and allied sectors. During 11th plan, an amount of ₹460.92 crore was sanctioned for Kerala and an amount of ₹440.77crore was utilized.

18.2.13 Support to State Extension Programme: A new CSS on support to State Extension Programme for extension reforms was launched in March 2005 with the objective of making extension system farmer driven by way of promoting new institutional arrangements, viz, ATMA for technology dissemination, at district level and below.

18.2.14 National Food Security Mission: The National Food Security Mission (NFSM) was also launched in 2007-08 to enhance the production of rice, wheat and pulses. It will target those districts which have lower productivity than state average, but have the potential to augment the production of the three crops. From Kerala, Palakkad district alone is included in the project. The total expenditure under this scheme during 2009-10 was ₹390.53 lakhs.

Physical Targets and Achievements

18.2.15 The physical targets for the production of major crops during 11th Plan period is shown below in Table 18.5.

Table 18.5
Physical targets and achievements during 11th Plan

Sl. No.	Commodity	XI Plan target	Achievement
1	Rice (Lakh tonnes)	9.50	5.69
2	Coconut (Million nuts)	8000	5941
3	Pulses (Lakh tones)	0.16	0.03
4	Tapioca (Lakh tonnes)	28.50	25.68
5	Banana & Other Plantain (Lakh tonnes)	15.00	8.45
6	Cashew (Lakh tonnes)	0.80	0.37
7	Pepper (lakh tones)	1.04	0.38

Soil & Water Conservation

18.2.16 An amount of ₹9063 lakh was earmarked during 10th plan under Soil and Water conservation (Soil conservation, Soil survey & Land Use Board) of which ₹10736.22 lakh (118%) was expended. During 11th Plan, against the agreed outlay of ₹12830 lakh, an amount of ₹15374 lakh was budgeted for 5 years, out of which ₹12259.19 lakh (80%) had been utilized. The outlay and expenditure during 11th plan under Soil conservation, Soil survey & Land Use Board is given in Table 18.6. RIDF is the major source of funding for soil and water conservation.

Table 18.6
Outlay and Expenditure during 11th Five Year Plan

(₹ in lakh)

	XI th Plan agreed outlay	XI th Plan budgeted outlay	Expenditure
Soil Conservation	10625	14346	11310.03
Soil survey	705	386	299.01
Land Use Board	1500	642	650.15
Total	12830	15374	12259.19(80%)

Eleventh Plan

- For the implementation of Hariyali Project detailed project report for 8 blocks viz., Parasala, Perumkadavila, Ambalapuzha, Pattanakkad, Koippuram, Panthalam, Parakkod and Manjeswaram were prepared under the scheme soil informatics and publications.
- Soil and Land Resource Inventory reports of 29 Panchayats and 1 Municipality of the rice growing tracts of Palakkad District were covered under RSVY was published
- Under the NABARD assisted RIDF scheme for soil and water conservation on watershed basis, activities were taken up in 24539 Ha. by utilizing an amount of ₹4616.11 lakh.
- A new project was initiated by Kerala Land use Board for the preparation of Land Resource Information System to demonstrate and promote the use of spatial data technologies for local level planning and to provide software support for data management modeling and operation research. Prepared LRIS digital data base of five blocks of Palakkad district and five blocks of Ernakulam District and launched web based LRIS of Palakkad district.
- The first phase of Panchayat Resource Mapping (PRM) was completed in all LSGIs during 2009-10 and as a second phase steps were taken for popularizing the PRM data generated for local level planning
- A Geo-informatics laboratory was set up as a state level digital data repository for land and water management
- Digital Atlas of 63 LSGIs of Kannur district prepared. Natural Resources Data Bank for 4 districts published

Animal Husbandry

18.2.17 An outlay of ₹490.76 crores was approved for Animal Husbandry sector during the 11th Five Year Plan. The budgeted outlay and expenditure for the sector under state plan during the plan period were ₹500.43 crore and ₹466.68 crore respectively. During the period, a major shift in plan priority towards food security was approved and separate funds have been provided. Apart from plan support additional support has been provided from RKVY for the development of Animal Husbandry Sector.

18.2.18 Year wise outlay and expenditure of the sector during 11th Five Year Plan period is shown below in Table 18.7.

Table 18.7
Outlay and expenditure of the sector during 11th Five Year Plan
(₹ in Lakhs)

Year	Outlay	Expenditure	% of Expenditure to Outlay
2007-08	5435	3201.75	58.91
2008-09	6300	5988.97	95.06
2009-10	7415	7320.22	98.72
2010-11	11800	12450.95	105.52
2011-12	19093	17706.82	92.73
Total	50043	46668	93.25

18.2.19 Targets and Achievements of Milk and Egg Production during the 11th Plan are shown below in Table 18.8.

Table 18.8
Milk and egg production during 11th Five Year Plan

Item	Eleventh plan (2007-12) target	Achievement				
		2007-08	2008-09	2009-10	2010-11	2011-12
Milk (lakh Tonnes)	35.00	22.47	24.51	25.37	26.43	27.16
Egg (crores)	239.50	137.90	151.00	163.30	168.6	170.50

18.2.20 The following are key initiatives and achievements: (i) Introduction of food security project with the objective of augmenting milk production by 70% and doubling of egg production. Milk production increased from 21.19 lakh tonnes in 2006-07 to 27.16 lakh tonnes during 2011-12. Egg production increased from 119.9 crores in 2006-07 to 170.50 crores in 2011-12 (ii) Established cattle feed plant at Karunagappally and Muthalamada (iii) Established a separate University for Animal Sciences viz., Kerala Veterinary and Animal Sciences University (iv) Strengthened infrastructure base of the sector.

18.2.21 The major scheme on food security was introduced in 11th Plan and separate provision has been earmarked for the scheme. The total outlay for the scheme for three years from 2009-10 to 2011-12 were ₹74.50 crores and expenditure was ₹73.31 crore.

Dairy Development

18.2.22 The approved outlay for Dairy Development sector in 11th Five Year Plan (2007-12) was ₹67 crore. The budgeted outlay for the sector during the Plan period was ₹71.50 crore and actual expenditure was ₹67.92 crore (95%). Year wise budgeted outlay and expenditure for the sector during 11th five year plan period was as given below in Table 18.9.

Table 18.9**Year wise budgeted outlay and expenditure of Dairy sector during 11th plan**

(₹ in Lakhs)

Year	Outlay	Expenditure	% of Expenditure
2007-08	550.00	552.46	100.45
2008-09	700.00	1282.19	183.17
2009-10	1050.00	1194.88	113.80
2010-11	2250.00	1465.62	65.14
2011-12	2600.00	2299.72	88.45
Total	7150.00	6791.68	95.00

18.2.23 The financial and physical targets and achievement and key initiatives are summarized below:

- The expenditure during 2008-09 was 183%. Additional fund was allotted through SDG for contribution to Dairy Farmers Welfare Fund Board and Tsunami Rehabilitation Programme.
- The expenditure during 2010-11 is only 65% due to low expenditure of the scheme 'Assistance to Primary Dairy Co-operatives' for which an amount of ₹10 crore was provided as one time ACA
- The provision made under RIDF (₹3 crore) for the infrastructure development of Dairy Co-operatives during 2011-12 was not utilised
- The Eleventh plan target for Milk Production was 35 lakh tonnes. The milk production increased from 21.19 lakh tonnes in 2006-07 to 27.16 lakh tonnes in 2011-12 (28%).
- Introduction of Milk Shed Development Programme and Cattle Feed Subsidy Programme
- The Dairy Farmers Welfare Fund Board which came into being during 11th plan period provides social security coverage to dairy farmer

Fisheries

18.2.24 During the Xth Plan period, the major initiatives in marine sector includes modernization of country crafts, popularization of new generation crafts and distribution of suitable components of fishing gear. The other programmes are NCDC assistant Integrated Fisheries Development Project, Construction of new Fishing Harbours and fish landing centres, Tsunami Emergency Assisted Project and Programmes assuring the social and livelihood security of fishermen population. The approved outlay in Xth Plan for fisheries sector was ₹161.28 core and an amount of ₹190.26 core was expended during this period. The major achievements during the 10th Plan was the development of Scampi farming as an economic activity generating income and employment to the farmers. The one Paddy one fish / prawn scheme was implemented through ADAK in Kuttanad. During this period the inland Fish production was increased to 0.80 lakh tonnes and establish 3 fish seed farms and 2 Hatcheries.

18.2.25 During the XIth Plan, a holistic approach was adopted for the sustainable development of Fisheries and Aquaculture for the objectives of optimizing production and productivity, augmenting the export of Marine products, generating additional employment opportunities and improving the socio-economic conditions of the fisher community. Development of inland fisheries and aquaculture, conservation and management of fisheries resources, modernization of fishing harbor and fish landing centres, development of costal infrastructure, promotion of social and livelihood security including model fishing village development schemes, promotion of income security of fisherfolk through micro enterprises, exploitation of deep sea, production of quality seeds etc are the thrust area of the XIth plan. Key initiatives during the plan are NFDB assisted schemes, modernization of fish market, community capital institutional credit, insurance coverage of fishing implements, Matsyakeralam project, Debt relief to fishermen, Theeramythri Programme etc. During the Plan period 6 fishing harbours were started under 50% / 75% CSS and under NABARD assistance viz, Thalai, Chethi, Chettuvai, Cheruvathoor, Kasaragod and Chellanam.

18.2.26 The total approved outlay during the XIth Plan for the fisheries sector was ₹255.25 crore (budgeted outlay ₹380 crore) and the expenditure was ₹456.34 crore. The major achievements during the plan were inland fish production increased from 0.80 lakh tonnes to 1.21 lakh tonnes, completion of 2 fishing harbors viz., Thottapalli and Ponnani, constructed 3500 houses under NFWF housing scheme, 3000 women SHG's were organized in coastal districts and started 1300 micro enterprises units, functioning the University of Fisheries and Ocean studies etc.

Co-operation

Tenth Plan

18.2.27 The strategy adopted for the development of the co-operative sector during 10th Plan was expansion and diversification of commercial ventures in selected areas such as agro processing, marketing, storage and promotion of SHGs.

18.2.28 Emphasis was given to strengthening weaker sector co-operatives, agro processing, production and employment oriented programmes. Under the broad categories, the thrust area include credit, marketing, consumer, housing, miscellaneous etc. All assistance was provided in the way of share capital, managerial assistance and loan in a routine manner.

Table 18.10
Sub sector wise financial achievement during the Tenth Plan

(₹in lakhs)

Sl. No	Sub sector	Financial outlay (Tenth Plan)	Achievement (Tenth Plan)	% of Expenditure to outlay
1	Credit co-operatives	1173	671.92	57.29
2	Processing co-operatives	1170	887.58	75.86
3	Consumer co-operatives	550	409.07	74.38
4	Housing co-operatives	440	474.3	107.8
5	Research, Education & Training	250	241.25	96.5
6	Administrative Reforms	820.02	428.96	52.31
7	Modernisation	128	85.15	66.52
8	Other co-operatives	268.98	274.76	102.15
9	Other schemes			
	i).Expansion & diversification. ii).Rehabilitation of weak but potential co-operatives	1250 1150	233.3 983.76	18.66 85.54
	Total	7200	4690.05	65.14

18.2.29 The total agreed outlay for the Xth plan was ₹100 crores. The total outlay budgeted for Xth plan was ₹720 crores. The total expenditure during the plan years was ₹46.90 crores, 65.14% of the budgeted outlay. Details are given in Table 18.10.

18.2.30 An analysis of the expenditure shows that the major share (33%) was incurred for the implementation of the two schemes viz., 'expansion & diversification of co-operatives and rehabilitation of weak but potential co-operatives. About 16% of the outlay was for assisting processing co-operatives, 16% for credit co-operatives, 11% for administrative expenses, 8% for providing assistance to consumer co-operatives and 6% for assistance to Housing co-operatives.

18.2.31 Besides the plan outlay, NCDC has released ₹757.56 crores during the Tenth Plan for the development of marketing, credit, consumer and industrial co-operatives in the State.

Eleventh Plan

18.2.32 The total outlay earmarked for the sector for the Eleventh Plan is ₹113 crores against an overall outlay of ₹100 crores envisaged for the Tenth Plan. The enhancement in the overall outlay envisaged for XIth Plan over the Tenth Plan outlay is 13 percent. The total budgeted outlay for the XIth Plan was ₹135.60 crores and ₹148.62 crores (110%) expended.

2.2.33 The subsector wise outlay and expenditure of the XIth Plan is given in the Table 18.11.

Table 18.11

Sub sector wise outlay and expenditure during Eleventh Plan

(₹ in lakhs)

Sl. No.	Sub Sector	XI th Plan Outlay	Total Budget Estimate	Expenditure	% of B.E
1	Credit – Co-operatives	3450	2785	2469.29	88.66
2	Housing Co-operatives	800	250	236.93	94.77
3	Processing Co-operatives	1050	1350	499.02	36.96
4	Consumer Co-operatives	1500	600	686.22	114.37
5	Administrative Reforms	600	25	5.42	21.68
6	Education, Research and Training	250	410	441.75	107.74
7	Modernization of Co-operative Department	150	75	71	94.67
8	Other Co-operative Schemes	3500	8065.01	10452.53	129.60
Total		11300	13560.01	14862.16	109.60

18.2.34 Kerala had a wide network of co-operatives engaged in various promotional activities such as credit distribution, marketing, agro processing, consumer public and health, education, insurance and infrastructure development. Thereby the movement creates a solid foundation and impressive track record in terms of financial stability and to generate adequate funds.

18.2.35 During 2011-12, there are 13766 co-operatives, working under the Registrar of Co-operative Societies of which 10461 are functional in the various promotional activities in the sector. 1527 cooperatives are working under miscellaneous category plays a great role in generating employment and income to the weaker sections of the community. A comparison of the growth status of co-operatives in the last year of Tenth, Eleventh and first year Twelfth Plan periods. The total number of co-operatives are classified into nine categories and the growth status of these co-operatives during last three plan periods are given in Table 18.12.

Table 18.12

**Co-operatives under the control of Registrar of Co-operative Societies
during the last year of Tenth & Eleventh Plan Periods**

Sl. No.	Type of Societies	2006-07		2011-12	
		Total No.	Functional No.	Total No.	Functional No.
1	Apex, Federal, Central Societies	-	-	28	26
2	Credit Co-operatives	3122	2910	3343	3031
3	Marketing Co-operatives	547	277	555	231
4	Consumer Co-operatives	4775	4165	4694	4083
5	Processing Co-operatives	32	13	37	19
6	Housing Co-operatives	373	283	378	276
7	SC/ST Co-operatives	803	498	814	405
8	Health Societies	177	86	190	101
9	Women Co-operatives	892	671	1038	762
10	Other Co-operatives (miscellaneous)	2275	1333	2689	1527
	Total	12996	10236	13766	10461

18.2.36 With large expansion of co-operatives in almost all the sectors, signs of structural and performance weaknesses and regional imbalances have become apparent. The reasons for such weaknesses could be attributed to the large percentage of dormant membership, heavy dependence on government assistance, political interference, lack of professional management, over dues etc. Co-operative institutions also suffer from low resource base, high dependence on refinancing agencies, imbalances, poor business diversifications, low recoveries, huge accumulated loss, lack of professionalism and skilled staff, weak management information system (MIS), poor internal checks and control systems etc. also affected the weakness of the Societies.

Irrigation

Tenth Plan

18.2.37 Irrigation development in Kerala is mainly centered on the development of surface water resources mainly on the development of major and medium irrigation projects. During the Tenth Plan period (2002-07) against the agreed Plan outlay of ₹930 crores, an amount of ₹816.63 crores was budgeted and the expenditure came to ₹866.82 crores. A major portion (74%) of the outlay on Water Resource Sector was budgeted for Major and Medium Irrigation Sector and the expenditure recorded for Major & Medium for the Tenth Plan was 77% of the total expenditure. Details are given in Table 18.13. Over and above the State plan outlay a substantial amount has been invested for Minor irrigation and Flood Management from the schemes of Local Self Governments.

Table 18.13

Outlay and Expenditure for Irrigation & Flood Control during Tenth Plan

(₹ in lakhs)

Sl. No	Sub Sector	X th Plan Total		% of Expenditure
		Budget Estimate	Expenditure	
1	Major & Medium Irrigation	60789.00	67027.87	110.3
2	Minor Irrigation	8920.00	12009.22	134.6
3	Command Area Development	4615.00	2672.36	57.9
4	Flood Management & Coastal Zone	7339.00	4972.54	67.7
	Total (Irrigation & Flood control)	81663	86681.99	106.14

18.2.38 The target set for the realisation of additional irrigation potential during Tenth Plan was 1.40 lakh hectares (gross) comprising of 0.90 lakh hectares under major irrigation and 0.50 lakh hectares under minor irrigation. The cumulative physical achievement of minor irrigation upto 10th Plan was 235957 ha (net). The actual achievement aggregates to 1.08 lakh hectares. During the Tenth Plan period, overall performance of the Major and Medium Irrigation sector was not encouraging. Additional irrigation facility could be created only in Muvattupuzha Irrigation Project. The physical targets and achievements under Irrigation during the Tenth Plan is given in Table 18.14.

Table 18.14

Physical Targets and Achievements under Irrigation during the Tenth Plan period (gross)

(000 ha)

Sl No.	Sector	Tenth Plan Target	Tenth Plan Achievement (2002-07)
1	Major & Medium	90	60
2	Minor	50	48
	Total	140	108

Eleventh Plan

18.2.39 During the Eleventh Plan period, an expenditure of ₹643.32 crore was incurred for Major and Medium Irrigation, ₹203.64 crores for Minor Irrigation and ₹338.78 crores for Flood Control and Anti-sea Erosion works. Over and above the State plan outlay a substantial amount has been invested for Minor irrigation and Flood Management from the schemes of Local Self Governments. The Outlay and expenditure for Irrigation and flood control during Eleventh Plan is shown in Table 18.15.

Table 18.15
Outlay and Expenditure for Irrigation & Flood Control during Eleventh Plan
 (₹ in Lakhs)

Sl. No.	Sub Sector	XI Plan Total			
		State agreed Outlay	State Estimate	State Expenditure	Central Expenditure (in Crore)
1	Major & Medium Irrigation	142201	94084	64332.37	
2	Minor Irrigation	52083	35628	20364.61	2.2
3	Command Area Development	8500	3134	1334.11	13.59
4	Flood Management & Coastal Zone	23075	37897	33878.33	54.08
	Total (Irrigation & Flood control)	225859	170743	119909.42	97.36

18.2.40 Public investment in irrigation has fallen significantly over successive Plan periods. This is largely due to resource constraints faced by governments both at the Centre and the States. At the All India level also, there is decline in the percentage of funding for irrigation.

18.2.41 As per the assessment of the Directorate of Economics and Statistics, the net area in the State as on March 2012, is 4.09lakh ha. And the gross area irrigated is 4.91 lakh ha. There is an increase of 5% in the gross irrigated area of the State in compared to the previous year of 2010-11. During 2011-12, among the crops, coconut tops among the major crop supported by irrigation. It accounted for about 37% followed by paddy 31%, banana 9%, arecanut 8% and vegetable 4%. There has been a good progress in irrigated area under vegetable cultivation as well as coconut during the year and also an increase in the area under irrigation for paddy cultivation compared to the previous year.

18.2.42 The target set for the realization of additional irrigation potential during XIth Plan was 2.50 lakh ha (gross) comprising 50 lakh ha under major and 2 lakh ha under minor irrigation and the actual achievement aggregates to 1.29 lakh ha. Details are given in Table 18.16.

Table 18.16
Physical Targets and Achievements under Irrigation
during the Eleventh Plan period (gross)
 (000 ha)

Sl. No.	Sector	Eleventh Plan Target	Eleventh Plan Achievement (2007-12)
1	Major & Medium	50	33.2
2	Minor	200	96.63
	Total	250	129.83

18.2.43 Overall performance of the irrigation sector was not encouraging during the XIth Plan, besides poor utilization of AIBP assistance and under performance in the

implementation of Kuttanad Package also aggravated the situation. The support from local governments would be part of the project in achieving the targets.

Minor Irrigation

18.2.44 Minor Irrigation sub sector which deserves top most priority regarding irrigation development in the State has given a considerable thrust during the 11th plan. It has an important role to play in states like Kerala, where the average farm size is small. The importance of minor irrigation is that it can serve a large number of cultivators at a much lower cost and can extend water even to isolated areas of arable land and is best suited for Kerala. A comprehensive revival of minor irrigation schemes were implemented under Malabar Package during XI Five Year Plan. A master plan needs to be prepared for the development of minor irrigation in the State.

18.2.45 During 11th plan about 23.05% of the outlay in the irrigation sector is proposed for the development of minor irrigation. In order to increase the area under irrigation from 18% to 30% of the net cropped area, the 11th plan proposed an additional gross area of 2 lakh ha for irrigation under minor irrigation.

18.2.46 NABARD has been providing loan assistance for irrigation works through RIDF phase I to XVII since 1995-96. The assistance of NABARD is by way of reimbursement. RIDF I to XI have been closed and the works under RIDF XIII to XVII are in progress. Under RIDF XIII the work of RCB at Chamravattom sanctioned by NABARD under project I has been completed. One work under RIDF XV and 15 works under RIDF XVI and 24 works in RIDF XVII are in progress and all the works under RIDF XIV has been completed.

18.2.47 During 2011-12, the scheme Rajiv Gandhi National Drinking Water with 50% central share, under the Ground Water department has been dropped and started it as a State sector scheme.

18.3 Rural Development

Tenth Plan

18.3.1 During the 10th plan period ₹162553 lakh was provided for the Rural Development sector as budget outlay and the expenditure was ₹124281.13 lakh. Out of which ₹21975 lakh was given to Rural Development, ₹139106 lakh to Community Development & Panchayat, ₹1472 lakh to Land Reforms and the corresponding expenditure was ₹16645.13 lakh, ₹106526.56 lakh, ₹1115.44 lakh respectively. Year wise outlay and expenditure of Rural Development sector during 10th Five Year Plan (2002-03 to 2006-07) are given in table 18.17.

Table 18.17

Outlay and Expenditure of Rural Development Sector under 10th Plan Period

(₹ in lakh)

Year	Outlay				Expenditure			
	Rural Development	Community Development & Panchayat	Land Reforms	Total	Rural Development	Community Development & Panchayat	Land Reforms	Total
2002-03	4653	12693	450	17796	2472.42	12938.56	161.85	15572.83
2003-04	4004	26799	308	31111	2262.36	19214.79	248.44	21725.59
2004-05	4280	32036	308	36624	3966.80	25736.47	253.63	29956.90
2005-06	4544	25256	203	30003	4280.90	22918.34	362.38	27561.62
2006-07	4494	42322	203	47019	3662.65	25718.40	89.14	29470.19
Total	21975	139106	1472	162553	16645.13	106526.56	1115.44	124281.13

Eleventh Plan

18.3.2 During the 11th plan period ₹141885 lakh was provided for the Rural Development sector as budget outlay and the expenditure was ₹161867.22 lakh. Out of which ₹62721 lakh was given to Rural Development, ₹76133 lakh to Community Development & Panchayat, ₹3031 lakh to Land Reforms and the corresponding expenditure was ₹69193.43 lakh, ₹91865.69 lakh, ₹808.10 lakh respectively. The year-wise outlay and expenditure of State Plan schemes during the 11th Five Year Plan (2007-08 to 2011-12) are given in table 18.18.

Table 18.18

Outlay and Expenditure of Rural Development Sector under 11th Plan Period

(₹ in lakh)

Year	Outlay				Expenditure			
	Rural Development	Community Development & Panchayat	Land Reforms	Total	Rural Development	Community Development & Panchayat	Land Reforms	Total
2007-08	10189	13796	203	24188	8144.92	16427.32	34.98	24607.21
2008-09	11708	14564	203	26475	9978.78	16771.94	260.47	27011.19
2009-10	13469	14853	800	29122	16865.63	17939.83	497.55	35303.01
2010-11	14963	15710	1000	31673	9477.75	17635.59	0.00	27113.34
2011-12	12392	17210	825	30427	24726.35	23091.01	15.10	47832.46
Total	62721	76133	3031	141885	69193.43	91865.69	808.10	161867.22

18.3.3 Special Programme for Rural Development includes Indira Awas Yojana (IAY-25% State Share), Mahatma Gandhi National Rural Employment Guarantee Programme (MGNREGP -10% State Share), National Rural Livelihood Mission (NRLM-25% State Share), RIDF, State Support for PMGSY etc. The total outlay of these programmes during 11th Plan was ₹36075 lakh and the expenditure was ₹4162.78 lakh.

18.3.4 Other Rural Development Programmes consists of State Support for Sericulture, Furnishing of Swaraj Bhavan, and Strengthening of Extension Training Centre etc. The total outlay of these programmes during 11th Plan was ₹19020 lakh and the expenditure was ₹20845.40 lakh.

18.3.5 The major programmes under Community Development and Panchayats are Special Development Fund for MLA-Area Development, Suchitwa Mission, Nirmal Bharat Abhiyan, Kudumbasree, Burial Ground, Kerala Institute of Local Administration (KILA) etc. The total outlay of these programmes during 11th Plan was ₹76133 lakh and the expenditure was ₹91865.69 lakh.

18.3.6 National Land Record Modernisation Programme (NLRMP) 50% state share and 100% CSS are the two programmes included in this category. The total outlay of these programmes during 11th Plan was ₹3031 lakh and the expenditure was ₹808.10 lakh.

18.4 Energy

Tenth Plan

18.4.1 The Tenth Plan Approach was to attain a proper energy mix with due share to hydro power with special priority for tapping renewable source of energy such as small hydro, wind, solar, biomass and co-generation. It focused on the areas of energy conservation and demand side management. Renovation, modernization and up rating of existing hydel plants on a time bound basis was given importance in the tenth plan. It focused on the improvement of system operating conditions by reducing T&D loss.

18.4.2 The Tenth Five Year Plan Outlay for Energy Development was ₹3500 Crores. Out of this, ₹3425 Crores is meant for KSEB, ₹70 Crores for ANERT, and ₹4.25 Crores for Energy Management Centre and ₹0.75 Crores for Meter Testing and Standards Laboratory. The corresponding expenditure for power sector is ₹275816.10 lakh (78.80%). The major physical targets and achievements are given in Table 18.19.

Table 18.19
Physical Achievements

Item	Target	Achievement	% Achievement
Transmission			
220Kv Substations	12	7	58.33
110 Kv Substations	72	37	51.38
66Kv Substations	15	12	80.00
33Kv Substations	120	107	89.17
Distribution			
No: of Service Connections	2000000	2344167	117.20
11Kv lines (ctkm)	9500	9895.53	104.16
LT lines (ctkm)	27500	38421.9	139.72
Distribution Transformers (Nos)	10000	14031	140.31
Street light (Nos)	100000	210667	210.67

Eleventh Plan

18.4.3 The focus of 11th Five Year Plan had been on large-scale capacity addition to meet the increasing demand, reducing cost of power, development of efficient transmission network and improving the performance of the distribution sector. In the Eleventh plan period, main objective was to develop small hydro power projects and biomass based power generation and to integrate entire non-conventional energy sector in the overall plan. The Eleventh plan focused on the key area of infrastructure in the power sector. The Power sector plan has usually been treated as separate component of the State plan which is the responsibility of the KSEB and is being carried over to the State plan. In the process however sufficient attention was not been paid to a range of options, such as small hydro power projects and biomass based power generation.

18.4.4 The total outlay earmarked for power sector during 11th plan was ₹507734 lakh which included ₹488535 lakhs for KSEB, ₹15906 lakh for ANERT, ₹2943 lakh for EMC and ₹350 lakh for MTSL. The corresponding expenditure for power sector is ₹418557.33 lakh (82.44%) which constitute ₹405079.18 lakh (82.92%) for KSEB, ₹7129.50 lakh (44.82%) for ANERT, ₹6023.11 lakh (204.66%) for EMC and ₹325.54 lakh (93.01%) for MTSL.

18.4.5 Top most priority has been given to completion of ongoing projects, setting up new short gestation projects at local centres, getting all clearances required in advance for the long gestation projects, strengthening project management as well as transmission and distribution system to match installed capacity. Improvement of efficiency in all operations of the KSEB has been identified as major strategy during the XIth plan period. An additional installed capacity of 610.15 MW (1640.73 MU) was anticipated during the Eleventh plan period. But only 34% of the target ie 210.2 MW could be achieved. The Physical targets and achievement of 11th Five Year Plan (2012-17) are given in the Table 18.20.

Table 18.20
Physical Target and Achievement

Item	Target	Achievement	%Achievement
Generation			
Capacity addition - Hydel	606.4 MW	143.55 MW	24%
- Wind	3.75 MW (KSEB)	31.65 MW (IPPs)	
- Uprating of hydel stations	--	15 MW (Sabarigiri)	
- CPPs	--	20 MW	
Total	610.15 MW	210.2 MW	34%
Transmission			
220 kV substations	6 Nos	3 Nos	50%
110 kV substations	54 Nos	23 Nos	43%
66 kV substations	6 Nos	2 Nos	33%
33 kV substations	56 Nos	61 Nos	109%
Distribution			
Service connections	23.38 Lakh	22.3 Lakh	95.4%
11 KV lines	19528 km	14898 km	76.3%
Distribution transformers	21249 Nos	22637 Nos	106.5%
LT Lines	27634 km	34395 km	124.5%

18.5 Industry

Village and Small Scale Industry

Tenth Plan

18.5.1 Agreed outlay for Village and Small Industries during tenth plan period was ₹55875.00 lakh and budgeted outlay was ₹12288.42 lakh. The expenditure incurred during the period was ₹12740.00 lakh. The Sub Sector wise performance during the Xth Plan period is detailed in the following paragraphs.

Small Scale Industries

18.5.2 Directorate of Industries and commerce has been restructured to play the role of a facilitator and to act as a promotional agency which simplifies systems and procedures rather than a regulatory agency. At the beginning of tenth plan there were 165102 SSI units in the state. The corresponding investment and employment was ₹5199 crore and 5.96 lakh respectively. One of the main objectives envisaged in the tenth plan under small scale industries sector is to establish 12,500 new SSI units with an investment of ₹37.50 crore creating employment to 5 lakh persons. At the end of the 10th five year plan a total number of working small industrial units registered in Kerala was 19590. Out of this, 41305 were of women entrepreneurship. The number of employment in the SSI sector increased from 595847 in 2001-02 to 722860 in 2006-07. It is estimated that at the end of tenth five year plan the total investment was ₹600254.65 lakh and the average investment per SSI decreased from ₹3.15 lakh by the end of 2001-02 to ₹3.06 lakh at the end of 2006-07. The average investment per worker decreased from ₹87256 lakh at the end of 2001-02 to ₹83242 lakh by March 2007.

18.5.3 New Industrial Policy 2003 laid great emphasis on cluster development. Sector specific clusters of industrial units are being promoted with the assistance of financial institutions and skill development facilitated through common facility centre and training institutions.

18.5.4 Government of Kerala has drawn up an investment promotion programme, named as Kerala Local Industry Promotion Programme (KLIPP) under the banner name of PRATHYASA through District Industries Centres. The objective of the scheme is to facilitate the setting up of 25000 units in the small-scale sector generating 1,00,000 employment during 2005-06. By the end of March 2006, about 17000 enterprises have been started under the programme generating employment to 54750 persons.

18.5.5 Prime Ministers Rozgar Yojana (PMRY) Programme has achieved a very good performance during 2002-07. The number of disbursement of loan also witnessed highest performance during 2005-06 recording the highest percentage of disbursement (84.41) against target since inception of the scheme.

18.5.6 The Kerala Business to Business Meet conducted in 2004 & 2005 was a part of State's effort to promote Small and Medium Enterprises (SME) in the global markets and help the manufacturing sector to access larger markets for their products. The Meet in 2005 highlighted eight crore sectors.

Handicrafts

18.5.7 The Handicrafts sector occupies an important place in the economy in terms of employment generation, GDP growth, conservation and fostering tradition and culture. The formation of a multi-disciplinary and multi departmental State Bamboo Mission in November 2003 is a major initiative for the development of bamboo sector in Kerala.

18.5.8 Handicraft industry is one of the traditional industries of Kerala, providing employment to Artisans and about 80 percent of them are from socially and economically backward classes. Kerala has the tradition of making beautiful handicrafts with ivory, bamboo, palm leaves, seashells, wood, coconut shells, clay, cloth, coir, metals, stone, lacquer ware etc. and the artists are experts in making beautiful flower vases, ash trays, ornamental plates, jewel boxes, miniature boats, elephants, idols, kathakali masks and embroidery works. Many old handicraft classics can be seen in Palaces, old heritage homes and museums in the State. Kerala State Handicrafts Apex Co-operative Society (SURABHI), Handicrafts Development Corporation and Artisans Development Corporation are the major promotional agencies in the handicraft industry. The Kerala State Bamboo Corporation Ltd. is the promoter of industries based on bamboo, reed, cane and rattan.

18.5.9 During Eleventh Plan, project based assistance has been provided to the Apex Organizations in the handicraft sector. Major schemes under handicrafts sector are given below.

- Share Capital Contribution to Handicrafts Primary Co-operative Societies
- Assistance to Apex Organizations in the Handicrafts Sector
- Entrepreneur Assistance Scheme in Handicrafts/ Artisan Sector
- Establishment of Common Facility Service Centres for Handicrafts

18.5.10 The Plan outlay proposed for the sectors Small Scale Industries, Commerce, Handicrafts and Beedi industry in the Eleventh Plan was ₹171.31 Crore and incurred an expenditure of ₹156.17 Crore which accounts 90 % of the total outlay.

Handloom Industry

Tenth Plan

18.5.11 The handloom sector in Kerala employs about 1.75 lakh people and this industry stands second to the coir industry in providing employment among the traditional industries in the State. There were 755 PHWCS in March 2002 out of which 135 were factory type. By the end of March 2007, there were 758 PHWCs consisting of 155 factory type societies. The overall production of cloth in Kerala shows a marginal decrease of 5.09 million meters from 67.47 million meters in 2000-01 to 62.48 mm in 2006-07.

18.5.12 Government of India upgraded the Handloom Project Development Centre (HPDC) at Balaramapuram into Textile Project Development Centre. Total number of weavers at the end of 10th five year plan was 135750, out of which 28874 were women. Government of India is providing assistance under SGSY projects aimed at the development of the handloom sector. During 2004 the department has submitted the project Krithika at a cost of ₹1108 lakh for economic development of handloom weavers in Kannur district. Similarly, the project Thanima at a cost of ₹1576 lakh forwarded to Government is intended to benefit the handloom weavers in Thiruvananthapuram district. At the end of 2006-07, total no. of power looms in the state were 3080 and total production of cloth was 7 lakh meters.

Eleventh Plan

18.5.13 Repositioning and strengthening of the handloom industry to face up to global challenges is envisaged in the Eleventh Plan by introducing measures like technology upgradation, professional marketing, developing regional brand and encouragement of private sector investment. The development and production of value added, diversified and innovative products have been given priority in this sector for enhancing exports and thereby the income and prosperity of the traditional workers and their families.

18.5.14 Major achievements during eleventh plan were the establishment of Indian Institute of Handloom Technology at Kannur, establishment of hank yarn production centres at Kannur, Alappuzha and Thrissur co-operative spinning mills, Registration of the products such as Kuthampully saree, Kasargod saree and Balaramapuram saree and fine fabrics under Geographical Indication Act 1999 and setting up of 20 clusters and 21 Group projects with the support of GOI. Also assistance has been given for revitalization of spinning mills and propagation of handloom mark scheme. A new project “Keralathanimakku kaithari” is declared by State government for the promotion of handloom industry and another project “Uniform made of Handloom Clothes to School Children” has been initiated by Textile Project Development Centre (TPDC). New technology developed with the help of IIHT, Salem for pre-loom process and new designed products have been introduced in Handloom sector. Promotion of Exquisite Handloom Products as Works of Art is introduced by developing unique designs, giving training to traditional weavers to bring out their inherent assistance skills with the services of institutions like NID, NIFT etc. and producing innovative value added handloom products during Eleventh Plan.

18.5.15 In the power loom sector 25 power loom co-operative societies are working in which four are integrated power loom co-operative societies. In the private sector there are 300 power loom units. The Plan outlay proposed for the Handloom and Powerloom sector in the Eleventh Plan was ₹231.21 Crore. But an amount of ₹235.48 Crore has been expended during the Five Year Plan, which constitutes 101.85 percent of the total outlay. Active involvement of the State government during the Eleventh plan through larger plan outlays and effective implementation of revival packages and programmes, protected this traditional industry from a breakdown.

Coir Industry

18.5.16 Coir industry in Kerala is a traditional industry, generating employment to more than 3.75 lakh workers, of which 76 percent are women. An outlay of ₹125 crore was earmarked for the Coir Industry during 2002-07. Market Development Assistance for the sale of coir and coir products, Grant to Kerala Coir workers Welfare Fund, Direct Welfare Assistance to coir workers, Regulated mechanisation of Coir industry, Study on Coir Industry and Revitalisation of Coir industry are the major schemes envisaged under 10th Plan period. During 10th plan period action has also been initiated for setting up a national Coir Research and management Institute in order to strengthen the R&D activities in the coir sector with a view to enable the coir industry to produce more value added and new design products, to sustain an upper hand in the domestic and in the international market.

18.5.17 Coir industry is an agro based export and employment oriented traditional industry of Kerala. Now it is a professional and modern industry spreading over the entire state. It employs about 3.50 lakh of labourers of which 80% are women below poverty line. This sector can claim the traditionalism, modernity and presence of most number of women coir workers. Coir Industry sustains a large part of Kerala rural economy. Although the industry earns a foreign exchange of over ₹800 Crore per year the potential for growth is phenomenal. Products made from coir acquired worldwide reputation and naturally coir industry could attract large markets. This wide acceptance of coir was largely because of its golden sheen, tensile strength and resistance to dampness. Now Coir is available in a mind-boggling range of options from live-in-style products to geo applications. The total plan outlay during the 11th five year plan was ₹40,42,200 lakhs and the outlay in Coir was ₹349.57 lakhs. The 11th plan consisted of 18 schemes.

Khadi Industry

18.5.18 Khadi & Village industries sector has a share of ₹25.00 crore for its programmes during 10th five year plan. Khadi Board received ₹14.35 crore during the first four years of the tenth plan against ₹5.45 crore during the ninth plan. Strengthening of weaving sector, establishment of Sliver project at Ettukudukka and strengthening of Departmental Village industries units are the major schemes taken up during the period. Office-cum-shopping complex of Khadi Board at Kaloor (Ernakulam) has started functioning with effect from 12.8.2004 and the sale outlets there could achieve a sale of ₹50.48 lakh during the Onam season that period.

18.5.19 The Kerala Khadi and Village Industries Board is a statutory body organising, developing and promoting Khadi and Village Industries in the state. Co-operative societies, registered institutions and departmental units carry out the activities of the Board, by availing finance assistance from State Government, Khadi Commission and

Nationalised Bank. During the XIth Five Year Plan the Departmental Khadi production achievement has shown an increasing trend both in the Cloth value & Yarn value. The total plan outlay during the 11th five year plan was ₹40,42,200 lakhs and the outlay in Coir was ₹60.09 lakhs. The 11th plan consisted of 9 schemes.

Cashew Industry

18.5.20 The Kerala State Cashew Development Corporation (KSEDC) and Cashew workers Apex Co-operative Society (Capex) are two state agencies engaged in the cashew processing sector in Kerala. KSCDC owns 30 cashew factories spread out in the District of Thiruvananthapuram, Kollam, Alappuzha, Thrissur and Kannur. The State Government took over the KSCDC's liability of ₹107 crores in order to facilitate the reopening of the factories in 2004.

18.5.21 The Eleventh Five Year Plan envisaged Rejuvenation of Cashew industry by Up gradation of facilities, Modernization of Cashew Factories, and Factory sheds, Expansion of domestic market of cashew, Value addition of cashew kernels, International brand building and Export market development. The strategy also proposes to promote employment generation in the farming sector and Industrial production in cashew processing. During the period, Modernization of Cashew factories were done at different levels. Value added products were made through Value addition units, Continuous Employment was given to workers of KSCDC & CAPEX with good ESI facilities and other benefits, established branded products in domestic and international markets and supplied a wide variety of Cashew Grafts to farmers and institutions through KSACC.

18.5.22 The Plan outlay proposed for the Cashew Sector in the Eleventh Plan was ₹186.50 Crore. Of which, an amount of ₹175.78 Crore has been expended during the Plan, which constitutes 94 percent of the total outlay. Active involvement of the State government during the Eleventh plan through larger plan outlays and effective implementation of revival packages and programmes, promoted this traditional industry. A variety of value added products such as cashew soup, cashew vita, cashew powder etc., were introduced in the market. Kerala accounts for 11% of cashew production and 35% of cashew nut processing units in India.

Other Industries

Tenth Plan

- The agreed projected outlay for Other Industries during 10th Five Year Plan was ₹559.00 crore and the budgeted outlay for the five years amounts to ₹578.83 crore. The expenditure during 10th plan was ₹755.43 crore.
- The Large and Medium industries consist of units in the Central Sector, State Public Sector, Co-operative Sector, Joint Sector and the private sector. A major chunk of investment, value addition and employment in this sector is accounted by the Central sector and private sector.
- As on 2000, the number of large and medium industrial units in Kerala stood at 567 against 389 units in 1996 and by March 2005 it increased to 727 units comprising of 22 in Central Sector, 65 in State sector, 21 in Co-operative sector, 29 in Joint Sector and 590 in private sector.
- Private sector constitutes about 81% of the total large and medium industrial units in the sector.

- As on 31st March 2005 the number of PSUs under Industries Department stood at 57 of which 44 are manufacturing industrial units.
- The GoK constituted the Enterprises Reforms Committee (ERC) during 2001 to recommend restructuring/reform options for the ailing public enterprises in the state. Since June 2002, the ERC has recommended reform measures in 45 SLEPS and the Govt. have taken decision on 30 of these enterprises.
- During 10th Plan KINFRA had 17 Industrial Parks on various sectors with more than 150 operating units with an annual turnover of about ₹1000 crore, creating an employment to 5000 persons.

Eleventh Plan

- The agreed projected outlay for Other Industries during 11th Five Year Plan was ₹506.96 crore and the budgeted outlay for the five years amounts to ₹552.64 crore. The expenditure during 11th plan was ₹1094.31 crore.
- Now Kerala become a favoured destination for manufacturing, food processing, health services and knowledge based industries.
- In addition to these areas, pharmaceuticals, medical services, bio technology and nano technology are considered as important sectors suitable for the development of the state.
- KSIDC and KINFRA promoted projects in Tourism, Manufacturing, IT, Health, Logistics, Infrastructure, Agro and Food Processing sectors.
- Special Economic Zones for food processing, electronics, animation and gaming have been initiated by KINFRA. Joint Venture projects for rubber, sea food, electricity have also been started.
- CMD undertook several research assignments for GoI, GoK, Public Sector Enterprises and autonomous institutions. CMD in collaboration with BPE conducted management development programmes for officers/managers of public enterprises in Kerala.
- Many PSUs administered by Industries Department of Government of Kerala, have registered excellent growth and commendable performance during 2007-12.
- Comprehensive restructuring packages were implemented in various PSUs.
- To improve the professional management in PSUs government had constituted a committee for selection of Chief Executives on the basis of merit.
- As a part of the steps being initiated by the Industries Department for inter PSU tie-up on marketing of products, KSEB have established synergy with companies like KEL, SILK etc. to meet its captive demands for power / energy.
- Training and Capacity Building programmes were initiated in PSUs.
- Modernization/ expansion programmes were implemented in many PSUs.

Mining and Geology

- The agreed outlay projected for 10th Five Year Plan for Mining sector was ₹300.00 lakh. The budgeted outlay earmarked for Mining during the five years is ₹246.00 lakh and the total expenditure amounts to ₹166.41 lakh.

- Heavy mineral sand and china clay contribute more than 90% of the value of mineral production in the State.
- The department implemented following three schemes during 10th Five Year Plan: (i) Mineral investigation (ii) Strengthening of Chemical Laboratories and (iii) Training/Human Resources Development.
- The agreed outlay projected for 11th Five Year Plan for Mining sector was ₹500.00 lakh. The budgeted outlay earmarked for Mining during the five years is ₹569 lakh and the total expenditure amounts to ₹1434.49 lakh.
- Strict adherence to mining regulations insisted upon.
- Initially the department was purely engaged in geological mapping and mineral exploration. Now the department carry out the functions related to mineral administration also.
- The department implemented following five schemes during 11th Five Year Plan: (i) Mineral investigation (ii) Strengthening of Laboratories (iii) Human Resources Development (iv) Strengthening of District Organisations and (v) Kerala Mineral Squad.

18.6 Infrastructure

Minor Ports

18.6.1 The non major ports identified for development in the Tenth Plan period are Vizhinjam, Neendakara /Thankasserry, Alappuzha, Beypore, Azheekal and Munambam. Alappuzha port was proposed to be developed as a marina port. Even though it was envisaged to develop the ports with private participation the efforts taken in this direction could not succeed due to various reasons.

18.6.2 The major achievements in the Tenth Plan include:

- Construction of wharf of 100 m length at Beypore port
- Construction of breakwater of length 1150 m (996 m completed) on the Azheekal side and 1070 m (730 m completed) at Mattool side. Establishment of facilities like weigh bridge, water supply, signal station etc. at Azheekal.
- Construction of wharf of size 116m x 12m at Thankasserry
- Renovation of survey vessels etc.

18.6.3 The traffic handled in the intermediate and minor port show a declining trend over the years. The major factors contributed to the decline of traffic in the intermediate and minor ports is the lack of requisite infrastructure facility. Among three intermediate ports cargo transportation was carried out only in Beypore and Neendakara ports. Beypore port alone handled 95 percent of total traffic among the non major ports. Beypore port has collected a revenue of ₹178.12 lakh and cargo handled was 389081 tonnes during Tenth Plan period.

18.6.4 Eleventh plan envisaged to develop the infrastructural facilities of Port and port sector and major focused areas included modernisation of office buildings, signal station and light houses, construction of godowns, electrification, water supply, widening of roads modification and major repairs of wharf, installation tenders and fire

fighting systems in Ports, and implementation of ISPS code in Ports. Revenue collection from intermediate and minor ports was doubled during the Eleventh Five Year Plan. The revenue collected during the period 2009-10 was ₹42958709. Cargo handling during 2009-10 was confined mainly to Kozhikode, Vizhinjam and Azhikkal ports. 592 steamers and sailing vessels called at non- major ports during 2009-10 with registered tonnage of 156621.99. This is against the figure of 603 and 306632.43 tonnes respectively during 2008-09.

Roads & Bridges and Transport

Tenth Plan

18.6.5 A well-developed system of transport and communication is essential for economic development of a country. Good physical connectivity in the urban and rural areas is essential for economic growth. Road development activities in the State are being carried out under three major heads viz, Roads and Bridges, Road Transport and Other Transport Services.

- An amount of ₹253000.00 Lakh was earmarked in the Tenth Plan for road development. The outlay comprises mainly of ₹227000 Lakh for PWD (R&B) and ₹15000.00 Lakh for PWD (NH). The expenditure during the period was ₹227561.00 Lakh (89.96 percent)
- The major thrust on the road development in the Tenth Plan period was enhancing the quality of the roads ensuring safety rather than undertaking construction of new roads.
- The Road Sector Policy (2005) aims at facilitating an efficient and safe road transportation system to fulfill the demand and aspirations of the users for improving the quality of life and economic development.
- Kerala PWD has initiated implementation the Institutional Strengthening Action Plan (ISAP), component of World Bank aided Kerala State Transport Project. A major constituent of ISAP is the implementation of a department wide Management Information System.
- IT Cell formed in PWD and Chief Engineer of (R&B) was appointed as Chief Engineer, Information Technology
- Comprehensive PWD Portal WINGS (Web based Information and Governance System) started
- Financial Management System (FMS), GIS based Road Information and Management System (RIMS) and Road Maintenance Management System (RMMS) under development.
- IT infrastructure enhanced up to Division Offices

Eleventh Plan

- Agreed outlay for the sector during the Eleventh Plan was ₹175718.00 lakh and expenditure during that period was ₹583573.20 lakh (332 percent)
- The Institutional Strengthening Action Plan (ISAP) was implemented in the PWD under KSTP

- The PWD Manual & Data Book were revised and updated
- A Road Development Policy has been approved by the Government
- Quality Control Sub Divisions were set up in all Districts
- Heavy maintenance (BM & BC works) on Major District Roads to minimize the overstraining of the existing infrastructure due to the increased transport demand.
- Maintenance and upgradation and development of Sabarimala Roads in a phased manner
- Introduction of Rolling heavy maintenance programme for the State Highways to ensure upgradation of the SH and MDR to cope with the heavy traffic flow in these roads
- A Seaport – Airport road connecting Kochi International Airport (Nedumbassery) and the Kochi Port
- Introduction of Web based online services to provide Department's data base and all the services rendered by the Department
- A Road Safety Authority has been set up for implementing various road safety initiatives and to create awareness among the drivers and public regarding safe driving

Inland Water Transport Sector

18.6.6 The development of Inland water canals in the State is carried out under central sector and state sector schemes. Under central sector schemes construction of 18 boat jetties in Kollam 339 jetties in Alappuzha 22 boat jetties in Kottayam and 17 boat jetties in Ernakulam were completed during 10th plan period. Revival of Parvathy Puthanar has already arranged for execution. Under State sector schemes improvement and modernisation of Inland waterways and canals, construction and maintenance of jetties etc. are the main component under implementation with state fund. An amount of ₹22.56 crores was allotted during the Tenth plan, out of which ₹15.08 crores was expended. The main activity of the Department is the operation of boat service in the inland canals of the State especially in the four districts, viz, Alappuzha, Kochi, Kottayam and Ernakulam. During 10th Plan priority was given for purchasing modern boat.

18.6.7 The major objectives envisaged for the development of inland waterways in the state during Eleventh Plan was deepening and widening the state waterway providing side protection with pile, slab and gabion structures and improvement of important feeder canals. The total budgeted outlay for Inland Water Navigation development during the Eleventh Plan was ₹513.13crores and expended ₹172.76 crores. The programmes are implemented through four agencies and review is concerned with major schemes and also accounted for the first three years.

Water Supply

18.6.8 The agreed outlay for the sector Water Supply & Sanitation for the Tenth Plan was ₹115900 lakh. The total Budgeted Outlay during the period was much higher at ₹ 217257 lakh. However, the total expenditure during the plan was only ₹104677.77 lakh, which is only 48 % of the total Budgeted Outlay. During this period, KWA completed 152 rural water supply schemes and 11 urban water supply schemes

benefitting a population of 20.21 lakh. 210 short term rehabilitation works in the Tsunami affected areas were also completed. The implementation of the JBIC aided Kerala Water Supply Project comprising 5 schemes, targeting 43 lakh people, was started during the Plan period.

18.6.9 Total outlay provided for water supply and sanitation during the 11th Plan is ₹4870.90 crore and the expenditure incurred for the corresponding period is ₹2827.94 crore (58.06 %). Table 18.21 gives the year wise outlay and expenditure of 11th Plan for water supply and sanitation.

Table 18.21
Outlay and Expenditure of the 11th Plan

(₹ in Lakh)						
Items	2007-08	2008-09	2009-10	2010-11	2011-12	11 th Plan
Outlay	91295.00	96798.00	102300.00	105800.00	90897.00	487090.00
Expenditure	75812.34	56003.77	65080.78	38780.56	47116.16	282794.06
% of Expenditure	83.04	57.86	63.62	36.65	51.83	58.06

18.6.10 Plan fund utilization pattern of Kerala is very poor as compared with other states which resulted in the failure of anticipated outcome from the designed projects. A special package named SAARK had been announced during 2009-10 to complete and commission the ongoing urban water supply schemes on priority basis. Administrative Sanction was accorded for the 17 ongoing UWSS, out of which Chelekkara WSS, Augmentation of WSS to Palakkad, UWSS to Vadakkekara and UWSS to Manjeshwaram has already been completed and remaining schemes are targeted to be commissioned in the 12th Plan. Replacement of Old Pipes of Existing Water Supply Scheme is another major initiative of 2010-11, an amount of ₹130.00 crore was provided in the 11th Plan the expenditure incurred during the same period is ₹105.00 crore. Scaling up of Rain Water harvesting and Ground Water Recharge Programme, Rehabilitation of Obsolete Pumps and Motors and Renovation of Old Water Treatment Plants are other major initiatives of the 11th Plan.

Sports and Youth Affairs

Tenth Plan

- The 10th plan outlay for the sector was ₹5850 lakh. The total budget provision for the five years to the sports sector in the 10th plan period was ₹5854 lakh and the institutions spent ₹5994.09 lakh for carrying out various activities.
- During 10th plan period the Kerala State Sports Council supported the activities of the nine centralised sports hostel, provided financial assistance to District Sports Council for conducting women sports, rural sports, hostel selection trials, May Day Sports, District level tournaments and assisted sports associations and sports Club for procuring sports equipment and participating in the state Championships. Panchayat Rural Sports Centres were established for identifying and coaching young boys and girls in the identified popular sports discipline of that area and conducted rural sports tournaments. The

council organised sports festival during each year of the plan period from block level to state level and organised mini games and college games, each year for selecting talented players.

- The new legislation of Sports Act 2000 which came into effect in September 2006, empower the council and extend its activities to Corporations and Municipalities, Blocks and Panchayats for decentralising the sports activities.
- Kerala State Youth Welfare Board, functioning as an agency for co-ordinating and implementing youth empowerment activities in the state provided assistance to youth. During 10th plan period Information and Guidance Centres were attached to the District Youth Centres in all the 14 districts for providing information to youth and guidance for Higher Studies, employment etc. The Board organised cultural and art competitions from Grama Panchayat level up to State level for the rural youth between the age group of 15 to 35.

Eleventh Plan

18.6.11 The outlay provided and corresponding expenditure of the 11th Five Year Plan are given Table 18.22.

Table 18.22
Outlay and Expenditure of 11th Five Year Plan

(₹ in lakh)

Years	11 th Five Year Plan		
	Outlay	Expenditure	% of Expenditure
2007-08	482	2193.55	455
2008-09	1778	2420.93	136
2009-10	2205	9895.57	449
2010-11	9450	3817.81	40
2011-12	5550	3635.50	66
Total (Year wise)	19465	21963.36	113

Housing

18.6.12 Tenth Plan outlay for the sector 'Housing' was ₹35400 lakh. Total budget outlay for the five years of 10th Plan was ₹32948 lakh of which an amount of ₹28636.04 lakh (81%) has been spent. Out of this expenditure around 50% was utilised for the construction of houses for the poor through "Maithri" Housing Scheme- House for Economically Weaker sections. Remaining expended by Kerala State Housing Board, Police Housing, Nirmithi Kendra, KSCHF and PWD.

18.6.13 During 10th plan period 633712 houses were constructed. During first four years the public agencies provide assistance to construct 505 lakh houses. Kerala State Housing Board had undertaken another scheme called "Suraksha" started in 2005 for giving financial assistance to construct houses to the houseless Economically Weaker People in both rural and urban areas who were owning at least 2 cents. "Nirmithi National Institute of Habitat Management" (Academic wing of Kerala State Nirmithi Kendra, renamed as LaBISHas) conducted programmes on different aspects of housing, construction, Project Management, etc. and "Flagship Programme on

Housing- EMS Housing Scheme” which envisages coordinating all the schemes and deriving a more realistic cost estimate of a house with the object of providing free, sustainable housing to all the poor for construction of new house and repair of old houses, were some of the initiatives taken during 10th plan.

18.6.14 The Eleventh plan outlay for Housing was ₹531.90 crore. During the Eleventh plan an amount of ₹364.52 crores (131%) had been spent against the actual outlay of ₹278.04 crores. Out of this expenditure a major share, ₹59.50 crores was utilised for the reconstruction of One Lakh Housing Scheme. The outlay and expenditure on housing during the eleventh plan is given Table 18.23.

Table 18.23
Outlay & Expenditure on Housing during the 11th plan
(₹ in lakh)

Period	Outlay	Expenditure	%of Expenditure
2007-08	3128	3253.7	104
2008-09	12724	14400.80	113
2009-10	3330	3565.19	107
2010-11	4222	11475.65	271
2011-12	4400	3757.19	85.4
Year wise Total	27804	36452.53	131.13

18.7 Scientific Services and Research

18.7.1 During Tenth five year Plan the agreed outlay of Science and Technology was ₹12000.00 lakh and budgeted outlay was ₹21550.00 lakh. Expenditure showed for that period was ₹33770.37 lakh. (ie. 281.4% of agreed outlay and 156.70% of budgeted outlay).

- In 2002 State Committee on Science and Technology and Environment was reconstituted as Kerala State Council for Science, Technology and Environment (KSCSTE), along the pattern of the CSIR, Govt. of India.
- Kerala State biodiversity Board was constituted in February 2005 to issue necessary operational orders to initiate scientific programme for the monitoring, cataloguing and documentation of biodiversity resources of the State, to initiate formation of a network of R&D institutions, educationan institutions, NGOs etc. to be involved in the scientific programme and to carry out awareness programme for local bodies on the biodiversity action plan.
- Children’s science parks were initiated during Tenth Five year Plan.
- R&D activities in various fields were taken place during Tenth Five year plan.
- To achieve the Kerala Vision on Biotechnology, ensure hazzle-free implementation and provide sustainable leadership and resources, Kerala biotechnology Board has been established.

18.7.2 The Eleventh plan earmarked an outlay of ₹440.95 crores for Scientific Services and Research which showed an increase of 367.46% over the 10th

plan outlay of ₹120 crores, of this, ₹344.85 crore is for KSCSTE, ₹83.58 crore for RCC and ₹12.52 crore for Kerala State Pollution Control Board. During the eleventh five year plan, major share of the plan fund for Science and Technology has been utilized by the Kerala State Council for Science, Technology and Environment (KSCSTE).

IT & E-Governance

Tenth Plan

- The agreed projected outlay for Information Technology during 10th Five Year Plan was ₹208.00 crore and the budgeted outlay for the five years amounts to ₹239.87 crore. The expenditure during 10th plan was ₹125.94 crore.
- During 10th Plan period a new IT policy was announced which primarily focused on the industry aspect of IT
- Under 10th Plan, focus was given for the development of IT and ITES industries in Kerala.
- The State was able to attract many IT/ITES companies to the state during the 10th plan period
- Development of industry was limited only by availability of built up space and land. Software exports from Kerala doubled by the end of 10th plan period and the local IT industry also showed significant growth due to surge in sales of PC and accessories.
- Initiatives like IIITM-K and ITES Habitat in Kochi were established to develop human resources necessary for IT and ITES industries
- Akshaya is one of the major achievements in IT sector during the 10th Plan. Akshaya helped to make IT accessible to a large section of the Kerala society.
- Through projects like Akshaya and IT @ school Kerala is able to address the issue of digital divide to a large extent. Programmes like FRIENDS have also helped in bringing the benefits of IT to ordinary citizens.
- State government also made considerable progress in e-Governance through establishment of State Wide Area Network and State Information Infrastructure
- Establishment of Data Centre was a milestone for e-governance in Kerala

Eleventh Plan

- The agreed projected outlay for Information Technology during 11th Five Year Plan was ₹273.23 crore and the budgeted outlay for the five years amounts to ₹539.71 crore. The expenditure during 11th plan was ₹741.86 crore.
- Government of Kerala acknowledges the critical importance of Information Technology as an instrument for the State's overall development and remains deeply committed to its dissemination, both as a crucial engine of economic growth and as a tool for increasing productivity, speed and transparency in governance and improved quality of life for the common man.

- Akshaya conceived as a landmark ICT project by the Kerala State Information Technology Mission (KSITM) to bridge the digital divide and to bring the benefits of ICT to the entire population of the State.
- IIITM-K conducted various Post Graduate programmes affiliated to Cochin University of Science and Technology and Post Graduate Diploma awarded by Department of Technical Education.
- Cyber Park was registered as a Society in 2009 promoted by GoK, under Information Technology Department.

Ecology & Environment

18.7.3 The Ecology & Environment sector was brought under plan for the first time during the 11th Five Year Plan. During the 10th Five Year, there was no separate outlay earmarked for the sector and environmental programmes were part of Science & Technology. The programmes were implemented by some research institutions, line departments and State Pollution Control Board. The agreed outlay for the sector during the 11th plan period was ₹2239 lakh. During the 11th plan period, an amount of ₹2550.74 lakh was utilized against the budgeted outlay of ₹5009 lakh (51%) for implementing various schemes. Details are given in Table 18.24.

Table 18.24

Outlay & Expenditure of Ecology & Environment sector during 2007-12

(₹in lakhs)

Department	2007-12	
	Outlay	Expenditure
Department of Environment & Climate Change	4304	2065.74
Kerala State Biodiversity Board	705	485.00
TOTAL	5009	2550.74

18.7.4 The Department of Environment was established in 2006. During 2007, the Environment Management Agency was set up under the Department of Environment. In 2010, this agency was upgraded as the Directorate of Environment & Climate Change. The Department coordinates various environmental related programmes implemented by various departments, agencies, PRIs etc. Its initial tasks are an assessment of effectiveness of the sectoral environment management programmes and formulation of strategies for undertaking key environmental initiatives. This includes setting priorities and promoting Research and Development on relevant environment management aspects, formulating programmes on conservation of natural environmental resources and coordinating with sectoral agencies for actions. During the 11th plan period, in order to encourage environmental protection activities, the Department established eco clubs called Bhoomithrasena in colleges across the State with representation from all districts. These clubs have undertaken environmental protection activities of their surrounding areas.

18.7.5 Kerala State Biodiversity Board is implementing the scheme Biodiversity Conservation for ensuring conservation and sustainable utilization of State's

biodiversity. It takes initiatives to mitigate the multi-dimensional biodiversity conservation issues through various programmes at various levels.

18.7.6 Key initiatives of the Board during the 11th plan period were as follows:

- Biodiversity Management Committees (BMCs) were constituted in all the 978 Grama panchayats of the State for addressing environmental issues at local level
- Completed preparation of 496 Peoples Biodiversity Registers (PBRs) in the LSGs. PBRs has documented the status of locality specific flora, fauna, traditional knowledge associated with bio resources and the major driving forces involved in the local management of bio resources.
- Prepared handbooks on medicinal plants of Kerala, trees of Kerala and fishes of Kerala
- Conducted Research Study on status of fish diversity and river health assessment programme in 44 rivers, 2 waterfowl Census and 2 Heronry Census.
- Instituted Green Awards to recognise the contribution being made in the field of biodiversity conservation

Forest & Wild Life Sector

18.7.7 The 10th Five Year Plan strategies adopted for the growth of Forestry sector in the state are in tune with National Forest policy viz. promotion of participating Forest Management, agroforestry, afforestation and sustainable use of non-wood forest producers. The National Forest Policy envisages maintenance of environmental stability through preservation and reduction of degeneration of forests, conservation of Bio-diversity, increasing the productivity at Forestry, increasing substantially improvement / biodiversity conservation and development of Partnership with the forest depended communities. During the Xth Plan, forest policy of the state encompasses in technology improvement / biodiversity conservation and development of partnership with the forest dependent communities. During the Xth Plan the original outlay provided to the forestry and wild life sector was ₹175 crore. The total budgeted outlay for the period was ₹227.71 crore and the expenditure was ₹208.71 crore.

18.7.8 The major activities made in the 10th Five Year Plan were:–

- 1704 Kms of Forest boundaries were demarcated and by erecting 34,085 Nos of cairns and 55 Kms of Kayyalas
- 561 VSSs and 193 EDCs were formed
- 3 National Parks and 2 sanctuaries were newly formed
- A total area of 1500 Ha was newly planted during this period
- Around 5000 ha were treated for production of Industrial Raw material
- Six District Forest Extension and information centers have been setup
- The assistance of National Remote Sensing Agency (NRSA) was taken in monitoring and control of Forest fire

- A scheme viz. Haritholsavam for planting trees along the roads and canal sides with participation of people was implemented
- Kerala Forest Seed Centre was set up in collaboration with KFRI, Peechi for quality improvement
- Gramavanam scheme was launched for developing miniature forest type in each grama Panchayat of the state in a minimum of 1 acre area

18.7.9 The XIth Five year plan was formulated involving changes in policy framework, Institutional development management system linked to the HRD, improved technology etc. The major initiatives during this period was management of natural forests, promotion of participatory forest management, promotion of medicinal plants and mangroves conservation, promotion of participatory habitat forestry through village panchayats, Biodiversity conservation including conservation of birds, application of Forest Management Information system and GIS for Forest Management etc. The total plan outlay during the XIth Plan for the sector was ₹318 crore which accounts 0.79 % of the state Plan outlay and 13.64 % of outlay under Agriculture and allied sector. The budget outlay for the period was ₹288.87 crore and the expenditure was ₹256.56 crore (88.82 %). The major achievements during the XIth Plan were:-

- In accordance with the provisions of the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act 2006, Titles have been issued to 19878 families in an extent of 24747 Acres.
- Extent Reserved Forest was increased by 31200 Ha.
- 995 Kms of forest boundaries has been demarcated by erecting 19885 Nos of cairns and 17.422 km of Kayyalas
- Regeneration of degraded forest by afforestation in 2356.56 Ha and treatment in 4000 Ha.
- Formation of Neelakurinji, Malabar and Chulannor Peacock Sanctuaries
- Formation of Kadalundi -Vallikunnu Community Reserve
- Formation of second Tiger Reserve at Parambikulam
- Establishment of Rehabilitation centre for captive elephants at Kottoor in Thiruvananthapuram
- Formation of Abhayaranyam at Kaprikkad, Malayattoor for rehabilitation of stranded wild animals
- An Integrated Project for Protection of sacred groves
- 513.42 ha of new Hardwood plantations and 3000 ha of new pulpwood plantations and their maintenance
- Distribution of 1.20 crore seedlings under Harithakeralam project
- Setting up Vanasree out lets for sale of value added forest produces

18.8 Education

18.8.1 The outlay envisaged in the Education Sector during the 10th Plan was ₹55000 lakh, out of which ₹28100 lakh (51%) and ₹26900 lakh (49%) was allocated between General Education and Technical Education respectively. Total plan expenditure corresponding to this period was ₹63348.7 lakh (ie, 115.18%). The expenditure for the general education sector during this period was ₹39099.2 lakh (139.14%), while that of the Technical Education Sector was ₹24249.5 lakh (90.15%).

18.8.2 The outlay set apart for the Education sector in 11th Five Year Plan was ₹955.92 crore. Out of this, ₹349.95 crore is for School Education, ₹280.94 crore to Higher Education and ₹325.03 crore for Technical Education. The year-wise and sub sector wise outlay and expenditure in the 11th Five Year Plan are given in Table 18.25.

Table 18.25

The Year –wise and sub sector-wise Outlay and Expenditure for 11th Five Year Plan

(₹ in lakh)

Year	School Education		Higher Education		Technical Education		Total	
	Outlay	Expdr.	Outlay	Expdr.	Outlay	Expdr.	Outlay	Expdr.
2007-08	7294	4004.09	3892	4105.93	2996	3848.82	14182	11958.84
2008-09	9115	12015.94	5024	5816.44	4441	5946.47	18580	23778.85
2009-10	10151	12729.22	5703	8452.65	5006	7098.10	20860	28279.97
2010-11	21579	17645.22	9075	16118.46	6446	9994.75	37100	43758.43
2011-12	23040	18411.66	10828	9796.35	7919	11508.71	41787	39716.72
Total	71179	64806.13	34522	44289.83	26808	38396.85	132509	147492.81

18.9 Medical and Public Health

18.9.1 During the Tenth Plan, agreed outlay was ₹40840 lakh for the Medical and Public Health sector and year wise total outlay was ₹48184.64 lakh, of which an amount of ₹43034.74 lakh was expended. New Schemes started during the Tenth Plan were: (i) Setting up of infertility clinic in district/major hospitals (ii) Training to doctors and paramedical staff (iii) Modernization in Directorate of Ayurveda (iv) Establishment of Central University, Kottakkal, and (v) Kerala Heart Foundation (vi) Diplomate in National Board.

18.9.2 The outlay set apart for the Sector Medical and Public Health in the Eleventh Five Year Plan was ₹965.69 crore. Out of this, ₹379.37 crore is for Allopathy, ₹62.50 crore is for Ayurveda and ₹28.85 crore is for Homoeopathy, ₹420 crore is for Flagship Programmes and ₹75 lakh is for RIDF programme. The total expenditure reported during the 11th Plan under Health sector is ₹109619.36 lakh. The implementation of eleventh plan programme has resulted in a significant all round improvement in the public health system and public health care. The year wise and department wise outlay and Expenditure in the 11th Five Year Plan are given in Table 18.26.

Table 18.26

The Year- wise and department-wise Outlay and Expenditure for 11th Five Year Plan

(₹ in Lakh)

Year	DHS		DME		ISM		DAME		Homoeo Dept.		Homoeo Education	
	Outlay	Expdr	Outlay	Expdr	Outlay	Expdr	Outlay	Expdr	Outlay	Expdr	Outlay	Expdr
2007-08	4435	3862	2200	5793	263	259	551	455	306	71	625	69
2008-09	4783	8526	4175	5101	750	597	896	758	607	226	325	235
2009-10	3678	5700	4324	9311	1022	733	900	530	866	200	410	154
2010-11	6565	5267	6295	15511	1170	1021	937	1124	1007	858	1160	429
2011-12	16608	17037	18816	22331	1330	1204	1437	1110	2224	774	1250	370
Total	36069	40392	35810	58047	4535	3814	4721	3977	5010	2129	3770	1257

18.9.3 Department of Health Services and institutions under the control of DHS are playing a major role in medical health service delivery. Major schemes which have been implemented by DHS are strengthening of institutions under DHS, major construction works under DHS, prevention of non –communicable diseases etc.

18.9.4 An amount of ₹1497 lakh had been provided for Strengthening of Institutions under DHS during the 11th plan period and an amount of ₹1342.38 lakh had been expended. The activities proposed under this scheme are: (i) Standardization of facilities in Primary Health Centres (ii) Standardization of facilities in Community Health Centres (iii) Standardization of facilities in District, Taluk, and General Hospitals (iv) Providing equipment to hospitals and reconditioning and repair of existing equipment (v) Infertility clinics in Women and Children Hospitals and other selected institutions (vi) Hospital waste management (vii) Trauma Care (viii) Improvement of storage facilities in hospitals, and (ix) Civil works including construction of critical care ward at District Hospital, Kollam, laboratory building at Chest Diseases Hospital, Karunagappally, installation of lift at General Hospital, Kozhikkode, new building for Government Leprosy Hospital, Cheruvayur and purchase of various equipment for hospitals are also included.

18.9.5 Prevention of Non-Communicable Diseases: Non communicable diseases have emerged as a great threat to society. Non Communicable Diseases especially cardiovascular diseases, cancer and Type2 diabetes mellitus account for 53% and 44% of all deaths and disability. Alcohol related diseases are also growing. Similarly, overweight and obesity leads to heart attack, hypertension, breast cancer, diabetes and joint problems. Hence prevention of these types of diseases is necessary. During XIth plan period an amount of ₹2376 lakh had been provided for the Prevention of Non Communicable Diseases and ₹ 2324.21 lakh expended.

18.9.6 Kerala Medical Services Corporation: With the setting up of Kerala Medical Services Corporation Ltd, Government of Kerala has assumed a pivotal role in ensuring and administering the supply of genuine allopathic medicines at reasonable cost all over the state as well as in government hospitals. It is one of the major achievements of the government in the medical field. During the XIth plan period an amount of ₹2500 lakh had been provided for this scheme and 100 % expenditure

incurred. The other major achievements of Kerala Medical Services Corporation are the following: (i) Procurement of medicines through Kerala Medical Services Corporation during 11th plan comes at the rate of 20 to 30% less than the existing market rates and (ii) Rectified the problem of shortage of medicines in the public health institutions from the PHCs up to the medical colleges, especially essential medicines listed by the Government of India.

18.9.7 Asha Workers: The Accredited Social Health Activists (ASHAs) are recruited under the Government of India Flagship programme of NRHM. The activities entrusted upon them are weighing of children, immunization and pre-natal care, institutional delivery of pregnant women and family planning measures. There are 31549 selected ASHA workers in Kerala. An amount of ₹1892.94 lakh had been provided for this scheme during the Eleventh Plan and 100% expenditure incurred.

18.9.8 Child Development Centre: Child Development Centre (CDC) was established as a Nodal referral and training centre for a comprehensive nation-wide prevention of childhood disability programme. The Child Development Centre provides support services in early child care and education, adolescent care, pre-marital counselling, women health and other related issues. An amount of ₹1620 lakh had been provided for this scheme during the Eleventh Plan and ₹500.18 lakh had been expended.

18.9.9 Assistance to Malabar Cancer Centre: Malabar Cancer Centre, Thalassery, Kannur is an autonomous centre under the Government of Kerala. Malabar Cancer Centre has been established with the aim of providing oncological care to the people of north Kerala. The Centre has many latest facilities for the treatment of cancer patients. An amount of ₹2600 lakh had been provided for this scheme during the Eleventh Plan period and ₹625 lakh had been expended.

18.9.10 Matching Grant for PMSSY to Medical College, Thiruvananthapuram: The Pradhan Mantri Swasthya Suraksha Yojana (PMSSY) aims at correcting regional imbalances in the availability of affordable/ reliable tertiary health care services to augment facilities for quality medical education. PMSSY is a Central Government scheme to improve infrastructure facilities and technology in 13 Government Medical colleges in India. Medical College, Thiruvananthapuram was included in this programme. The project envisages state of art medical services to common man at a low cost. During XIth plan period, an amount of ₹2950 lakh had been provided and ₹2493.39 lakh had been expended.

18.9.11 Oushadhi: Oushadhi is the largest manufacturing company of Ayurveda medicine in India in Government sector. It is a fully Government owned Ayurvedic medicine manufacturing company under the administrative control of Health and Family Welfare Department of Government of Kerala. Oushadhi is supplying medicines worth ₹3000 lakh to State ISM and Ayurveda departments of other States. During the Eleventh plan period an amount of ₹1405 lakh had been provided for the company as share capital contribution for the ongoing projects and ₹1474.63 lakh had been expended.

18.9.12 Kerala State Homoeopathic Corporation Pharmacy Limited: The Kerala State Homeopathy Co-operative Pharmacy is engaged in the manufacture and supply of Homoeopathic medicines. It is the sole supplier of Homeopathic medicine to hospitals and dispensaries under the department of Homoeopathy since 1980. The HOMCO is supplying medicines to over 15 States all over India and exporting to many countries.

An amount of ₹1335 lakh had been provided for Corporation and ₹460 lakh had been expended during the eleventh plan period.

18.9.13 The other major achievements during Eleventh Plan period are as follows:

- The Health Management Information System (HMIS) started on April 2009 facilitates the online reporting mechanism which provides timely and accurate reports and generates quality information
- Floating dispensaries provides medical services to inaccessible water logged areas and create health awareness among people
- For promoting the health of people above 65 years, the scheme- Ayurarogyam - was implemented which provides health cards, free supply of drugs, weekly OP, 10 bedded senior citizen ward, free clinical laboratory facilities etc.
- The Flagship programme on Health was included in the Annual Plan for achieving universal health security in the State
- Medical University started functioning for the purpose of ensuring proper and systematic instruction, training and research exclusively in modern Medicine, Ayurveda, Siddha, Yoga, Naturopathy, Unani and to have uniformity in the various academic programmes in medical and allied subjects.
- During the Eleventh Plan period, the dual administrative system in Medical Colleges has been abolished. New Post Graduation courses started and Residency system has been introduced in all medical colleges.
- Three nursing colleges and two para medical colleges started under SIMET. The system of E-journals has been introduced in all medical colleges, nursing colleges and pharmacy colleges.
- The State Institute of Sports Medicine was started in the Government College Calicut on 14th February 2009.
- 37 new posts of clinical and non- clinical staffs were created during 11th Plan under Nursing Education and 70 new posts of clinical and non- clinical staffs were created in pharmacy sector under DME.
- Three unit of Seethalayam started at selected hospitals in Thiruvananthapuram, Kottayam and Kozhikode districts.
- NRHM was introduced to provide accessible, affordable and accountable quality health services to the poorest households in the remotest rural regions
- The Kerala Medical Service Corporation started functioning for the purchase, storage and distribution of quality drugs, surgical items, medical equipments etc. for the hospitals in the Health Services department at low cost.
- Kerala Emergency Medical Service Project (KEMP) is a new scheme started during 11th Plan period which provides 24 hour emergency life saving ambulance medical service facility (Toll free No.108) launched as a pilot initiative in Thiruvananthapuram district.

- With the upgradation of two Government Ayurveda dispensaries at Punnapra in Alappuzha district and Irinavu in Kannur district, 12 new posts were newly created.
- Ksharasutra units were set up in District Ayurveda Hospital, Kollam, Wayanad and Kasargod districts.
- Panchakarma units were set up in District Ayurveda hospitals Thiruvananthapuram, Idukki, Kozhikkode and Kannur.
- A new treatment wing started in Ayurveda Sports medicine in Thiruvananthapuram district
- Under Homoeopathy, 15 Temporary dispensaries were opened during pilgrim seasons at Sabarimala, Kurisumala and Hajj camp at Malappuram and 25 new dispensaries with bare minimum post creations functioning during 2010. A weekly clinic was conducted at Central prison and also a National Campaign for healthy mother and happy child. The School Health Programme started in 2003, conducted health programmes in 28 selected schools during 2010 in 14 districts and 8400 high school students received the benefits of the scheme.
- Speciality clinics were started in 13 district hospitals
- Preventive medicines were supplied to 17 lakh persons and 2850 medical camps and health awareness camps were conducted
- All homoeo hospitals were provided with wheel chairs and stretchers
- Ultra Sound Scanning units were provided to 6 homoeo hospitals and 3 Regional hospitals were started in Kottayam, Malappuram and Kannur districts.
- 204 dispensaries have been computerized under Homeopathy
- Seethalayam centres rendered service to 330 female clients, 6 male clients and conducted 8 public awareness programmes.

18.10 Urban Development

Tenth Plan

18.10.1 The performance of Urban Development sector during Tenth Plan period is given in Table 2.27. While analysing the year wise expenditure it is seen that there is jump of expenditure in the annual plan 2004-05 (133.15%) and fall of expenditure in annual plan 2006-07 (17.37%). During the Five Year Plan period the sector registered an average financial performance of 46.54% against the overall total state achievement of 109.25%. The reason for over expenditure in the annual plan 2004-05 can be attributed to the performance of the schemes mentioned in Table 18.28.

Table 18.27
Tenth Five Year Plan (2002-2007) – year wise Outlay and Expenditure

(₹ in lakh)

X Plan (2002-07) Projected Outlay	2002-03		2003-04		2004-05		2005-06		2006-07		Total	
	Budget Outlay	Expdr.	Budget Outlay	Expdr.	Budget Outlay	Expdr.	Budget Outlay	Expdr.	Budget Out lay	Expdr.	Budget Outlay	Expdr.
19750.00	4283.00	3395.63 (79.28%)	6580.00	4502.15 (68.42%)	7059.00	9399.69 (133.15%)	13911.00	5624.62 (40.42%)	27789.00	4826.69 (17.37%)	59622.00	27748.78 (46.53%)

Table 18.28
Annual Plan (2004-05) - Performance of Selected Schemes

(₹ in lakh)

Sl. No	Name of Scheme	Outlay	Expenditure	% of Expenditure
1	Development Authorities	200	400	200
2	Cochin Urban Poverty Reduction Programme	0	1653.69	-
3	Clean Kerala Project	50	1002.64	2005.28
4	TRIDA	0	100	-
5	Initiative for strengthening Urban Infrastructure	0	725	-

18.10.2 The performance of the schemes mentioned in Table 18.29 in the annual plan 2006-07 resulted in the low expenditure of the year.

Table 18.29
Annual Plan (2006-07) - Low Expenditure Schemes

(₹ in lakh)

Sl. No	Name of Scheme	Outlay	Expenditure	% of Expenditure
1	SJSRY (25% SS)	300.00	53.26	17.75
2	KSUDP	14036.00	649.62	4.62
3	VAMBAY	1000.00	0	0
4	JnNURM	9000.00	948.98	10.54
5	Burial sites in Towns	260	39.27	15.10

Eleventh Plan

18.10.3 The 11th Five Year Plan had a projected outlay of ₹2387.27 crores at 2006-07 prices for state schemes. But the actual outlay for the plan period for the state schemes stood at ₹3366.05 crores. The expenditure under the sector for state plans was

₹1664.38 crores which was 49% of the actual outlay and 69.71% of the projected outlay at 2006-07 prices.

18.10.4 Eleventh Plan (2007-12) year wise outlay and expenditure under the sector is given in Table 18.30.

Table 18.30
Eleventh Plan - Year wise Outlay and Expenditure

(₹ in lakh)

XI Plan (2007-12) Projected Outlay	2007-08		2008-09		2009-10		2010-11		2011-12		Total	
	Budget Outlay	Expdr.	Budget Outlay	Expdr.	Budget Outlay	Expdr.	Budget Outlay	Expdr.	Budget Outlay	Expdr.	Budget Outlay	Expdr.
238727.00	47970.00	17035.59 (35.51%)	55000.00	41481.45 (75.42%)	85463.00	41640.27 (48.72%)	90136.00	34340.79 (38.09%)	58036.00	31940.23 (55.04%)	336605.00	166438.33 (49.44%)

18.10.5 The overall financial achievement of the sector under the XI Five Year Plan was only 49.44% of the outlay. During the whole period of the Five Year Plan, Annual Plan 2007-08 had the poor financial performance with 35.51% and Annual Plan 2008-09 registered a comparatively better financial performance with 75.42%.

18.10.6 The Table 18.31 shows the implementing agency wise financial achievements of the sector during the XI Five Year Plan.

Table 18.31
Eleventh Plan - Implementing Agency wise Financial Achievements

(₹ in lakh)

Sl. No.	Name of Agency	Actual Outlay	Expenditure	% of Expenditure
1	Urban Affairs Department	6614.02	3796.01	57
2	Town and Country Planning Department	1646.00	746.93	45
3	KSUDP	254046.98	121583.04	48
4	Kudumbashree Mission	72661.00	30455.42	42
5	Suchithwa Mission	221.00	168.93	76
6	KURDFC (Loan grant)	416.00	8866.00	-
7	Development Authorities (Loan grant)	1000.00	800.00	80
8	TRIDA	-	22.00	-
	Total	336605.00	166438.33	49

18.10.7 The above table shows that during the five year plan period a major chunk of outlay (75.48% of the total outlay of the sector) was provided to the KSUDP. But the financial performance of the agency was only 48%. The KSUDP was entrusted with the implementation of Other Central Assistance schemes such as JnNURM, UIDSSMT and Externally Aided Project of Kerala Sustainable Urban Development Project. In terms of outlay the Kudumbashree mission stood in the second position i.e.; 21.59% of the total outlay of the sector. The Kudumbashree had implemented the Other Central Assistance schemes of IHSDP, BSUP and the Centrally Sponsored Scheme of SJSRY. The financial performance of Kudumbashree was only 42% of the total outlay earmarked for the agency which was the least among the different agencies. The KSUDP and the Kudumbashree together account for about 97% of the total sectoral outlay during the Five Year Plan period.

18.10.8 The Table 18.32 shows the performance of OCA schemes under Urban Development during the XI Five Year Plan.

Table 18.32
Eleventh Plan - Performance under OCA

(₹ in lakh)

Implementing Agency/ Scheme	Outlay	Expenditure	% of Expenditure
KSUDP - (a) UIDSSMT	28527.00	28040.87	73
(b) JnNURM	115184.00	49646.03	43
Total	143711.00	70486.90	49
Kudumbashree (a) BSUP	43600.00	18316.58	42
(b) IHSDP	27174.00	11224.73	41
Total	70774.00	29541.31	42
Grand Total	214485.00	100028.21	47

18.10.9 The expenditure relating to the OCA schemes was comparatively less than the expected achievement due to different reasons.

18.10.10 The Table 18.33 shows the year wise achievement of the EAP scheme KSUDP which alone covered 31.36% of the total outlay provided to the sector in the five year plan.

Table 18.33
Year wise financial achievement of KSUDP (EAP)

(₹ in lakh)

Years	Budget Outlay	Expenditure	% of Expenditure
2007-08	25000.00	2343.31	9.37
2008-09	20000.00	11000.00	55.00
2009-10	22091.00	15000.00	68.00
2010-11	27967.00	7100.00	25.38
2011-12	10500.00	7795.00	74.24
Total	105558.00	43238.31	40.96

18.10.11 The achievement in the Asian Development Bank aided Kerala State Urban Development Project was also less than half of the financial outlay.

18.10.12 Most of the schemes implemented under the sector were aimed to create infrastructure facilities in the urban areas. The major development activities carried out during the XI Plan period were housing, sewerage, drinking water, drainage facilities, disposal of waste and sanitation activities. Obviously there were several reasons like problems related to land acquisition, public protest against solid/ liquid waste management projects, lack of interest of the contractors to take bid, problems related to schedule of rates, unfavourable stipulations in the guidelines of Centrally Sponsored Programmes etc. Lack of integration among the activities is also considered as a main constraint in the implementation.

18.11 Social Inclusion

Scheduled Caste Development

18.11.1 During the 10th Plan, an amount of ₹2315.11 crore was earmarked under SCP and the expenditure was ₹1455.56 crore. Out of this, an amount of ₹616.96 crore was earmarked to SC Development Department and ₹1554.5 crore to LSG Department. The corresponding expenditure was 397.37 crore and 1058.29 crore respectively. Details are given in Table 18.34.

Table 18.34
Tenth Plan - Outlay and Expenditure of SCP

(₹ in Crore)

Year	Outlay				Expenditure			
	Total Allocation	Department	LSG	Notional Flow	Total	Dept.	LSG	Notional Flow
2002-03	398.26	129.76	268.50	-	200.1	106.10	94.00	
2003-04	390.76	127.43	263.33	-	292.81	69.13	223.78	
2004-05	419.37	134.17	285.20	-	261.19	70.92	190.27	
2005-06	501.72	112.80	334.47	54.45	252.67	57.04	195.63	-
2006-07	605.00	112.80	403.00	89.20	448.79	94.18	354.61	-
Total	2315.11	616.96	1554.50	143.65	1455.56	397.37	1058.29	

18.11.2 An amount of ₹4471.66 crore was earmarked under SCP during 11th plan and the expenditure was ₹4018.01 crore. Of which ₹1528.40 crore was earmarked to SC Development Department and ₹2704.85 crore to LSG Department under SCP. The corresponding expenditure was ₹1456.68 crore and ₹2561.33 crore respectively. Details are given in Table 18.35.

Table 18.35
Eleventh Plan - Outlay and Expenditure of SCP

(₹ in Crore)

Year	Outlay				Expenditure			
	Total Allocation	Dept.	LSG	Notional Flow	Total	Dept.	LSG	Notional Flow
2007-08	681.80	143.09	443.30	95.41	572.05	129.88	442.17	-
2008-09	755.95	179.32	487.63	89.00	576.58	157.08	419.50	-
2009-10	874.73	338.74	535.99	-	843.93	325.44	518.49	-
2010-11	981.00	391.51	589.49		810.12	326.64	483.48	-
2011-12	1178.18	529.74	648.44		1215.33	517.64	697.69	-
Total	4471.66	1582.40	2704.85	184.41	4018.01	1456.68	2561.3	

18.11.3 The schemes implemented by the Scheduled Caste Development Department cover a wide area comprising education, health, housing and economic development schemes which promote the economic and social welfare of the people belonging to the Scheduled Caste.

18.11.4 Education is the area one which Government puts great thrust and spends a major share of provision for Scheduled Castes. Scheduled Caste Development Department is implementing various educational schemes such as pre-matric studies, post-matric studies running/construction of Model Residential Schools etc. One of the major achievements in Education sector is the introduction of e-Grantz for the distribution of educational concession to the students during the Eleventh Plan period.

18.11.5 Housing Scheme: During the 11th Plan, Government announced a housing policy for providing house to all Scheduled Castes families. A special drive was launched for meeting the cost from the corpus fund. Local bodies have also been directed to give thrust to cent percent housing programme covering poor SC families.

18.11.6 Critical Gap Filling (Corpus Fund): This scheme is intended to provide funds for filling critical gap in the SCP provision made under various schemes on project basis with emphasis on human resource development, basic needs economic development etc.

18.11.7 Pooled Fund: A system of earmarking certain amount of SCP fund as Pooled Fund under SCP for taking up schemes on a project approach was introduced. This gives scope to get wide range of schemes with various objectives and physical targets which put together will help the all round development of the targeted group.

Scheduled Tribes Development

18.11.8 During 10th Plan the total outlay earmarked under TSP was ₹518.60 crore and the expenditure was ₹367.97 crore. Out of this, the outlay earmarked to ST Development Department was ₹260.65 crore and the outlay earmarked under TSP to LSG Department was ₹204.44 crore respectively. The corresponding expenditure was ₹224.27 and ₹143.70 crore respectively. Details are given in Table 18.36.

Table 18.36
Tenth Plan - Outlay and Expenditure of TSP

(₹ in Crore)

Year	Outlay				Expenditure			
	Total Allocation	Dept.	LSG	Notional Flow	Total	Dept.	LSG	Notional Flow
2002-03	90.75	90.75	-	-	78.48	78.48	-	-
2003-04	87.62	42.08	45.64	-	51.32	25.12	26.20	-
2004-05	94.88	46.75	48.13	-	78.41	46.95	31.46	-
2005-06	106.35	39.75	50.17	16.43	70.21	34.03	36.18	-
2006-07	139.00	41.32	60.50	19.18	89.55	39.69	49.86	-
Total	518.60	260.65	204.44	35.61	367.97	224.27	143.70	

18.11.9 During 11th plan ₹958.64 crore was earmarked under TSP and the expenditure was ₹855.94 crore. Out of this, an amount of ₹511.97 crore was earmarked to ST Development Department and ₹406.04 crore to LSG Department. The corresponding expenditure was ₹460.49 crore and ₹395.45 crore respectively. Details are given in Table 18.37.

Table 18.37
Eleventh Plan - Outlay and Expenditure of TSP

(₹Crore)

Year	Outlay				Expenditure			
	Total Allocation	Department	LSG	Notional Flow	Total	Department	LSG	Notional Flow
2007-08	139.00	50.82	66.55	21.63	124.00	52.83	71.17	-
2008-09	154.10	61.90	73.20	19.00	131.12	57.99	73.13	-
2009-10	180.85	100.34	80.51	-	179.47	99.69	79.78	-
2010-11	200.50	112.03	88.47	-	192.03	113.75	78.28	-
2011-12		186.88	97.31	-	229.32	136.23	93.09	-
Total	958.64	511.97	406.04	40.63	855.94	460.49	395.45	

18.11.10 The major programmes implemented during XIth Plan are Educational betterment programmes, Housing and Health Care Programmes.

18.11.11 Educational Programmes: During the XI plan top priority has been given for the Development of education among Scheduled Tribes. As a desired level of education is very crucial to remove the backwardness, about 50% of the total budget provision of the department has been set apart for the education sector. With a view to provide Residential Education to Tribal students in remote areas, the ST

Development Department is running 110 pre-matric hostels and 3 post matric hostels in the State. There are 32 single teacher schools for providing preprimary education to Tribal students living in very remote and inaccessible areas. For providing preprimary education to the Tribal students, 13 kindergartens and 22 Balawadies are functioning under Local Self Government and the ST Department respectively. The Department also runs 12 training centres for imparting job oriented technical training programmes. In order to provide quality education to ST students 15 Ashram Schools in Tribal Sub Plan areas and 2 Ekalavya Model Residential Schools and one special Model Residential (CBSE) school are also functioning under this department

18.11.12 Housing Programme: In the XIth Plan it was proposed to construct houses to all houseless families in a time bound manner. In order to achieve this objective serious efforts were taken by the department.

18.11.13 Health Programme: Since the Tribal settlements are situated far away from hospitals and health centers, the ST population in general are not in a position to make use of medical facilities. So various measures have been taken for providing timely medical attention to Scheduled Tribes in the XIth Plan period.

18.11.14 Critical Gap Filling Scheme: This scheme intended to provide funds for filling critical gap in the TSP provision made under various schemes on project basis with emphasis on human resource development, basic needs, economic development etc.

18.11.15 Pooled Fund: A system of earmarking certain amount of TSP fund as pooled fund under TSP for taking up schemes adopting a project approach was introduced. This gives scope to get wide range of schemes with various objectives and physical targets which put together will help the all round development of the targeted group.

OBC Development

18.11.16 Kerala Government earmarks funds for OBC Development from State Plan outlay every year for implementing schemes for the development of backward classes. Earmarked financial outlay and expenditure of State Plan Schemes from 2007-08 to 2011-12 are given in Table 18.38.

Table 18.38
Outlay and Expenditure of OBC (Plan)
(₹ in Crore)

Year	Outlay	Expenditure
2007-08	10.78	12.98
2008-09	16.00	14.25
2009-10	18.23	17.04
2010-11	23.72	21.04
2011-12	23.06	33.40

18.11.17 The major programmes implemented during XIth Plan are post matriculation studies, Pre matriculation studies, Educational concession to Prematric students and construction of hostels to Boys and Girls.

Women & Child Right

18.11.18 Most of the previous five year plans and programmes have aimed at women's advancement in different spheres. The 11th plan gave attention on skill development programmes for better livelihood and income generation for women. It also focused on gender auditing and budgeting of major development policies and programmes. For this, in the 11th plan, nearly 10 percent of the total outlay in the social welfare sector was earmarked as flow to women development. Gender awareness and finishing school schemes introduced in the 11th plan as gender flagship programmes helped to eradicate gender discrimination to a great extent and improve the skill development activities for vocation of women. As a new initiation for addressing the psycho-social problems of the adolescent girls, counseling programme which started in 2008 has been extended to 500 schools in the 11th plan period. The Snehasparsham scheme is one of the major ventures started in 2011-12 to address the problem of unwed mothers and it benefited 500 unwed mothers.

18.11.19 According to 2011 census, 9 % of the state population constitutes children below the age of 6 years. The 11th plan focused upon to implement the specific activities proposed in the State Plan of Action for the Child in Kerala-2004. The major child specific programmes initiated during this period were Cancer Suraksha for Child Patients and Thalolam (free treatment to children below the age of 18 years who are suffering from life threatening diseases). Sruthitharangam project intended for cochlear implantation in children was one of the new ventures started in 2011-12 and the scheme has so far benefitted 200 children.

18.12 Social Security

18.12.1 Labour: In the 10th Plan, the focus was on the modernisation of the Labour Department and support of labour welfare in the unorganised sector. It also envisaged ensuring a fair deal in new enterprises for management and workers and fostering a new work culture consistent with the emerging business environment. The agreed outlay for the Labour and Labour Welfare sector was Rs.44 crore whereas the budget outlay for the period 2002 to 2007 was ₹62.79 crore and the expenditure for the corresponding period is Rs.54.71 crore (87%). The following flagship programmes were implemented during the Eleventh Plan period, viz. (i) Multipurpose Job Club (ii) One time support for clearing arrears of Social Security payments by Labour Welfare Fund Boards (iii) Employment and Finishing School (iv) Social Security, and (v) Kerala Institute of Design (KSID).

18.12.2 Welfare: During the 10th plan the outlay for social security and welfare was Rs.266.71 crore, in which 60 percent achievement was registered. The flow of funds was high in schemes such as National family benefit scheme, social delivery improvement in social welfare department, development of Anganwadi centres as community resources centres, modernization of social welfare institutions and modernization of prisons.

18.12.3 It was identified that the efforts made in the 10th plan period were not enough to provide protection to the weaker sections of the society like the persons with disabilities, senior citizens, disadvantaged children and women, destitute, victims of substance abuse and alcoholism etc. So the 11th Five year plan adopted two pronged development strategy: (i) Socio-economic empowerment of women and (ii) Protection

of underserved segments and marginalized groups of the society. Based on this, the 11th Five year plan focused upon

- Strengthening delivery of services and extending the reach of social security network to the neglected groups.
- Promoting skill development programmes for better livelihood and income generation in particular for women empowerment.
- Providing better facilities in the existing welfare institutions for effective service delivery.

18.12.4 In order to achieve the above objectives through various social security programmes, the 11th Five year plan earmarked an outlay of ₹934.85 crore and attained 70 percent expenditure. During this period Government had launched the Kerala Social Security Mission with a view to converge various social security measures/activities and facilitating wider coverage of the population who are in dire need of social provisioning. Cancer suraksha scheme for child patients, hunger free city programme to provide subsidized meals to public at designated centres and disability certification programme were the major initiatives.

Persons with Disabilities

18.12.5 For the empowerment of Persons with disabilities, the eleventh plan focused upon the care and protection of physically and mentally challenged persons through institutional services. For this, nearly 5 percent of the total allocation of the social security sector in the 11th plan was allocated to disability. During this period, the National Institute for Speech and Hearing (NISH) was provided with an outlay of ₹10.45 crore for conducting various programmes which had benefited 35073 disabled persons. ₹6.14 crore was given to Kerala State Physically Handicapped Persons Welfare Corporation for providing aids and appliances to disabled and implementing various self-employment schemes. The Corporation supported 10719 disabled persons through these programmes. According to the Persons with Disabilities Act, 1995 Government has started ID card distribution scheme to disabled in 2009-10 and so far has issued 2.51 lakh identity cards. There is a State Commissionerate for PWDs under the Act of Persons with Disabilities Act, 1995 to monitor the implementation of the Act and to redress the complaints of disabled persons.

18.13 Tourism & Culture

- The total plan outlay during the 10th Five Year Plan was ₹25,22,643.44 lakhs
- Tourism Outlay ₹380,32 lakhs
- 25 schemes - The thrust was on Up gradation and creation of infrastructure, Marketing, RIDF, Conservation, Preservation and Promotion of Culture and Heritage
- The share of Tourism in 10th plan 1.5 %
- Expenditure in Tourism Sector 97.20 %
- Overall expenditure for the 10th Plan 81.61 %
- Allocation for Major Schemes

a) Upgradation and creation of infrastructure – ₹2171 lakh

b) RIDF had an allocation of ₹1000 lakh

c) Marketing ₹1100 lakh

- The total plan outlay of 11th FYP ₹40,42,200 lakhs
- The outlay in Tourism - ₹53,430 lakhs
- 18 schemes - The thrust was on Upgradation and creation of infrastructure, Marketing and Conservation, Preservation and Promotion of Culture and Heritage.
- Overall increase in foreign tourist inflow by 27.81%
- The average rate of growth of Foreign Tourist arrival 11.95 %
- Overall increase of domestic tourist arrival in 2010 is 29.3 %
- Average rate of growth of domestic tourist arrival 8.26 %
- Earnings from Tourism ₹17348 crore in 2010

Art & Culture

18.13.1 The agreed outlay for the sector during the 10th Plan was ₹5400 lakh. However, the budgeted outlay during the five years was ₹8142.6 lakh. Actual expenditure during the period was ₹6256.69 lakh, which is 76.83 % of the total budgeted outlay.

18.13.2 Directorate of Archaeology utilised the funds for conserving the protected monuments under the Directorate and development of museums. Conservation of 23 monuments and conservation works on the mural paintings in three ancient temples were the major activities. Archaeological Survey was conducted and thirty three monuments were declared as protected monuments.

18.13.3 During the period, Kerala State Archives digitised around two thousand selected records, hosted a website, modernised the reprographic section and conducted a survey for identifying manuscripts in the custody of individuals and institutions. It also published eleven archival papers

18.13.4 Apart from functioning as popular tourist destinations, Museums and Zoos have also promoted research in the field of animal behavior, biology, nutrition etc. In addition to acquisition of animals, restoration works were undertaken for the safety of animals. New open enclosures were also built during the plan period.

2.13.5 An amount of ₹9349 lakh has been set apart as the 11th plan outlay for the sector Art and Culture. The total outlay provided for five years was ₹13938 lakh and the total expenditure was ₹14795.44 lakh, which was 105.46% of the total outlay. The outlay and expenditure on Art & Culture during 11th plan period is given in Table 18.39.

Table 18.39
Outlay & Expenditure under Art & Culture during the 11th plan
 (₹ in Lakh)

Period	Outlay	Expenditure	% of Expenditure
2007-08	1426	1217.90	94.48
2008-09	2602	2153.23	82.75
2009-10	2750	3931.72	142.97
2010-11	3405	3600.72	105.74
2011-12	3755	3891.89	103.64
Year wise Total	13938	14795.44	105.46

Information and Publicity

18.13.6 In the 10th plan period, an outlay of ₹25.46 crore was provided to the information and publicity sector for implementing activities on public relation and information services. The expenditure on the sector was ₹25.74 crore i.e. the financial achievement exceeded 100 percent. The flow of funds was high in schemes such as display advertisements, field publicity activities, press information services and exhibitions. During this period, Government introduced the flagship programme of Sutharyakeralam a live complaint redressal forum where the Hon'ble Chief Minister addresses the grievances of common people especially the poor.

18.13.7 An outlay of ₹55.81 crore was provided to the sector in the eleventh plan. The corresponding expenditure on the sector was ₹94.66 crore. Department/Agency wise outlay and expenditure during the 11th plan are given in Table 18.40.

Table 18.40
Eleventh Plan - Department / Agency wise Outlay & Expenditure
 (₹ in Crore)

Sl.No.	Department / Agency	Outlay	Expenditure
1.	Information & Public Relations Dept.	46.91	83.42
2.	C-DIT	8.20	9.16
3.	Press Academy	0.70	2.08
	Total	55.81	94.66

18.14 Decentralised Planning

18.14.1 The Decentralized Planning Process initiated in the state during the IXth Five Year Plan and has completed three Five Year Plans. The decentralized Planning and implementation process known as People's Plan Campaign in the IXth plan and Kerala Development Plan in the Xth plan was a very unique attempt by Government in sharing powers, functions and resources with the local Government based on definite criteria to boost local economic development. The major priority in the Xth plan was given for institutionalization of the methodology of decentralized planning evolved during the IXth plan. In XIth plan it revamped the entire process giving stress to the concept of 'People's Planning' focusing on completion of the process of institutionalization of decentralized planning.

18.14.2 The grant in aid allocated to LSGs was ₹6784 crores in the 10th plan and ₹9897 crores in the 11th plan. These amounts represented 26.89% and 24.48% of the total plan outlay of the 10th & 11th plan respectively. During the 10th plan the expenditure incurred was about ₹5521.76 crore and during 11th plan it was ₹11009.95 crore. This indicates that during these two plan periods expenditure was 81.39% and 111.25% respectively. The details shown in Table 18.41.

Table 18.41
Outlay and Expenditure during the 10th & 11th Plan

(₹ in Crore)

Sl.No.	Items	Xth Plan	XIth Plan
1	State Plan Outlay	25226.43	40422.00
2	Grant-in-aid to LSGs	6784.00	9897.00
3	Percentage to State Plan Outlay	26.89	24.48
4	Expenditure*	5521.76	11009.95
5	Percentage of expenditure to Grant-in-aid	81.39	111.25

*including opening balance.

Appendix

Twelfth Five Year Plan (2012-17) and Annual Plans 2012-13 & 2013-14
Sector / Sub Sector wise outlay

(₹ Crore)

SI.No.	Sector / Sub Sector	2012-17 Proposed Outlay	2012-13 Outlay	2013-14 Outlay
1	2	3	4	5
I	AGRICULTURE AND ALLIED ACTIVITIES			
1.1	Crop Husbandry	1950	272.99	296
1.2	Soil and Water Conservation	478	67	46
1.3	Animal Husbandry	1508	211.17	260
1.4	Dairy Development	250	35	48
1.5	Fisheries	1014	142	158
1.6	Food, Storage & Warehousing	4	0.5	1
1.7	Agriculture Research & Education	393	55	60
1.8	Investment in Agricultural Financial Institution	4	0.5	1
1.9	Co-operation	443	62	75
1.1	Other Agricultural Programmes	2787	390.25	466
	TOTAL	8831	1236.41	1410
II	RURAL DEVELOPMENT			
2.1	Rural Development Programme	1246	174.5	198
2.2	Community Development and Panchayat	2022	283.19	335
2.3	Land Reforms	71	10	11
	TOTAL	3339	467.69	544
III	SPECIAL AREA PROGRAMMES	2031	284.3	266
IV	IRRIGATION AND FLOOD CONTROL			
4.1	Major & Medium Irrigation	2227	311.83	376
4.2	Minor Irrigation	711	99.52	75
4.3	Command Area Development	29	4	4
4.4	Flood management & Coastal Zone management	360	50.45	50
	TOTAL	3327	465.8	505
V	ENERGY			
5.1	KSEB	7990	1118.75	1176
5.2	Non -Conventional Source for Energy	333	46.66	47
	TOTAL	8323	1165.41	1223
VI	INDUSTRY & MINERALS			
1	Village and Small Industries	2178	304.92	336
2	Other Industry	1719	240.67	239
3	Minerals	15	2.11	4
	TOTAL	3912	547.7	579

Sl.No.	Sector / Sub Sector	2012-17 Proposed Outlay	2012-13 Outlay	2013-14 Outlay
1	2	3	4	5
VII	TRANSPORT			
7.1	Ports	1982	277.59	79
7.2	Roads & Bridges	3861	540.58	855
7.3	Road Transport	530	74.25	75
7.4	Inland Water Transport	953	133.39	136
7.5	Other Transport Services	1214	170	0
	TOTAL	8540	1195.81	1145
VIII	SCIENCE, TECHNOLOGY & ENVIRONMENT			
8.1	Science and Technology	716	100.20	121
8.2	I. T & E - Governance	1569	219.76	233
8.3	Forestry & Wild Life	815	114.06	160
8.4	Ecology & Environment	89	12.5	20
	TOTAL	3189	446.52	534
IX	GENERAL ECONOMIC SERVICES			
9.1	Secretariate Economic Services	672	94.14	994
9.2	Tourism	1221	170.91	189
9.3	Economic Advice and Statistics	13	1.86	2
9.4	Civil Supplies	44	6.14	28
9.5	Other General Economic Services	25	3.51	4
	TOTAL	1975	276.56	1217
X	SOCIAL SERVICES			
10.1	General Education	4731	590.24	581
10.2	Technical Education			118
10.3	Sports & Youth Services	652	97.57	65
10.4	Art & Culture	491	65	70
10.5	Medical & Public Health	3534	470	541
10.6	Water Supply & Sanitation	4656	756	849
10.7	Housing	412	58	62
10.8	Urban Affairs	6920	969	1131
10.9	Information & Publicity	148	26.1	28
10.10	Welfare of SCs, STs , OBC, Minorities and FC	5771	808.02	1215
10.11	Labour & Employment	3235	445	445
10.12	Social Security and Welfare	2451	344.5	382
10.13	Nutrition	206	20.7	41
	TOTAL	33207	4650.13	5528
XI	GENERAL SERVICES			
11.1	Stationery & Printing	69	9.67	10
11.2	Public Works	257	36	39
	TOTAL	326	45.67	49
XII	PLAN ASSISTANCE TO LOCAL BODIES	25000	3228	4000
	GRAND TOTAL	102000	14010	17000

Eleventh Five Year Plan (2007-2012) - Year / Sector / Sub Sector wise Outlay and Expenditure

(₹ in Lakhs)

Sl. No.	Sector / Sub Sector	Eleventh Plan (2007-12) Outlay	Annual Plan 2007-08		Annual Plan 2008-09		Annual Plan 2009-10		Annual Plan 2010-11		Annual Plan 2011-12		Total (2007-12)	
			Budget Outlay	Expenditure	Budget Outlay	Expenditure	Budget Outlay	Expenditure	Budget Outlay	Expenditure	Budget Outlay	Expenditure	Budget Outlay	Expenditure
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
I	AGRICULTURE AND ALLIED ACTIVITIES													
1	Crop Husbandry	59180.00	5378.00	5863.26	6100.00	17336.45	6349.00	6289.24	11000.00	10861.64	13661.00	13246.31	42488.00	53596.90
2	Soil and Water Conservation	12830.00	2542.00	1921.69	2667.00	2604.02	2770.00	2148.18	3685.00	2668.61	3710.00	2916.69	15374.00	12259.19
3	Animal Husbandry	49076.00	5435.00	3201.75	6300.00	5988.97	7415.00	7320.22	11800.00	12450.95	19093.00	17706.82	50043.00	46668.71
4	Dairy Development	6700.00	550.00	552.46	700.00	1282.19	1050.00	1194.88	2250.00	1465.62	2600.00	2296.53	7150.00	6791.68
5	Fisheries	25525.00	5166.00	5707.27	9069.00	7001.12	5000.00	8559.55	6500.00	8299.36	12266.00	16066.47	38001.00	45633.77
6	Food, Storage & Warehousing	500.00	25.00	25.00	50.00	50.00	50.00	50.00	50.00	0.00	50.00	50.00	225.00	175.00
7	Agriculture Research & Education	18700.00	2000.00	2000.00	3025.00	3025.00	3275.00	3275.00	5100.00	4393.75	4725.00	4400.00	18125.00	17093.75
8	Investment in Agricultural Financial Institution	3500.00	50.00	143.04	50.00	93.48	50.00	50.00	100.00	100.00	100.00	83.63	350.00	470.15
9	Co-operation	11300.00	1480.00	766.75	1530.00	1380.38	2000.00	3211.97	4250.00	5724.59	4300.00	3778.47	13560.00	14862.16
10	Other Agricultural Programmes													
(a)	Agricultural Marketing	26800.00	5175.00	406.40	1905.00	753.89	1020.00	480.80	1520.00	963.94	1750.00	1694.64	11370.00	4299.67
(b)	Others including Debt Relief	19000.00	6000.00	100.05	5665.00	2909.59	12453.00	17284.64	21500.00	17246.53	34008.00	30411.04	79626.00	67951.85
	Total - I	233111.00	33801.00	20687.67	37061.00	42425.09	41432.00	49864.48	67755.00	64174.99	96263.00	92650.60	276312.00	269802.83
II	RURAL DEVELOPMENT													
1	Rural Development	103192.00	10189.00	8110.51	12053.99	9967.63	12549.00	17320.14	14973.00	11204.25	28102.00	11577.67	77866.99	58180.20
2	Community Development and Panchayats	80259.00	13796.00	16461.73	14218.01	16783.09	15773.00	17485.32	15700.00	17696.18	17200.00	21890.26	76687.01	90316.58
3	Land Reforms	2240.00	203.00	34.98	203.00	260.47	800.00	497.55	1000.00	0.00	825.00	0.00	3031.00	793.00
	Total - II	185691.00	24188.00	24607.22	26475.00	27011.19	29122.00	35303.01	31673.00	28900.43	46127.00	33467.93	157585.00	149289.78

Sl. No.	Sector / Sub Sector	Eleventh Plan (2007-12) Outlay	Annual Plan 2007-08		Annual Plan 2008-09		Annual Plan 2009-10		Annual Plan 2010-11		Annual Plan 2011-12		Total (2007-12)	
			Budget Outlay	Expenditure	Budget Outlay	Expenditure	Budget Outlay	Expenditure	Budget Outlay	Expenditure	Budget Outlay	Expenditure	Budget Outlay	Expenditure
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
III	SPECIAL AREA PROGRAMMES													
1	Special Programme for Area Development													
a)	Special Area Development (WGDP)	6565.00	1313.00	2033.01	2000.00	1409.74	2488.00	2354.08	2764.00	2449.28	8737.00	3297.49	17302.00	11543.60
b)	Coastal Area Development	11675.00	727.00	727.94	1000.00	0.00	1009.00	1009.00	1481.00	986.81	1381.00	1280.97	5598.00	4004.72
c)	Backward Region Grant for LSGD	15000.00	3427.00	1875.00	3427.00	1213.00	3433.00	3921.00	3433.00	1925.00	3433.00	4085.00	17153.00	13019.00
d)	Hill Area Development	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2600.00	100.00	2600.00	100.00
	Total - III	33240.00	5467.00	4635.95	6427.00	2622.74	6930.00	7284.08	7678.00	5361.09	16151.00	8763.46	42653.00	28667.32
IV	IRRIGATION AND FLOOD CONTROL													
1	Major & Medium Irrigation	142201.00	9733.00	12781.63	12041.00	12806.76	23400.00	9055.45	21800.00	16160.41	27110.00	13528.12	94084.00	64332.37
2	Minor Irrigation	52083.00	6414.00	2895.29	7055.00	3881.27	6802.00	4089.19	7824.00	3461.67	7533.00	6037.19	35628.00	20364.61
3	Command Area Development	8500.00	915.00	274.19	715.00	246.61	452.00	189.56	627.00	333.24	425.00	290.51	3134.00	1334.11
4	Flood management & Coastal Zone management	23075.00	4465.00	3584.25	5951.00	10690.00	4411.00	13076.25	3035.00	5948.75	20035.00	579.08	37897.00	33878.33
	Total - IV	225859.00	21527.00	19535.36	25762.00	27624.64	35065.00	26410.45	33286.00	25904.07	55103.00	20434.90	170743.00	119909.42
V	ENERGY													
1	Power Development	534713.00	99793.00	57505.08	93435.00	80319.66	97506.00	78437.12	104700.00	92888.48	112300.00	109406.99	507734.00	418557.33
	Total - V	534713.00	99793.00	57505.08	93435.00	80319.66	97506.00	78437.12	104700.00	92888.48	112300.00	109406.99	507734.00	418557.33
VI	INDUSTRY & MINERALS													
1	Village and Small Industries	62614.00	8031.00	9160.22	15325.00	15375.12	21027.00	21092.82	24636.00	26680.26	24436.00	23836.50	91049.00	96144.92
2	Other Industry(Medium & Large)	50696.00	2659.00	12340.76	6675.00	27541.87	6800.00	12899.66	17100.00	29669.68	22030.00	26979.50	57670.00	109431.47
3	Mining	500.00	40.00	86.80	100.00	97.32	105.00	76.97	162.00	1115.18	162.00	58.22	569.00	1434.49
	Total - VI	113810.00	10730.00	21587.78	22100.00	43014.31	27932.00	34069.45	41898.00	57465.12	46628.00	50874.22	149288.00	207010.88

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			Budget Outlay	Expenditure	Budget Outlay	Expenditure	Budget Outlay	Expenditure	Budget Outlay	Expenditure	Budget Outlay	Expenditure	Budget Outlay	Expenditure
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
VII	TRANSPORT													
1	Ports and Light Houses	27500.00	2700.00	2608.96	5175.00	9209.50	3426.00	6635.72	17081.00	16220.75	23081.00	21919.72	51463.00	56594.65
2	Roads & Bridges	161918.00	77277.00	77120.56	70893.00	59576.85	58686.00	106060.04	51832.00	140653.68	62596.00	167835.07	321284.00	551246.20
3	Road Transport	8800.00	420.00	511.65	3000.00	3012.00	2008.00	1668.18	4819.00	4359.02	5319.00	4788.31	15566.00	14339.16
4	Inland Water Transport	40100.00	7067.00	2276.37	10925.00	2780.01	10925.00	8896.44	5808.00	1541.09	11163.00	2384.26	45888.00	17878.17
5	Other Transport Services	5000.00	100.00	1016.84	100.00	4600.00	100.00	1300.00	100.00	50.00	11280.00	11021.00	11680.00	17987.84
	Total - VII	243318.00	87564.00	83534.38	90093.00	79178.36	75145.00	124560.38	79640.00	162824.54	113439.00	207948.36	445881.00	658046.02
VIII	SCIENCE, TECHNOLOGY & ENVIRONMENT													
1	Scientific Research	44095.00	5373.00	2155.86	5500.00	3775.97	5683.00	6153.00	7142.00	4700.32	7642.00	6858.58	31340.00	23643.73
2	I. T & E - Governance	27323.00	4374.00	15880.78	7800.00	8237.95	9619.00	11585.84	14839.00	22764.99	17339.00	15716.15	53971.00	74185.71
3	Forestry & Wild Life	31800.00	4528.00	3704.26	4800.00	4871.17	4972.00	4586.94	7050.00	4902.17	7537.00	7590.96	28887.00	25655.50
4	Ecology & Environment	2239.00	750.00	33.09	1000.00	561.74	1015.00	308.90	722.00	567.66	1522.00	1317.44	5009.00	2788.83
	Total - VIII	105457.00	15025.00	21773.99	19100.00	17446.83	21289.00	22634.68	29753.00	32935.14	34040.00	31483.13	119207.00	126273.77
IX	GENERAL ECONOMIC SERVICES													
1	Secretariate Economic Services	152273.00	8773.00	8904.12	7939.00	6000.59	35370.00	27631.89	8247.00	7353.58	9626.00	7723.06	69955.00	57613.24
2	Tourism	53430.00	8318.00	7877.39	9754.00	10865.56	6501.00	12079.99	9000.00	14329.48	15300.00	16621.68	48873.00	61774.10
3	Census, Surveys and Statistics	3200.00	500.00	31.37	67.00	57.13	68.00	54.89	380.00	68.22	110.00	104.85	1125.00	316.46
4	Civil Supplies	2500.00	395.00	681.52	431.00	233.52	437.00	410.83	544.00	779.14	8524.00	7887.89	10331.00	9992.90
5	Other Economic Services (Regulation of Weights & Measures)	350.00	65.00	77.07	67.00	64.98	68.00	69.25	97.00	82.61	215.00	32.26	512.00	326.17
	Total - IX	211753.00	18051.00	17571.47	18258.00	17221.78	42444.00	40246.85	18268.00	22613.03	33775.00	32369.74	130796.00	130022.87

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			Budget Outlay	Expenditure	Budget Outlay	Expenditure	Budget Outlay	Expenditure	Budget Outlay	Expenditure	Budget Outlay	Expenditure	Budget Outlay	Expenditure
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
X	SOCIAL SERVICES													
1	General Education	63089.00	11186.00	8110.02	14139.00	17832.38	15854.00	21181.87	30654.00	33763.68	33868.00	28208.01	105701.00	109095.96
2	Technical Education	32503.00	2996.00	3848.82	4441.00	5946.47	5006.00	7098.10	6446.00	9994.75	7919.00	11508.71	26808.00	38396.85
3	Sports & Youth Services	6742.00	482.00	2193.55	1778.00	2420.93	2205.00	9895.57	9450.00	3817.81	5550.00	3635.50	19465.00	21963.36
4	Art & Culture	9349.00	1426.00	1217.90	2602.00	2153.23	2750.00	3931.72	3405.00	3600.70	3755.00	3891.89	13938.00	14795.44
5	Medical & Public Health	96569.00	8380.00	10509.62	11536.00	15442.74	11200.00	16628.79	17134.00	24210.14	41665.00	42828.07	89915.00	109619.36
6	Water Supply & Sanitation	250303.00	91295.00	75812.34	96960.00	56003.77	102300.00	65080.78	105800.00	38780.56	90897.00	47116.61	487252.00	282794.06
7	Housing	53190.00	3128.00	3253.70	12724.00	14400.80	3330.00	3565.19	4222.00	11475.65	4400.00	3757.19	27804.00	36452.53
8	Urban Development	238727.00	47970.00	17035.59	55000.00	41481.45	85463.00	41640.27	90136.00	34340.79	58036.00	28638.18	336605.00	163136.28
9	Information & Publicity	3458.00	286.00	587.77	765.00	1434.06	930.00	1795.36	1600.00	1709.22	2000.00	3939.66	5581.00	9466.07
10	Welfare of SCs, STs & OBC	122432.00	20469.00	19569.99	25722.00	23550.86	45731.00	45977.62	52971.00	46107.24	73968.00	66784.45	218861.00	201990.16
11	Labour & Employment	32680.00	1820.00	1836.57	2520.00	3790.81	9225.00	4648.56	23950.00	13457.47	35355.00	23577.87	72870.00	47311.28
12	Social Security and Welfare	49357.00	8972.00	9039.33	13388.00	6498.32	20086.00	10634.98	17563.00	7530.93	27560.00	24691.11	87569.00	58394.67
13	Nutrition	10815.00	4.00	3.80	10.00	8.09	12.00	2012.04	1650.00	2041.08	1666.00	3209.20	3342.00	7274.21
	Total - X	969214.00	198414.00	153019.00	241585.00	190963.91	304092.00	234090.85	364981.00	230830.02	386639.00	291786.45	1495711.00	1100690.23
XI	GENERAL SERVICES													
1	Stationery & Printing	2200.00	310.00	66.33	500.00	316.11	552.00	571.34	630.00	586.26	630.00	507.93	2622.00	2047.97
2	Public Works	20934.00	1130.00	4856.39	1500.00	4518.87	1978.00	5007.15	2473.00	6394.43	2500.00	7597.46	9581.00	28374.30
	Total - XI	23134.00	1440.00	4922.72	2000.00	4834.98	2530.00	5578.49	3103.00	6980.69	3130.00	8105.39	12203.00	30422.27
	Total - I - XI	2879300.00	516000.00	429380.62	582296.00	532663.49	683487.00	658479.84	782735.00	730877.60	943595.00	887291.17	3508113.00	3238692.72
XII	Plan Assistance to Local Bodies	1162900.00	179000.00	139659.30	187751.00	181590.08	208513.00	219567.47	219765.00	271579.64	257405.00	288598.39	1052434.00	1100994.88
	GRAND TOTAL	4042200.00	695000.00	569039.92	770047.00	714253.57	892000.00	878047.31	1002500.00	1002457.24	1201000.00	1175889.56	4560547.00	4339687.60