

Chapter 1

MACRO ECONOMIC PROFILE

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Introduction

As part of the Indian Union, Kerala's economy is deeply affected by the downturn in the national economy. While Kerala has a lot to offer to the rest of the country in terms of excellent human capital formation, high environmental standards, remarkable tourist sites, inflow of remittances from abroad, good decentralized governance and so on, it is highly dependent on the rest of India (and abroad) for food, fuel, basic industrial goods, a variety of consumer goods and even on migrant labour from other states. This chapter gives an account of important economic features of Kerala as a whole – trends in population and urbanisation are analysed as they have a major impact on other critical economic parameters such as poverty, productivity and growth. Availability of capital resources (public finance and institutional finance) has also been discussed at length, because affordable finance acts as a spur to the development of an economy. Inflationary pressures, especially in food, fuel and housing can be highly detrimental to welfare of the people. The importance of systematic planning and careful monitoring of its implementation is also critical for the development of the country. Some of these issues are dealt with in this chapter.

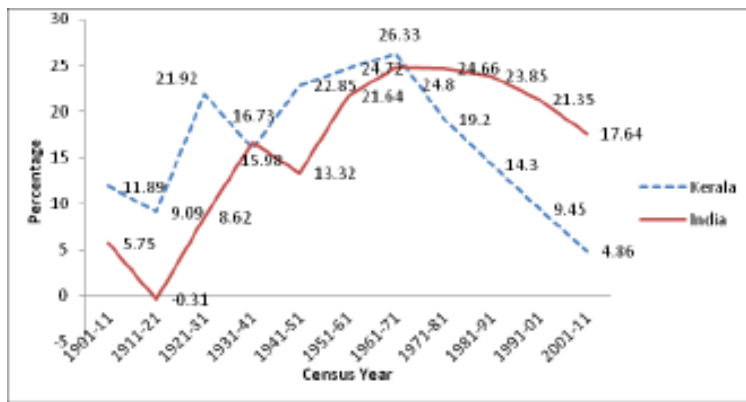
Demography

Population is one of the important drivers of economic growth. It helps to determine the size of work force as well. As per the final data published by the Directorate of Census, Kerala's population as on March 2011 was 3,34,06,061. Out of this 1,60,27,412 (48 per cent) are males and 1,73,78,649 (52 per cent) are females. When the last census was taken, these figures were 3,18,41,374 total, 1,54,68,614 (48.6 per cent) males and 1,63,72,760 (51.4 per cent) females.

1.2 The growth rate of Kerala's population during the last ten years is 4.9 per cent, the lowest rate among Indian states. Fig. 1.1 shows that the national rate of growth of population during the last ten years was 17.6 per cent. The population growth trend shows that Kerala is moving towards zero population growth or towards negative growth. Among the districts Malappuram has the highest growth of 13.4 per cent, while Pathanamthitta has the lowest growth rate (- 3.0 per cent). Idukki also has a negative growth rate (-1.8 per cent). It reveals that the growth rate of six southern districts (Idukki, Kottayam, Alappuzha, Kollam, Pathanamthitta and Thiruvananthapuram) together is comparatively very low.

Fig. 1.1

Decadal Population Growth of India and Kerala 1901-2011



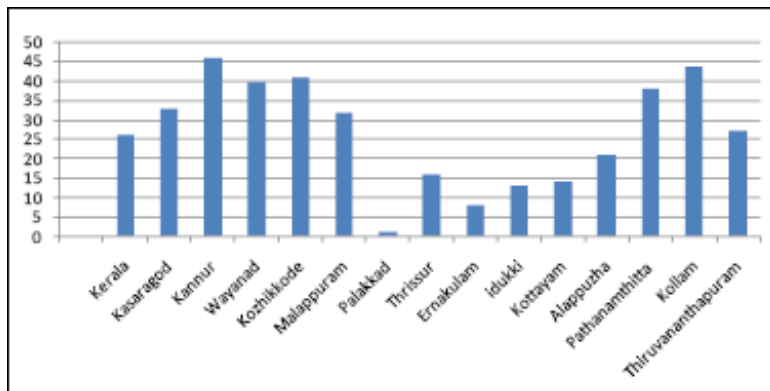
Source: Census of India 2011

1.3 The child population (0-6 years) in Kerala shows a declining trend. Census data reveals a negative growth rate of the child population in the state (-8.44 per cent). The census figures show that the child population is declining in all districts except Malappuram. The total number of children in Kerala is 34,72,955, with the highest number (5,74,041) in Malappuram and the lowest (92,324) in Wayanad.

1.4 The share of urban population in Kerala is 47.7 per cent of the total, representing a decadal increase of 21.74 per cent since 2001. As many as 1,59,34,926 persons in the state are living in urban areas while the rural population is 1,74,71,135 representing 52.3 per cent of the total. The highest per cent of urban population (68.07 per cent) is in Ernakulam district and the lowest (3.86 per cent) is in Wayanad.

Fig 1.2

Sex Ratio Decadal Change



Source: source: Census 2001,2011

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Literacy

1.5 Kerala has the highest effective literacy rate of 94 per cent among Indian states. It was 90 per cent during 2001 census. Kottayam tops with 97.2 per cent and Pathanamthitta is just behind with 96.5 per cent. Wayanad has the least literacy rate of 89 per cent and Palakkad is just above with 89.3 per cent. Even the lowest literacy rate of Wayanad (89) is higher than national rate of literacy (72 per cent). All districts have a score above 90 except Palakkad (89.3) and Wayanad (89). The difference between the lowest and the highest value is just 8.2. When compared with the literacy rate of 2001, all the districts are showing better performance. Details are in [Appendix 1.1](#)

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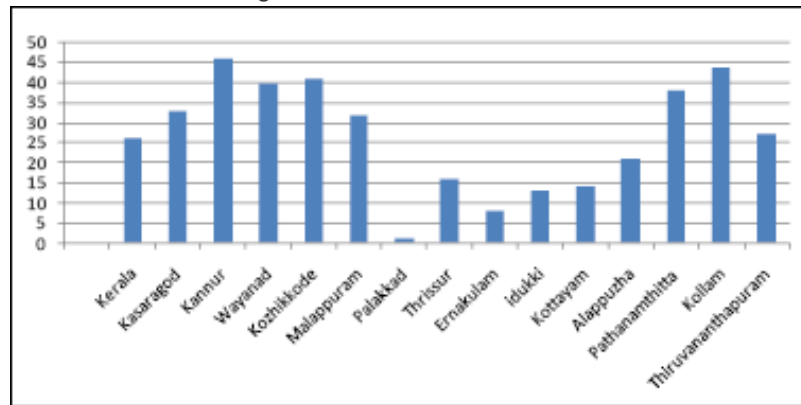
Sex Ratio

1.6 The sex ratio (number of females per thousand males) of Kerala according to census 2011, has improved by 26 points to reach 1084. The sex ratio of Kerala was 1022 in 1961. After 1971 it started moving to more favorable levels.

1.7 Among the districts, Kannur has the highest sex ratio (1136) followed by Pathanamthitta (1132). While Idukki has the lowest score (1006) , Ernakulam is just above with 1027. All the districts have the index above 1000. In 2001, only Wayanad had the index score below 1000 (994). The difference between the lowest (Idukki-1006) and highest (Kannur-1136) is 130 points.

Fig 1.2

Sex Ratio Decadal Change



source: Census 2001,2011

1.8 While analyzing the decadal change (Fig.1.2), it is evident that in northern districts (Kasaragod, Kannur, Wayanad, Kozhikkode and Mallappuram) has an increase of above 32 points (average 38.4), while southern most districts (Alappuzha, Pathanamthitta, Kollam and Thiruvananthapuram) have an increase above 21 points (average of 32.5). While the central districts (Palakkad, Thrissur, Ernakulam, Idukki and Kottayam) have lower rate of increase below 16 (average 10.4). Even though the gain pattern differs, all districts attained a favorable position. Details are in [Appendix 1.2](#)

Decadal Change

1.9 Child sex ratio in Kerala is 964 as per the 2011 census data. It was 960 in 2001. Pathanamthitta has the highest score (976) followed by Kollam (973) and Kannur (971). While, Thrissur has the lowest score of 950 , Alappuzha is just above with the score of 951. The distance from lowest to highest is just 26 points. All the districts have the score below 1000. This is alarming as it indicates that there is a change in the trend of there being more females than males in the overall population. When analysing the decadal change, the highest gain is for Kollam (13) and Kozhikkode followed with a score of 10. All other districts have the score below 10 points. Thrissur (-8), Idukki (-5) and Alappuzha (-5) have negative decadal change in sex ratio. Details are in [Appendix 1.2](#)

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Child Sex Ratio (0-6 Years)

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Density of Population

1.10 Kerala's density of population as per 2011 census is 860 persons / sq. km. It is much higher than that of India (382). Thiruvananthapuram is the most densely populated district (1508) while, Idukki is the least densely populated district (255). Density of population has increased in all districts compared to 2001 census but for Pathanamthitta (-16) and Idukki

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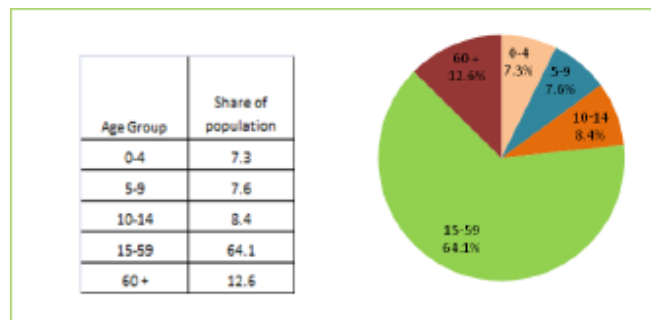
(-4), it has declined.

Age Group Distribution

1.11 Around 64.1 per cent of population is in the working age group of 15-59. The remaining 36 per cent of the total population is the dependant group. Among this 12.6 per cent are old dependants and 23.3 per cent are young dependants (Fig 1.3)

Fig 1.3

Percentage Share of Population in different Age Groups- Kerala 2011



Source: Census 2011

SECTION 2

Income

National Income

1.12 The Gross National Income (GNI) at factor cost at 2004-05 prices is estimated at ` 54,49,104 crore during 2012-13, as against the previous year's estimate of ` 51,96,848 crore (Table 1.1). In terms of growth rates, the gross national income is estimated to rise by 4.9 per cent during 2012-13, in comparison to the growth rate of 6.4 per cent in 2011-12. The GNI at factor cost at current prices is estimated at ` 93,61,113 crore during 2012-13, as compared to ` 82,76,665 crore during 2011-12, showing a rise of over 13 per cent. The Net National Income (NNI) at factor cost at current prices is estimated at ` 83,67,706 crore during 2012-13, as compared to ` 73,99,934 crore during 2011-12, showing a rise of over 13 per cent.

1.13 GDP at factor cost at constant (2004-05) prices in the year 2012-13 is estimated at ` 55,05,437 crore showing a growth rate of 5 per cent over the Estimates of GDP for the year 2011-12 of ` 52,43,582 crore. The GDP at factor cost at current prices in the year 2012-13 is estimated at ` 94,61,013 crore showing a growth rate of 13.3 per cent over the estimates of GDP for the year 2011-12 of ` 83,53,495 crore. The per capita income (per capita GDP at factor cost) in real terms, i.e. at 2004-05 prices, is estimated at ` 45,238 for 2012-13 as against ` 43,624 in 2011-12, registering an increase of over 3.7 per cent during the year. The per capita income at current prices is estimated at ` 77,740 in 2012-13 as against ` 69,497 for the previous year depicting a growth of 11.8 per cent.

Table 1.1

National Income, Domestic Product & Per Capita Income at Factor Cost(All India)

(₹ crore)

Sl. No	Item at factor cost	At 2004-05 Prices			At Current Prices		
		2010-11	2011-12 (P)	2012-13 (Q)	2010-11	2011-12 (P)	2012-13 (Q)
1	Gross National Income (GNI)	48,82,249	51,96,848 (6.4)	54,49,104 (4.9)	71,85,160	82,76,665 (15.2)	93,61,113 (13.1)
2	Net National Income (NNI)	43,10,195	45,72,075 (6.1)	47,66,754 (4.3)	64,22,359	73,99,934 (15.2)	94,61,013 (13.3)
3	Gross domestic product (GDP)	49,37,006	52,43,582 (6.2)	55,05,437 (5.0)	72,66,967	73,99,934 (15.2)	84,67,606 (13.3)
4	Net domestic product (NDP)	43,64,952	46,18,809 (5.8)	48,23,087 (4.4)	65,04,166	74,76,764 (15.0)	73,68,223 (15.1)

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5	Per capita Gross domestic product (`)	41,627	43,624 (4.7)	45,238 (3.7)	61,273	69,497 (13.4)	77,740 (11.86)
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Note: The figures in Parenthesis shows the percentage change over previous year.

Q-Quick Estimate, P- Provisional Estimate

1.14 The details of GDP, NDP, GNI and NNI at current and constant (2004-05) prices from 2004-05 to 2012-13 with per cent change over previous year are given in [Appendix 1.3](#), [1.4](#), [1.5](#) and [1.6](#). The sectoral distribution of GDP at constant (2004-05) prices and current prices with per cent change over previous year is given in [Appendix 1.7](#) and [Appendix 1.8](#)

State Income

1.15 The quick estimate of Gross State Domestic Product (GSDP) at factor cost at constant (2004- 05) prices is ` 2,21,84,990 lakhs during 2012-13 as against the provisional estimate of ` 20495672 lakhs during 2011-12, registering a growth rate of 8.2 per cent in 2012-13 compared to nearly 8 per cent in 2011-12 (Fig. 1.4). At current prices the Gross State Domestic Product is estimated at ` 34933832 lakhs (quick estimate) during 2012-13 as against the provisional estimate of ` 30790606 lakhs during 2011-12 showing a growth rate of 13.4 per cent.

Fig 1.4

Growth Rate of GSDP at Constant (2004-05) Prices - Kerala



Source : Department of Economics and Statistics

1.16 The quick estimate of Net State Domestic Product (State Income) at factor cost at constant prices (2004-05) is `19607691 lakhs during 2012-13 compared to the provisional estimate of `18081208 lakhs during 2011-12, recording a growth rate of 8.4 per cent in 2012-13. At current prices the State Income is estimated at `30933162 lakhs (quick estimate) in 2012-13 compared to the provisional estimate of `27206498 lakhs during 2011-12. The growth rate of State Income at current prices is 13.7 per cent in 2012-13 compared to 16.7 per cent in 2011-12 (Table 1.2).

Table 1.2

State Domestic Product and Per Capita Income of Kerala

Sl. No	Item	Income (` in Lakhs)			Growth Rate (Per cent)	
		2010-11	2011-12 (P)	2012-13 (Q)	2011-12(P)	2012-13(Q)
1	Gross State Domestic Product					
	a) At Constant (2004-05) prices	18985071	20495672	22184990	7.96	8.24
	b) At Current prices	26377330	30790606	34933832	16.73	13.46
2	Net State Domestic Product					
	a) At Constant (2004-05) prices	16717844	18081208	19607691	8.15	8.44
	b) At Current prices	23317749	27206498	30933162	16.68	13.70
3	Per Capita State Income (`)					
	a) At Constant (1999 2000) Prices	55082	59052	63491	7.21	7.52

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b) At Current Prices	76529	88713	99977	15.92	12.70
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Source: Department of Economics and Statistics

P: Provisional Estimate, Q: Quick Estimate

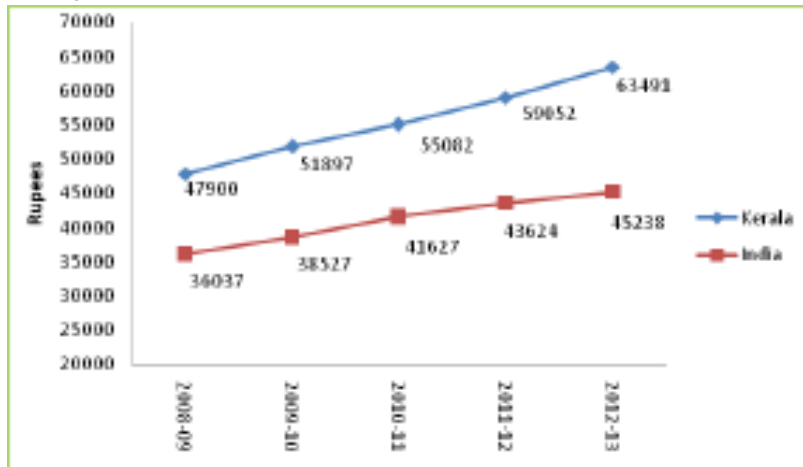
Per Capita State Income

1.17 As per the quick estimates in 2012-13, the per capita Gross State Domestic Product at constant (2004-05) prices was ` 63491 as against provisional estimate of `59052 in 2011-12, recording a growth rate of 7.5 per cent in 2011-12. At current prices, the per capita GSDP in 2011-12 was `99977 registering a growth rate of 12.7 per cent over the previous year's estimate of `88713. Fig. 1.5

shows that during the period 2008-09 to 2012-13, the per capita state income at constant prices was higher than the per capita national income.

Fig 1.5

Per Capita Income at Constant Price - Kerala and India



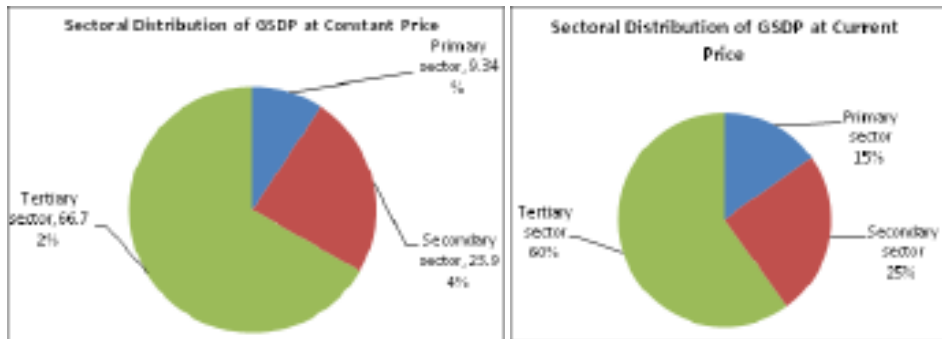
Source: Central Statistical Organization and Department of Economics and Statistics

Sectoral Distribution of Gross State Domestic Product

1.18 During 2012-13, the contribution from primary, secondary and tertiary sectors to the GSDP at constant prices (2004-05) was 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 (Fig. 1.6). This difference in sectoral share between constant and current prices shows that inflationary trends in the primary sectors are much higher than in the secondary and tertiary sector.

Fig. 1.6

Sectoral Distribution of GSDP



1.19 While analysing the sectoral distribution of state income for the year 2012-13, it is seen that the contribution from primary sector and tertiary sector are decreasing. But secondary sector is showing an increase of 23.9 per cent from 21.8 per cent. The analysis of annual sectoral growth rate of Gross State Domestic Product shows that secondary sector recorded the highest rate of growth 18.83 per cent in 2012-13 at constant (2004-05) prices followed by tertiary sector (5.46 per cent) and primary sector showed a 4 per cent. The push factor for the growth of the secondary sector is mainly because of the growth in the construction sector which showing 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

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and primary sector 5.3 per cent in 2012-13. The details of sectoral distribution of GSDP with per cent during the last three years is given in [Appendix 1.9](#), [1.10](#) and [1.11](#) and the details of GSDP, NSDP at constant and current prices during 2004-05 to 2012-13 are given at [Appendix 1.12](#), [1.13](#), [1.14](#) and [1.15](#)

District-wise Gross State Domestic Product

1.20 District wise distribution of Gross State Domestic Product at factor cost at current prices shows that Ernakulam District continues to have the highest income of `4945329 lakhs in 2012-13 as against `4296901 lakhs in 2011-12 registering a growth rate of slightly over 15 per cent. At constant (2004-05) prices, this amounts to `3229135 lakhs during 2012-13 compared to `2941730 lakhs during 2011-12. The details are given in Table 1.3 below.

Table 1.3

District-wise Distribution of Gross State Domestic Product (₹ Lakhs)

Sl. No	District	Gross State Domestic Product at Factor Cost					
		At Current Prices			At Current Prices		
		2011-12 (P)	2012-13 (Q)	Growth Rate (%)	2011-12 (P)	2012-13 (Q)	Growth Rate (%)
1	Thiruvananthapuram	3353391	3803635	13.43	2272728	2449504	7.78
2	Kollam	2336372	2643783	13.16	1520121	1633249	7.44
3	Pathanamthitta	1274653	1427370	11.98	847806	917096	8.17
4	Alappuzha	1948111	2228358	14.39	1319407	1422132	7.79
5	Kottayam	2167872	2425327	11.88	1410863	1523671	8.00
6	Idukki	1159028	1276889	10.17	692568	744363	7.48
7	Ernakulam	4296901	4945329	15.09	2941730	3229135	9.77
8	Thrissur	2934220	3357584	14.43	2024737	2199651	8.64
9	Palakkad	2404540	2694909	12.08	1555586	1671301	7.44
10	Malappuram	2401383	2720183	13.28	1581702	1707903	7.98
11	Kozhikode	2639276	3031430	14.86	1786901	1940969	8.62
12	Wayanad	623490	692095	11.00	388097	416701	7.37
13	Kannur	2230384	2534644	13.64	1494164	1618452	8.32
14	Kasaragod	1020985	1152296	12.86	659262	710863	7.83
	GSDP	30790606	34933832	13.46	20495672	22184990	8.24

P - Provisional Estimate, Q - Quick Estimate

Source: Department of Economics & Statistics

District-wise Per Capita Income

1.21 Growth rate at current prices does not eliminate the inflationary impact. When district level growth rate at constant prices, we compared the "real" GSDP growth rate may be observed as the inflationary impact has been eliminated. Ernakulam, Thrissur, Kozhikode and Kannur had higher real growth in GSDP than the State Average. Wayanad had a lower growth than other districts.

1.22 The analysis of district wise per capita income shows that Ernakulam district stands first with the per capita income of `94392 at constant (2004-05) prices in 2012-13 as against `86572 in 2011-12. The district wise per capita income with corresponding rank and growth rate is given in Table 1.4

Table 1.4

District-wise Per Capita Income at Constant (2004-05) Prices

Sl. No.	District	2011-12 (P)	Rank	2012-13 (Q)	Rank	Growth Rate (per cent) 2012-13
1	Thiruvananthapuram	64365	4	68903	4	7.78
2	Kollam	54720	10	58393	10	7.44
3	Pathanamthitta	65721	3	70600	3	8.17
4	Alappuzha	59087	6	63262	6	7.79
5	Kottayam	67376	2	72280	2	8.00

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6	Idukki	58150	7	62082	8	7.48
7	Eranakulam	86572	1	94392	1	9.77
8	Thrissur	62841	5	67807	5	8.64
9	Palakkad	54410	11	58072	11	7.44
10	Malappuram	37985	14	40742	14	7.98
11	Kozhikode	56817	9	61307	9	8.62
12	Wayanad	43606	13	46507	13	7.37
13	Kannur	58003	8	62416	7	8.32
14	Kasaragod	49309	12	52813	12	7.83
	STATE	59052		63491		7.52

P - Provisional Estimate, Q - Quick Estimate

Source: Department of Economics & Statistics

1.23 Table 1.5 reveals that the districts Ernakulam, Thrissur, Kozhikode and Kannur had a much higher growth rate than the average growth in per capita income in 2012-13. However, the districts of Wayanad, Kollam, Palakkad and Idukki showed much lower growth in per capita income than the state average.

1.24 District wise and sectorwise analysis of GSDP reveals that Ernakulam district contributions in all these sectors are highest. District-wise sectoral distribution of Gross State Domestic Product from 2010-11 to 2012-13 at current and constant (2004-2005) prices are given in [Appendix 1.16](#), [1.17](#), [1.18](#), [1.19](#), [1.20](#) and [1.21](#).

NSDP - Southern States of India

1.25 In 2012-13, Kerala recorded 8.4 per cent economic growth rate, 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 Tamil Nadu slightly above 4 per cent. The all-India average was 4.4 per cent, according to provisional figures available with the Central authorities (see Table 1.5). It may be seen that Kerala and Karnataka, have shown a higher growth in 2012-13 than in the previous year.

Table 1.5

NSDP of Southern States of India at constant Price (2004-05)

₹ In Crores

State Name	2010-11	2011-12 (P)	2012-13 (Q)	Growth Rate 2011-12	Growth Rate 2012-13
ANDHRA PRADESH	332925	358801	378879	7.77	5.60
KARNATAKA	240817	250831	266784	4.16	6.36
KERALA	167184	180812	196077	8.15	8.44
TAMIL NADU	359961	386768	402603	7.45	4.09
INDIA	4364952	4618809	4823087	5.8	4.4

P - Provisional Estimate, Q - Quick Estimate

Source: Hand Book of statistics on the Indian Economy RBI (2012-13)

1.26 An analysis of the growth pattern of NSDP reveals that the Services sector continues to dominate the economy. Segments such as Transport, Communication, Trade, Hotels, Banking & Insurance and Real Estate performed relatively well. Compared to 2011-12, the secondary sector recovered marginally in 2012-13.

SECTION 3 Poverty

1.27 Poverty is a world wide phenomenon irrespective of whether the country is developed or not. Poverty may be defined as a state or condition in which a person or community lacks the financial resources and essentials to enjoy a minimum standard of life and well being. Poverty, food prices and hunger are inextricably linked. Millions live with hunger and malnourishment because they simply cannot afford to buy enough food. The poor are those who are unable to achieve basic facilities like food, safe drinking water, shelter, access to information, education, health care, social status, political power or even have the opportunity to develop meaningful connections with other people in the society. This condition is absolute poverty, while relative poverty refers to the inadequacy of income when compared to the average standard of living.

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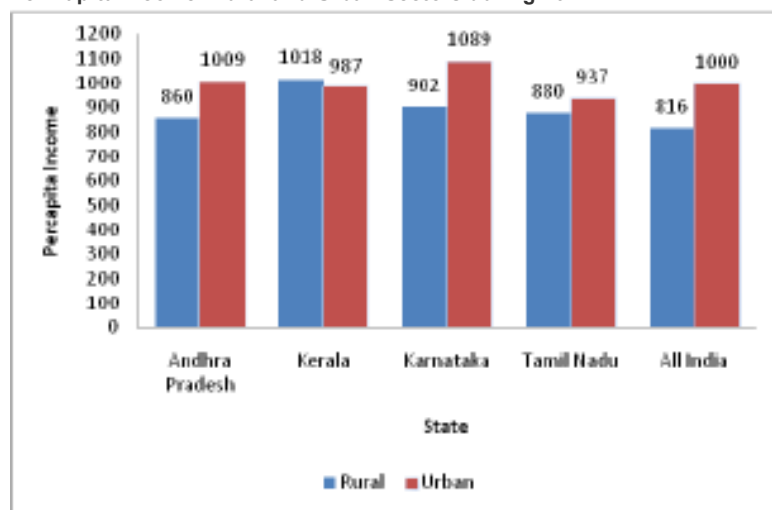
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1.28. The Planning Commission estimates the levels of poverty in the country on the basis of consumer expenditure survey conducted by National Sample Survey Office (NSSO) of Ministry of Statistics and Programme Implementation. From NSSO 66th round onwards Tendulkar Method of estimation is used for poverty estimation in India. As per the latest data released by the Planning Commission of India in July 2013, the poverty ratio fell spectacularly from 37 per cent in 2004-05 to 22 per cent in 2011-12. This raised 138 million people above extreme poverty. This methodology has been widely questioned by both experts and common people. Since several representations were made suggesting that the Tendulkar Poverty Line was too low, the Planning Commission, in June 2012, constituted an Expert Group under the Chairmanship of Dr.C. Rangarajan to once again review the methodology for the measurement of poverty. The report is expected in the middle of 2014.

1.29. The state specific poverty line 2011-12 for Kerala is fixed at monthly per capita income of `1018 for rural areas and ` 987 for urban areas which is above the per capita income of 23 other states. The corresponding figures for Karnataka, Tamil Nadu and Andhra Pradesh are `902 for rural and `1089 for urban, `880 for rural and `937 for urban and `860 for rural and `1009 for urban respectively are given in Fig. 1.7. 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, other southern states and All India are given in Fig. 1.8 below.

Table 1.7

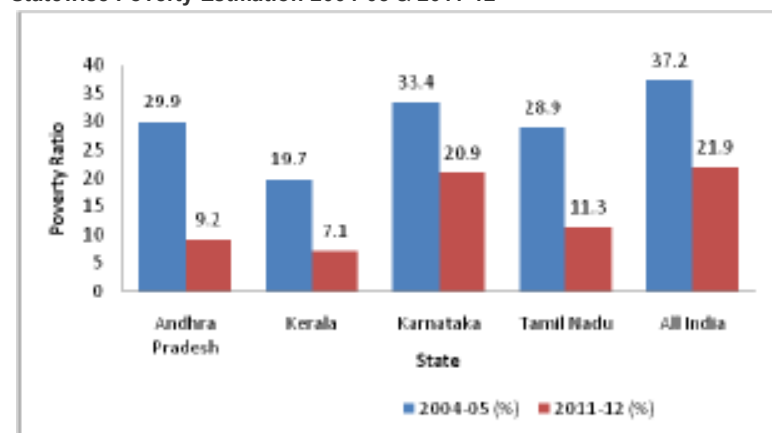
Per Capita Income- Rural and Urban Sectors during 2011-12



Source: Planning Commission of India –Press Note on Poverty Estimates 2011-12

Table 1.8

Statewise Poverty Estimation 2004-05 & 2011-12



Poverty Line

1.30 For each State the urban poverty line for 2011-12 is derived by updating 2004-05 poverty line using price indices specifically constructed for 2004-05 and 2011-12. Rural poverty line is then derived from urban poverty line of the respective State by applying urban-rural price differential. For the first time, Kerala's rural poverty line is higher than urban poverty line.

Price Indices

1.31 Prices are computed from value and quantity data of household consumer expenditure surveys conducted by NSSO.

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This has been done for food commodities and some of the other commodity groups like clothing, bedding, footwear, fuel and light etc for which both value and quantity data is collected in these surveys (category -1). Price indices are then computed from the median prices of these commodities to get the inflation during the period. For other items (category -II), the inflation is computed from the 'miscellaneous commodities' group of consumer price indices [(CPI-AL) in rural areas and CPI - IW in urban areas].

Comparison – Urban/Rural

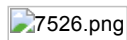
1.32 i. For Category – 1 items, which have a weight of around 78 per cent in the basket, the prices in urban areas are much higher than rural areas in most of the states. This difference is very low for Kerala. For Kerala this differential is only 5 per cent whereas in Karnataka it is 16 per cent and in Uttar Pradesh it is 21 per cent.

1.33 ii. The difference in Urban and Rural Poverty Line for Kerala was low in the base year (2004-05) as compared to other States. For Kerala, urban poverty line was higher than rural poverty line by only 9 per cent as compared to 41 per cent in Karnataka, 30 per cent in Andhra Pradesh and 27 per cent in Tamil Nadu.

1.34 iii. An important factor that is causing this type of situation in Kerala is that the NSSO uses administrative divisions for defining rural areas, which are not notified as urban but has characteristics of urban areas and are in many cases treated as urban by the Census.

Factors such as decentralization, pension to vulnerable groups, effective public distribution systems, women neighbourhood oriented programmes of Kudumbashree, implementation of major CSS etc. have contributed effectively for reducing the rural – urban disparity in poverty.

1.35 Various schemes on Poverty Reduction have been dealt with in other chapters of the Review. While Kerala is better off than most other states in terms of average poverty estimates, there are still several pockets of deprivation in the state, for eg., among tribal population and fishermen communities. Greater central assistance and appropriate livelihood programmes in these pockets are required to ensure that poverty is reduced throughout the state. Estimating poverty on the basis of per capita income or per capita monthly expenditure alone will not give a clear and accurate indication of multi-dimensional poverty. Unemployment, lack of access to drinking water, landlessness, marginalisation, disabilities – all these are correlated with poverty in the Kerala context.



1.26 Poverty Index: Every two years, a survey is conducted for assessing the urban poor by Community Development Societies using the poverty index following non-economic criteria with nine risk factors reflecting the poverty situations of families. The neighbourhood community verifies these factors with the identified families. The nine risk factors of the poverty index are furnished below.

- Less than 5 cents of land/no land
- Dilapidated house/no house
- No sanitary latrine
- No access to safe drinking water within 150 meters
- Women headed household
- No regular employed person in the family
- Socially disadvantaged groups SC/ST
- Mentally retarded/disabled/chronically ill member in the family
- Families without colour TV

Any family having 4 or more such risk factors is classified as family at risk of poverty.

1.27 The magnitude of urban poverty has been increasing due to stagnation in manufacturing industry resulting in lower income for urban dwellers. Due to rapid increase in land price and construction costs, a good number of the urban people in Kerala are forced to live in slums. Availability of drinking water and sanitation facilities is grossly inadequate. Urbanization is an important aspect in the process of economic and social development and is associated with many problems such as migration from villages to towns, relative cost of providing economic and social services in the towns of varying sizes, provision of housing for different sections of the people, provision of facilities like water supply, sanitation, transport and power, pattern of economic development, location and dispersal of industries, civic administration etc. Several schemes are being implemented by the Department of Urban Affairs/municipalities/corporations to provide urban infrastructures.

1.28 Only one-fourth of households in slums have electricity. The composition of the poor has been changing. While rural poverty is getting concentrated in the agricultural labour and artisan household, urban poverty results in casual labour households

1.29 Various poverty alleviation programmes both rural and urban sectors that are being implemented are given in other

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chapters of the review. There are many agencies and Government Departments whose mandate is to eradicate poverty in Kerala.

Kudumbashree Mission and Alleviation of Poverty

1.30 This Community Based Organisation is a three-tiered structure with its apex tier anchored in the local self governments. Neighbourhood Groups (NHGs) comprising of 10-20 women, Area Development Societies (ADS) within wards of LSGs and Community Development Societies (CDS) – Registered Society as the Federation of ADS within the LSGs form the three tiers.

SECTION 4

Urbanization in Kerala

1.36 Kerala is known for its unique settlement pattern with independent houses on individual plots scattered across the habitable areas. In Kerala, one cannot clearly distinguish a rural area from an urban area because of the peculiarity of the settlement pattern. Urbanisation in Kerala is not limited to the designated cities and towns. Barring a few panchayats in the hilly tracks and a few isolated areas, the entire state depicts the picture of an urban-rural continuum.

1.37 As per 2011 provisional census figures total urban population of Kerala is 15932171. Kerala was positioned in the 19th rank in the level of urbanisation among the states of India as per the 2001 Census. But in 2011 Census data, Kerala was ranked 9th. The urban content of population of Kerala has reached to 47.72 per cent in 2011 from 13.48 per cent in 1961. Ernakulam (68.1 per cent) is the most urbanised district of Kerala and Wayanad (3.9 per cent) is the least urbanised district . Details of urban and rural population in Kerala are given in [Appendix 1.22](#).

1.38 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.

SECTION 5

Prices

1.39 The level of prices for essential commodities and services determine the well being of the people. A modest increase in the price level is acceptable, sometimes even desirable. Kerala being a consumer state, faces high volatility in commodity prices as a result of heavy dependence on neighbouring states for consumption goods. Due to the cost-push and demand-pull factors, the economy has very high inflation, which adversely affects the welfare of the people, especially the vulnerable communities.

Consumer Price Index

1.40 Consumer Price Index of agricultural and industrial workers in Kerala went up in 2013 compared to the corresponding period of 2012. The inflationary hike is shown in Fig.1.9.

Fig. 1.9

Consumer Price Index Numbers of Kerala 2008 to 2013

(Base year 1998-99 = 100)

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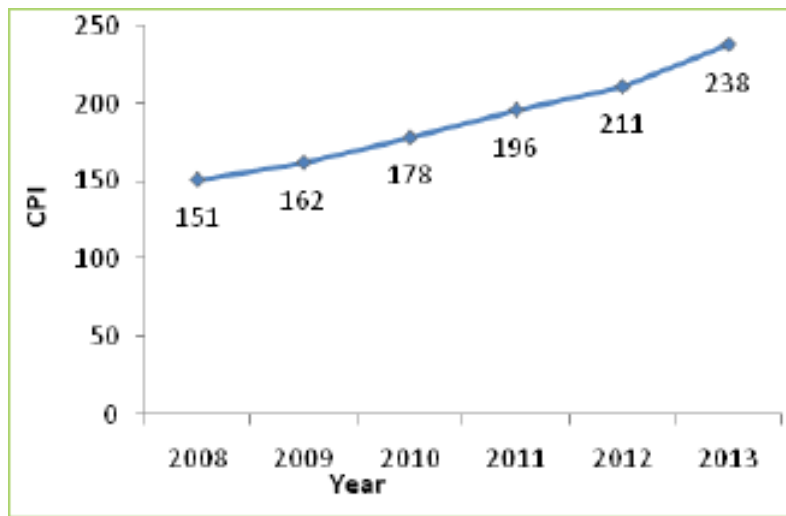
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1.41 Prices are monitored at 17 centres in Kerala ([Appendix 1.23](#)). State wide inflation based on CPI was 27 basis points between 2012 & 2013. Maximum CPI was at Pathanamthitta at 255, while the lowest was at Thrissur 224. When the percent of variation over the previous year is concerned, Kasaragod experienced the maximum fluctuation of 16.75 per cent, while Palakkad showed the lowest increase of 9.26 per cent. A look at the inflation data reveals that the following centres viz., Munnar, Eranakulam, Chalakkudi, Thrissur, Palakkad, Malappuram, Kozhikkode, Meppady and Kannur experienced a price increase that was lower than the state average. During the period from January to October 2013, the average retail prices of essential commodities has shown a fluctuating trend. Considerable fluctuation in prices was observed in different months of 2013 in the case of rice, green gram, Dhall, red gram, onion etc. The details are shown in [Appendix 1.24](#).

Wholesale Price Index

1.42 Wholesale price index of agricultural commodities increased by 973 points in Kerala in 2013 (up to September) compared to the corresponding period of 2012. The weighted contribution of important agricultural commodities to Wholesale Price Index had increased by 18.98 per cent in 2013 compared to the corresponding period in 2012 ([Appendix 1.25](#)).

1.43 During 2013 (up to September) price rise of 24.58 per cent is seen for food crops and 5.61 per cent for non-food crops compared to the same period during the previous year. Among food crops, highest price rise is seen for Fruits and Vegetables (33.67 per cent) and lowest for condiments & spices (4.24 per cent). Efforts are required to promote cultivation of vegetables and fruits. The month-wise wholesale price index of agricultural commodities in Kerala is given in [Appendix 1.26](#).

Price Parity

1.44 Index of prices received and price paid by farmers reveals that price fluctuations have been disadvantageous to farmers over the years as is evident from the higher prices they paid than received ([Appendix 1.27](#)).

Factor Prices

1.45 The average daily wage rate of both skilled and unskilled workers in Kerala has doubled over a period of five years. The average daily wage rate of carpenter increased by 16 per cent and that of mason by 14 per cent during the year under review. The average daily wage rates of skilled workers are given in [Appendix 1.28](#). Similarly, while there is a hike in the average daily wage rates of paddy field workers in agricultural sector, a gender disparity is seen in the wage structure ([Appendix 1.29](#)).

SECTION 6

State Finances

1.46 Despite making several attempts at fiscal consolidation, the improvements attained in key deficit indicators during the period 2002-03 to 2010-11 could not be sustained in 2011-12 and 2012-13 due to various external and domestic compulsions. Though the global and national economy shows some signs of recovery from economic recession, impact of the slowdown on all sectors of the economy and its downward pressure on growth are still visible. This has an adverse impact on buoyancy of revenues. Along with this, persistent high level of inflation has pushed up Government expenditure. Fiscal consolidation targets in 2011-12 and 2012-13 were therefore not achieved. This period was characterized by large increase in committed expenditure on account of salaries, pensions, increased devolution to LSGs and increased payments

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for welfare schemes and subsidies necessitated by pro-poor policies of Government. One of the remarkable features during this period was considerable growth in capital expenditure even amidst fiscal constraints created by rise in revenue expenditure. Growth in overall expenditure during 2011-12 was phenomenal at 31.21 per cent owing to absorption of carry forward liabilities of salaries and pension revision. In 2012-13 growth in expenditure again moderated to the level of 16.37 per cent. In 2011-12 Revenue Deficit to GSDP ratio increased to 2.55 per cent and in 2012-13 it reached the level of 2.57 per cent. Fiscal Deficit to GSDP ratio during this period stood at 4.07 per cent and 4.13 per cent respectively.

1.47 The Central government also had difficulties in following the FRBM targets in 2011-12 and 2012-13 due to slow growth trajectory of the economy. The Central Government introduced the new fiscal parameter of "Effective Revenue Deficit" in 2011. This new fiscal indicator denotes revenue deficit net of the revenue expenditure by way of grants for creation of capital assets. In the State's context a significant portion of State's devolution to LSGs and grants to various autonomous bodies intended for creation of capital assets of durable nature. The funds so devolved for capital creation has to be appropriately separated from revenue expenditure for and Effective Revenue Deficit assessed accordingly. In terms of Effective Revenue deficit, State's fiscal performance gives a relatively stable picture. The revenue deficit in 2012-13 was ` 9351.45 crore. When the expenditure of ` 3150.37 crore incurred for providing grants for creation of capital assets is deducted, the Effective Revenue Deficit will be ` 6201.08 Crore., in 2012-13, which is 1.71 per cent of GSDP.

1.48 The major deficit indicators of the State for the period from 2007-08 to 2013-14 BE is shown in Table 1.6

Table 1.6

Major Deficit Indicators

(` in Crore)

Year	Revenue Deficit		Fiscal Deficit		Primary Deficit (-)/ Surplus (+)		GSDP
	Amount	% to GSDP	Amount	% to GSDP	Amount	% to GSDP	
2007-08	3784.84	2.16%	6100.21	3.48%	-1770.56	-1.01%	175141.08
2008-09	3711.67	1.83%	6346.21	3.13%	-1686.52	-0.83%	202782.79
2009-10	5022.97	2.17%	7871.60	3.39%	-2579.12	-1.11%	231998.67
2010-11	3673.87	1.36%	7730.46	2.87%	-2040.80	-0.76%	269473.79
2011-12	8034.26	2.55%	12814.77	4.07%	-6521.17	-2.07%	315205.67
2012-13	9351.45	2.57%	15002.47	4.13%	-7797.66	-2.15%	363305.26
2013-14 BE	2269.97	0.54%	11872.64	2.82%	-4199.16	-1.00%	420479.00

Source: Finance Department, Govt. of Kerala

1.49 A low rate of Revenue Deficit to Fiscal Deficit indicates that a sizeable portion of borrowed funds go for capital expenditure. This ratio has been fluctuating since 2007-08. In 2012-13, it decreased to 62.33 per cent from 62.70 per cent in 2011-12. The persistence of high ratio of revenue deficit to fiscal deficit indicates that the major portion of borrowed funds is used to meet requirements under revenue account. Revenue Deficit of ` 9351.45 crore. was the major contributor to the Fiscal Deficit of ` 15002.47 crore. in 2012-13. Like previous years, the major portion of fiscal deficit in 2012-13 was financed mainly through Internal Debt (` 10231.01 crore) comprising mostly Market Borrowings and accruals from Provident Funds and Small Savings (` 3685.55 crore).

1.50 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 of GSDP, a fiscal deficit target of 3.5 per cent of GSDP and to restrict State's total debt liabilities to 32.3 per cent of GSDP in 2012-13. State's total debt liability relative to GSDP for the financial years 2011-12 and 2012-13 was 28.37 per cent and 28.51 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.

1.51 The important financial indicators for Government of Kerala for the period from 2007-08 to 2013-14 BE are given in [Appendix 1.30](#).

Revenue Receipts

1.52 State's own tax and non-tax revenues, Share of central taxes and Grants-in-aid from Centre constitute the Revenue receipts of the State. The revenue receipts of the State in proportion to GSDP has shown marginal improvement in 2012-13 to 12.15 per cent from 12.06 per cent in 2011-12. However growth rate of revenue receipts declined sharply. In 2012-13 total revenue receipts of the State was ` 44137.30 crore with an increase of ` 6126.94 crore over that of ` 38010.36 crore. in 2011-12. The growth recorded in 2012-13 was 16.12 per cent against 22.65 per cent in 2011-12. The reason for decrease in the growth of revenue receipts in 2012-13 is mainly attributed to reduction in central government transfers to State. Also, in the case of State's own tax revenue, targeted collection could not be achieved owing to impact of general macro-economic instability. The economic slowdown has weakened the main areas of economy like construction,

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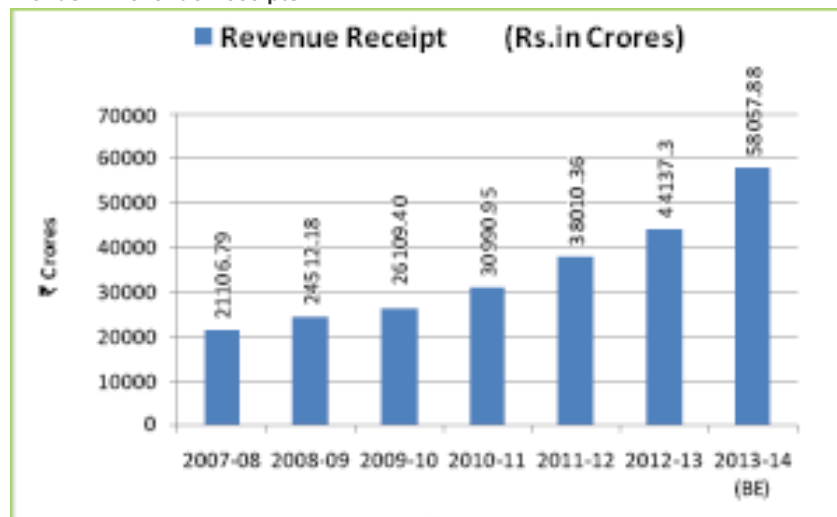
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automobiles, real estate and also affected general consumption by the public, consequently inflicting deep impact on revenue mobilization of the State. The trend in Revenue Receipts from 2007-08 to 2013-14 BE is given in Fig. 1.10.

Fig 1.10

Trends in Revenue Receipts

Source: Finance Department, Govt. of Kerala

1.53 The composition of revenue receipts is estimated to be continue without much variation in the current year as per BE 2013-14 and the actual against it upto 31.10.2013. The actual revenue receipts of ` 44137.30 crore in 2012-13 constituted 91.68 per cent of the budget target of ` 48141.59 crore. Revenue buoyancy is an indicator of the growth of revenue in relation to the growth of GSDP. The buoyancy of revenue receipts that declined consistently to 0.45 in 2009-10 from 1.53 in 2006-07 improved steadily in two subsequent years. It increased to 1.33 in 2011-12 from 1.16 in 2010-11. In 2012-13, it declined to 1.06. The details of Revenue Receipt from 2007-08 to 2013-14 BE is given in [Appendix 1.31](#).

State's Own Tax Revenue

1.54 The main sources of State's Own Tax Revenue are Sales Tax including Value Added Tax (VAT), Stamps and Registration fees, State Excise Duties, Motor Vehicle Tax and Land Revenue tax. The receipt from State's Own Tax Revenue in 2012-13 was ` 30076.61 crore, which was 93.63 per cent of the targeted revenue. Receipts from Sales Tax and VAT (` 22511.09 crore) contributed around 75 per cent of the total SOTR, followed by 10 per cent from stamp duties and registration fees

(` 2938.37 crore), 8 per cent from State Excise Duties (` 2313.95 crore), 6 per cent from Taxes on Vehicles (` 1924.62 crore) and (0.4 per cent) from Land Revenue (` 121.58 crore).

1.55 The receipts from Sales Tax including Value Added Tax (VAT) registered growth consistently in 2011-12 and 2012-13. The growth rate in 2011-12 and 2012-13 was 19.62 per cent and 18.86 per cent. The receipts from stamp duties and registration fees recorded a negative growth of (-) 1.61 per cent in 2012-13 against 17.01 per cent growth in 2011-12. This is mainly due to decrease in land transactions due to sluggishness of the economy coupled with relaxation granted in stamp duty to certain types of transactions. Receipt from Motor Vehicle tax has shown substantial increase of 21.26 per cent in 2012-13 compared to 19.21 per cent in 2011-12. This buoyancy in receipt was due to rationalization of tax structure of motor vehicles brought in 2011. The growth rate of revenue from State Excise Duties doubled in 2012-13 registering 22.87 per cent growth as against 10.81 per cent in 2011-12. Revenue from land tax showed phenomenal hike in 2012-13. Receipt under this item during 2012-13 was ` 128.58 crore registering growth rate of 100.13 per cent over previous year's receipts. This was attained by revision of rate of land tax after long gap. The details of State's Own Tax Revenue from 2007-08 to 2013-14 BE is given in [Appendix 1.32](#).

State's Own Non-Tax Revenue

1.56 The major contributors of State's Non-Tax Revenue are State Lotteries, Forest revenues and receipts from various social developmental services. Receipt from SONTR gone up remarkably in 2011-12 and 2012-13 and to a certain extent redeemed the shortfall in receipts from other major sources. The growth exhibited during 2012-13 was 61.97 per cent against 34.25 per cent recorded in 2011-12. It was just 4.24 per cent in 2010-11. As per cent of GSDP, the receipt from State's non-tax revenue increased significantly to 1.16 per cent in 2012-13 from 0.82 per cent in 2011-12. The buoyancy of non-tax revenue has also shown improvement in 2012-13. The buoyancy reached the level of 4.06 in 2012-13 from 2.02 in 2011-12.

1.57 Major portion of receipts under State's own non-tax revenue in 2011-12 and 2012-13 was from State lotteries. Introduction of daily lotteries in 2011-12 paved the way for huge rise in collection of revenue from lotteries. Growth of

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receipt under state lotteries was at a rate of 108.44 per cent in 2012-13 compared to 124.47 per cent in 2011-12. Sales proceeds from forest produces, interest receipts, fees and fines etc have contributed significantly to SONTR in 2011-12 and 2012-13.

1.58 State's Non-Tax Revenue in 2012-13 was ` 4198.51 crore. Of this, gross receipt from lotteries was ` 2673.77 crore. This constitutes 63.68 per cent of the total Non tax revenue of the State. This was followed by ` 472.78 crore (11.26 per cent) from Social Developmental Services, ` 237.33 crore (5.65 per cent) from Forest revenue and ` 172.41 crore (4.11 per cent) from debt services. The details of State's Own Non Tax Revenue from 2007-08 to 2013-14 BE is given in [Appendix 1.33](#).

Central Transfers

1.59 Central Transfers comprises of share in central taxes and grants in aid from Centre. The share of States in the net proceeds of shareable central taxes during the 13th FC period from 2010-11 to 2014-15 is 32 per cent. Out of this, State's share is 2.34 per cent. The considerable fall in the transfers from Centre has affected the performance of State finances to a great extent in 2012-13. Against the budget estimate of ` 12523.97 crore, the actual Central transfer received was ` 9862.18 crore, which was 78.75 per cent of the budget estimates. Growth in Central government transfers in 2012-13 was very meager. It was just 1.68 per cent compared to 32.17 per cent in 2011-12.

1.60 The share of Central Transfers in total revenue receipts of the State was as high as 29.51 per cent in 2007-08. It declined steadily and reached the level of 22.34 per cent in 2012-13. However it had shown a little upward growth of 25.52 per cent in 2011-12 in between this period. The central transfers as per cent of GSDP have also declined to 2.71 per cent in 2012-13 from 3.08 per cent in 2011-12. Out of the total central transfers, the receipts under share in central taxes and central grants were ` 6840.65 crore and ` 3021.53 crore respectively. In 2012-13, the growth rate of share of central taxes dropped to 14.19 per cent from 16.50 per cent in 2011-12. During the same period, the receipt from central grant in aid declined substantially. It declined to 18.54 per cent in 2012-13 against 68.86 per cent increase in 2011-12. The details of Central Transfers from 2007-08 to 2013-14 BE is given in Table 1.7.

Table 1.7

Central Transfers: 2007-08 to 2013-14 (BE) (₹ in Crore)

Year	Share in Central Taxes & Duties		Grant-in-aid and other receipts from Centre for Plan and Non-plan		Total Transfers	
	Amount	Annual Growth Rate (%)	Amount	Annual Growth Rate (%)	Amount	Annual Growth Rate (%)
2007-08	4051.70	26.14	2176.59	3.88	6228.29	17.35
2008-09	4275.52	5.52	2687.19	23.46	6962.71	11.79
2009-10	4398.78	2.88	2233.38	-16.89	6632.16	-4.75
2010-11	5141.85	16.89	2196.62	-1.65	7338.47	10.65
2011-12	5990.36	16.50	3709.22	68.86	9699.58	32.17
2012-13	6840.65	14.19	3021.53	-18.54	9862.18	1.68
2013-14 (BE)	8143.79	35.95	6221.42	105.90	14365.21	45.66

Source: Finance Department, Govt. of Kerala

Revenue Expenditure

1.61 Expenditure on salaries, pension, debt charges, subsidies and devolutions to the Local Self Government institutions are the main constituents of revenue expenditure. Expenditure on operational and maintenance cost for the upkeep of the completed projects and programmes are also accounted under the revenue account. Grants provided by the State to meet salaries and pension liabilities of employees in the Universities and State autonomous bodies and also the pension liabilities of employees of Panchayat Raj Institutions are classified under revenue expenditure. Major portion of funds devolved to local bodies from the revenue account of the State government is utilized for the creation of capital assets of durable nature. Also a significant share of grant-in-aid set apart for universities and autonomous institutions are meant for creation of capital assets.

1.62 The level of expenditure in social and economic sector has important implications on human development and long-term prospects of the economy. Fiscal priority for social and economic services is clearly evident from relatively higher developmental expenditure. Expenditure on Social and Economic services together constitutes developmental expenditure. Funds devolved to Local Self governments for expansion and development and maintenance of assets is reckoned as developmental expenditure. The committed expenditure consisting of debt charges, expenditure on pension payments and

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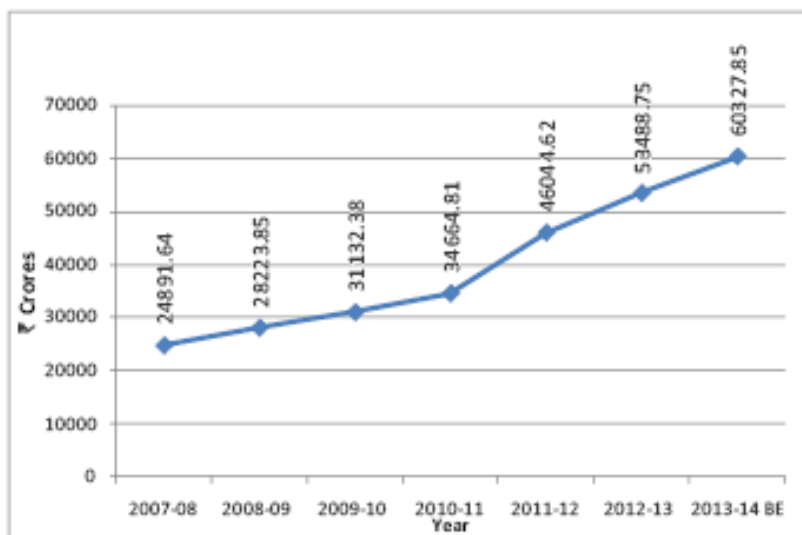
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administrative services together form non-developmental expenditure of the State.

1.63 The growth in revenue expenditure was relatively higher in 2011-12. Impact of arrear payments on account of pay and pension revision in 2011-12 pushed up growth in Non plan revenue expenditure to the level of 33.64 per cent. But it moderated to 14.54 per cent in 2012-13. Growth in plan expenditure was 28.57 per cent in 2012-13 compared to 26.97 per cent in 2011-12. Total revenue expenditure in 2012-13 was ` 53488.75 crore. Of this, plan expenditure was ` 6849.33 cr and non-plan expenditure ` 46639.42 crore. The ratio of revenue expenditure relative to GSDP almost shown sign of stabilization during the last few years with marginal year to year variation but for in 2010-11. It was 14.61 per cent in 2011-12 and 14.72 per cent in 2012-13. However it was 12.86 per cent in 2010-11. The trend in Revenue Expenditure from 2007-08 to 2013-14 BE is given in Fig. 1.11.

Fig. 1.11

Revenue Expenditure (₹ in crore)



Source: Finance Department, Govt. of Kerala

1.64 In 2012-13 salary expenditure as proportion of total revenue expenditure was 32.26 per cent whereas it was 34.81 per cent in 2011-12. Pension expenditure as per cent of total revenue expenditure was 16.58 per cent in 2012-13 compared to 18.90 per cent in 2011-12. Interest payment as per cent of total revenue expenditure came down to level of 13.67 per cent in 2011-12 and to 13.47 per cent in 2012-13 from 16.41 per cent in 2010-11. Expenditure on salaries pension and interest form the lion share of revenue expenditure. In 2011-12, it constituted 67.37 per cent of the total revenue expenditure. It came down significantly in 2012-13 to 62.31 per cent. Committed expenditure comprised of salaries, pension, interest, devolution to LSGs and subsidies. Expenditure on committed liabilities constitutes 74 per cent of revenue expenditure and consumed 83 per cent of the revenue receipts of the State during 2012-13. State's concerted efforts to intervene in the market to curb rising prices of essential commodities due to persistent inflation and policy initiative to bring all weaker sections of society under social security net was also a major reason for the increase in revenue expenditure. The details of Revenue Expenditure (item wise) from 2007-08 to 2013-14 BE is given in [Appendix 1.34](#) and 1.35 and expenditure on interest, pension and salary from 2007-08 to 2013-14 BE is given in [Appendix 1.36](#).

1.65 The details of Revenue Expenditure is shown in the Table 1.8.

Table 1.8

Trend in Revenue Expenditure from 2009-10 to 2012-13 (₹ in Crore)

Year	2009-10		2010-11		2011-12		2012-13	
	Expenditure	As per cent of TRE	Expenditure	As per cent of TRE	Expenditure	As per cent of TRE	Expenditure	As per cent of TRE
i. Salaries	9764.15	31.36	11031.97	31.82	16028.82	34.81	17257.41	32.26
ii. Pension	4705.5	15.11	5767.49	16.64	8700.3	18.90	8866.89	16.58
iii. Interest	5292.48	17.00	5689.66	16.41	6293.6	13.67	7204.81	13.47
iv. Devolutions to 000LSGDs	2689.65	8.64	2978.87	8.59	3896.76	8.46	4739.33	8.86
v. Subsidies	440.83	1.42	623.7	1.80	1014.43	2.20	1265.19	2.37

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Committed Expenditure total (i to v)	22892.61	73.53	26091.69	75.27	35933.91	78.04	39333.63	73.54
Others	8239.76	26.47	8573.12	24.73	10110.71	21.96	14155.12	26.46
Total	31132.37	100.00	34664.81	100.00	46044.62	100.00	53488.75	100.00

Source: Finance Department, Govt. of Kerala

1.66 It is note-worthy that there is consistent improvement in the share of developmental expenditure in total revenue expenditure since 2010-11. In 2010-11 share of developmental expenditure in revenue expenditure was 54.58 per cent. This ratio increased to 55.33 per cent in 2011-12 and further reached the level of 56.95 per cent in 2012-13.

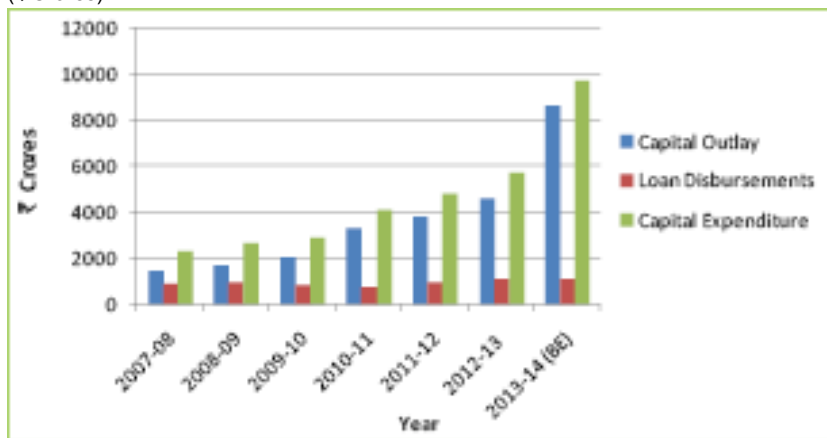
Capital Expenditure

1.67 High quality infrastructure is the backbone of any economy. Investment for improving infrastructure is essential for maintaining the growth prospects of the economy. Infrastructure financing remains a constraining factor due to deficit in resources to finance revenue expenditure. The State has already taken strong policy initiatives to create a conducive environment for attracting long- term investment in the State and determined efforts are taken to explore alternative financial sources for funding major infrastructural projects of the State. The share of government spending on capital projects was marginal till recently. A positive change in this spending pattern is visible now. In the last three years, the proportion of capital expenditure in total expenditure has shown perceptible improvement. This ratio now stepped up to the level of around 10 per cent. With a 19.48 per cent growth, expenditure on capital outlay of the State increased to ` 4603.29 crore in 2012-13 from ` 3852.92 crore in 2011-12. Capital outlay - GSDP ratio also improved to 1.27 per cent in 2012-13 from 1.22 per cent in 2011-12. The trend in Capital Outlay, Loan Disbursement and Capital Expenditure from 2007-08 to 2013-14 BE is given in Fig. 1.12 and also given in [Appendix 1.37](#).

Fig 1.12

Trends in Capital Expenditure

(₹ Crores)



Source: Finance Department, Govt. of Kerala

1.68 Public Works continued to remain the major segment of capital outlay with 46.55 per cent of the total capital outlay in 2012-13 followed by Irrigation (7.40 per cent), Agriculture and allied activities (4.17 per cent) and Industries (5.95 per cent). The expenditure on loan disbursements increased to ` 1136.15 crore in 2012-13 from ` 998.54 crore. Its growth rate dropped to 13.78 per cent in 2012-13 from 31.09 per cent in 2011-12. The capital expenditure and total expenditure from 2007-08 to 2013-14 BE are given in [Appendix 1.38](#).

Debt Profile

1.69 Borrowings which are repayable and on which interest accrues are classified as debt. Debt of the State comprises of internal debt, loans and advances from Central Government and liabilities on account of Small Savings and Provident Fund Deposits, etc. Increasing gross fiscal deficit has led to increasing debt liabilities of the State. However level of debt in terms of GSDP has shown declining trend in recent years. But the annual growth rate of debt, which was 10.86 per cent in 2010-11 increased to 13.66 per cent in 2011-12 and further to 15.82 per cent at the end of 2012-13. Outstanding debt liabilities of the State at the end of 2012-13 were ` 103561 crore. Debt-GSDP ratio has declined consistently to 28.37 per cent in 2011-12 from 35.11 per cent in 2004-05. But the trend reversed and growth of debt rose slightly to 28.51 per cent in 2012-13. The debt-revenue receipts ratio has dropped from 253.86 per cent in 2010-11 to 235.25 per cent in 2011-12 and further down to 234.63 per cent in 2012-13. The debt sustainability of the State is evident from the above fiscal indicators. The debt of the state from 2007-08 to 2013-14 BE is given in the Table 1.9.

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Table 1.9

Debt of the State

Year	Internal Debt	Growth Rate	Small Savings, Fund, Others	Provident Growth Rate	Loans and advances from Central Government	Growth Rate	Total	Growth Rate
2007-08	34019.00	13.51%	15858.00	9.11%	5533.00	3.00%	55410.00	11.10%
2008-09	38814.00	14.10%	18447.00	16.33%	6009.00	8.60%	63270.00	14.19%
2009-10	43368.00	11.73%	21296.00	15.44%	6305.00	4.93%	70969.00	12.17%
2010-11	48528.10	11.90%	23786.06	11.69%	6359.08	0.86%	78673.24	10.86%
2011-12	55397.39	14.16%	27625.10	16.14%	6395.69	0.58%	89418.18	13.66%
2012-13	65628.41	18.47%	31310.65	13.34%	6621.78	3.54%	103560.84	15.82%
2013-14(BE)	77031.97	17.38%	29729.97	-5.05%	7359.44	11.14%	114121.38	10.20%

Source: Finance Department, Govt. of Kerala

1.70 Internal debt dominates debt liabilities. Market borrowings and loans from financial institutions mainly constitute the internal debt of the State. Central government loans and accruals from State Provident fund deposits are the other sources State's debt. The debt profile has undergone a change from 2005-06. The loan from the Centre and borrowing from NSSF has gone down sharply. With the centre stopping lending to States, following the 12th Finance Commission recommendations and the sharp fall in NSS collections from 2006-07, the borrowing has largely been through open market borrowings. The share of internal debt in the total debt liabilities of the State comes to 63.37 per cent in 2012-13. The growth rate of internal debt in 2012-13 was 18.47 per cent. Outstanding debt under internal debt increased to ` 65628.41 crore in 2012-13 from ` 55397.39 crore in 2011-12. The liabilities under small savings, PF, etc. come to around 30 per cent of the total liabilities. The liabilities under Small savings, PF, etc at the end of 2012-13 was ` 31310.65 crore. It shows an increase of ` 3685.55 cr over ` 27625.10 crore of 2010-11. The outstanding liabilities under Loans and Advances from the centre at the end of 2012-13 were ` 6621.78 crore. The gross and net retention of debt in 2012-13 was ` 14142.65 crore and 6929.83 crore respectively. The debt profile of the State from 2007-08 to 2013-14 BE is given in [Appendix 1.39](#).

1.71 The existing reality is that the State economy faces challenges from global and national front. The recent nationalization policies implemented in the Gulf countries would impose added pressure on State economy. However, the State's growth has always stood ahead of national average.

Contingent Liabilities

1.72 To overcome the ceilings on fiscal deficits and revenue deficits set by the Fiscal Responsibility Act the State Government is giving guarantees to the borrowings of public sector undertakings and other institutions instead of funding them directly through the budget. These contingent liabilities also become the debt obligations of the state in the event of default by borrowing public sector units for which Government is a guarantor. The Outstanding Guarantees during 2012-13 is ` 11482.25 crore. The outstanding guarantees of the State Government from 2007-08 to 2012-13 are shown in Table 1.10.

Table 1.10

Outstanding Guarantees of Kerala

(₹ in Crore)

Year	Amount guaranteed	Amount Outstanding
2007-08	14871.08	8317.3
2008-09	11385.55	7603.32
2009-10	10225.78	7495.00
2010-11	12625.07	7425.79
2011-12	11332.25	8277.00
2012-13	11482.25	9099.50

Source: Finance Department, Govt. of Kerala

Thirteenth Finance Commission Award

1.73 The Thirteenth Finance Commission had recommended, among other things, grants aggregating to ` 6371.5 crore for the State for the award period 2010-15. The State Level Empowered Committee (SLEC) and High Level Monitoring Committee (HLMC), constituted as per the stipulations in the guidelines issued by Government of India (GoI), have already approved the Perspective Action Plans for 2010-15 and Annual Action Plans for the years 2010-11, 2011-12, 2012-13 and

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2013-14 in most of the cases enabling the implementing departments to take up and complete the projects within the stipulated time frame.

1.74 The Thirteenth Finance Commission treated Kerala, along with Punjab and West Bengal, as a debt stressed state, setting targets for Revenue Deficit, Fiscal Deficit and debt as a proportion of GSDP. While the state has been able to meet the targets with respect to the debt ratio, RD and FD targets are still distant. Three trends of recent years are worrisome and call for serious action. Firstly, over 80 per cent of the borrowings go for the repayment of past debt and interest payments. Second, the persistence of RD leaves little of the borrowings towards capital spending. Third, the persistently higher share of salary, pension and interest payments in total revenue expenditure and the declining share of the State in Finance Commission Award have not helped to improve the fiscal situation. Mobilisation of larger tax revenue would have helped. But recent years have shown a decline in the share of state's own tax revenue in the state's revenue receipts. Further, the share of sales tax including VAT in tax revenue, which showed a five per cent point increase during the five years till 2011-12, has flattened out.

Fourteenth Finance Commission

1.75 The Indian federal polity is characterized by larger taxation powers for the Centre and higher expenditure responsibilities of States. Articles of the Constitution between 268 and 275 have designed a well-structured system whereby States can benefit from the Centre's taxation power to address the cost disabilities and fiscal capacities of the States. Aid to the States is what the makers of the Constitution had in mind. The Finance Commission constituted every five years is the authority which makes the award governing the flow of resources from the Centre to the States. The Fourteenth Finance Commission notified on 2nd January 2013 would be making the awards for the period 2015-16 to 2019-20. The Commission visited Kerala on 18-19 December 2013 to hear the views of the various stake holders in the State.

1.76 Kerala has been getting a raw deal in the devolution of taxes in the recent past, the share of the State coming down from 3.05% during 2000-05 (XIth Finance Commission) to 2.34% during 2010-15 (XIIth Finance Commission). One of the reasons for such a drastic reduction has been the adoption of income distance or fiscal capacity distance in the devolution formula with a fairly high weight. The Memorandum submitted by the State has demanded a raise in the devolution from 32% of the divisible pool to 50% and highlighted the need for reworking the devolution formula by upholding the principle of horizontal fiscal equalization. Instead of arbitrarily fixing weights for indicators such as population, income distance, tax effort, area and fiscal discipline, the Commission should be adhering to the principle of equalization and derive appropriate weights. Further, cost disabilities arising out of forest area, urbanization, ageing population and effective density should be incorporated in the formula. The Memorandum has submitted that the injustice done to Kerala by the previous Commissions in not awarding post devolution non plan revenue deficit grants under Article 275 should be corrected and grants be awarded for addressing the issues of forest conservation (including Western Ghat restoration), wetland preservation, and heritage conservation and upgradation of the government departments.

1.77 Kerala is in the forefront of decentralization. Around 25% of plan funds are transferred to the local bodies with remarkable results. The multidimensional poverty index for Kerala is one of the lowest among the States largely owing to the efforts of the local bodies. The Memorandum has demanded raising the share of the local bodies to 5% of the divisible pool. The innovative approaches taken in arguing Kerala's case was appreciated by the Commission.

SECTION 7

Banking

1.78 Adequate and affordable capital is critical for development of the economy. Kerala boasts of a well-developed banking infrastructure. Commercial, Nationalised, Co-operative banks and a large number of grameen banks have sprung up within the state. Although, Kerala has only 1 per cent of the total land area, it has 4 per cent of bank branches. This indicates that people of the state are highly financially literate. Kerala has largest number of bank branches among the semi urban areas in the country. At the end of March 2013, Kerala had total 5207 branches and there was an increase of 424 branches compared to March 2012. As on June 2013, total no of bank branches has also increased to 5262. Despite Kerala's small size, this is on par with large states like Bihar, Punjab and Rajasthan ([Appendix 1.40](#)). As on March 2013, banks in Kerala increased disbursement of advances to

₹ 171712 crore over the previous year's figure of ₹ 151525 crore (13.3 per cent). Maharashtra is a topmost state for disbursing the advances in the country ([Appendix 1.41](#)).

1.79 Deposit mobilization is an inevitable activity of all banks for augmenting credit flow to the development and priority sectors of the state. Overall Bank deposits in Kerala increased by 16.77 per cent from ₹ 200572 crore in March 2012 to ₹ 234217 crore in March 2013. Scheduled Commercial Banks in Kerala accounted for 3.32 per cent of deposits of the country ([Appendix 1.42](#)). As on June 2013, Bank Deposits have been hiked to ₹ 239744 crore.

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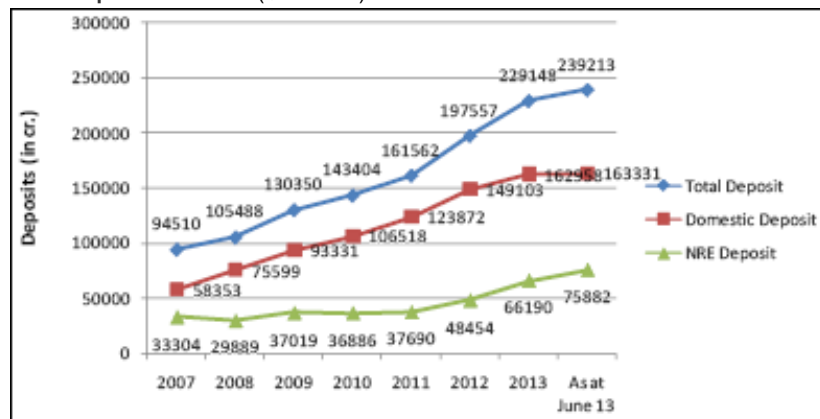
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NRI Deposit

1.80 The NRI deposits increased by nearly `10000 crore during the period of April to June 2013 mainly due to the depreciation of the Rupee. Total NRI Deposits which stood at ` 48454 crore in March 2012 jumped to ` 75882 crore in June 2013 (nearly 57 per cent increase). NRE deposits constitute 36.6 per cent increase as on March 2013 over same period of the previous year. (Appendix 1.43). The private sector banks have mobilized major chunk of the NRI deposits followed by the State Bank of Travancore (Appendix 1.44). Fig.1.13 shows the growth of Bank Deposits in Kerala including NRE deposit.

Fig 1.13

Bank Deposits in Kerala(₹ in Crore)

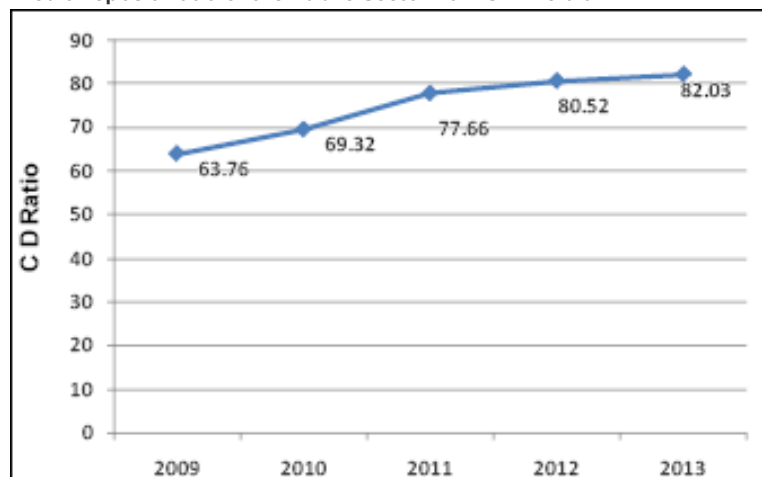


Credit Deposit Ratio (CDR)

1.81 In early 2000, Credit Deposit Ratio (CDR) of the Public Sector Banks in Kerala was very low. During this period, banks were reluctant to disburse loans for education , housing , self employment etc for fear of growing Non-Performing Asset (NPA) in the Banking Sector. In view of effective interventions by the Central and State Governments, bank managements were forced to extend loans to needy groups relaxing their policies. As per RBI data , credit of Public Sector Banks in Kerala grew by 16 per cent as on March 2013 to `121700 crore, while aggregate deposits went up to 14 per cent during the same period reflecting an increase in CD ratio from 80.52 in March 2012 to 82.03 in March 2013 (Appendix 1.45). & (Fig 1.14). On the other hand, Credit Deposit ratio is low in Kerala (82), unlike Tamil Nadu and Andhra Pradesh where the CD ratio is above 1, indicating that banks in Kerala have idle funds for which there is inadequate demand. CD ratio in Kerala has been increasing over the last three years. Though low, Kerala's CD ratio is greater than All India average

Fig 1.14

Credit Deposit Ratio of the Public Sector Banks in Kerala



Credit Flow to the Priority Sectors

1.82 During the year 2012-13, advances to the following priority sectors viz. Agriculture and Small & Micro Enterprises, increased by ` 13712 crore as against ` 14461 crore (5.5 per cent) added during the corresponding period of previous fiscal. Against the mandatory norm of 40 per cent under priority sector advances, 56.72 per cent of the total advances of the banks in the State as on March 2013 were to priority sector. However, there was a slight decrease in the disbursement of advances to priority sectors during 2012-13 when compared to the previous year which was 57.34 per cent.

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Housing Loans

1.83 During 2012-13, banks in Kerala including Private Sector Banks sanctioned an amount of 26639.68 crore to 715797 beneficiaries as housing loan against ` 23191.79 crore to 623165 beneficiaries during 2011-12 (SLBC: 2013) showing about 15 per cent growth in total housing loan sanctioned

Educational Loans

1.84 In order to support students from economically weaker section of the society, Department of Education, Ministry of Human Resource Development, Government of India has launched an interest subsidy scheme. The MoHRD has appointed Canara Bank as the Nodal Bank for the Scheme. At the end of March 2013, ` 8294.54 crore was sanctioned to 380295 students and the per cent increase of education loan and beneficiaries during March 2012 was 15 and 6 respectively over the last year (SLBC: 2013). The Ministry of Finance has finalized the modalities of the Credit Guarantee Fund Trust (CGFT) for Higher Education to be set up with a corpus of ` 2500 crore. The High point of the credit guarantee trust initiative is that the students (with annual family income below ` 4.5 lakh) will be able to avail education loans up to ` 7.5 lakh without giving any collateral security or third party guarantee.

Advances to Weaker Sections and SC/STs

1.85 During 2012-13, an amount of ` 35934.99 crore has been disbursed to 4122926 beneficiaries of weaker sections in the state. Corresponding figures in 2012-13 was ` 29658.12 crore to 3590688 indicating 21 per cent of growth in the amount sanctioned. During 2012-13 the advances to SC/STs was ` 4155.08 crore to 354048 beneficiaries against ` 3672.87 crore to 311892 beneficiaries in the previous year. Although there is increase in the total amount sanctioned, the number of beneficiaries decreased compared to the previous years.

Micro finance

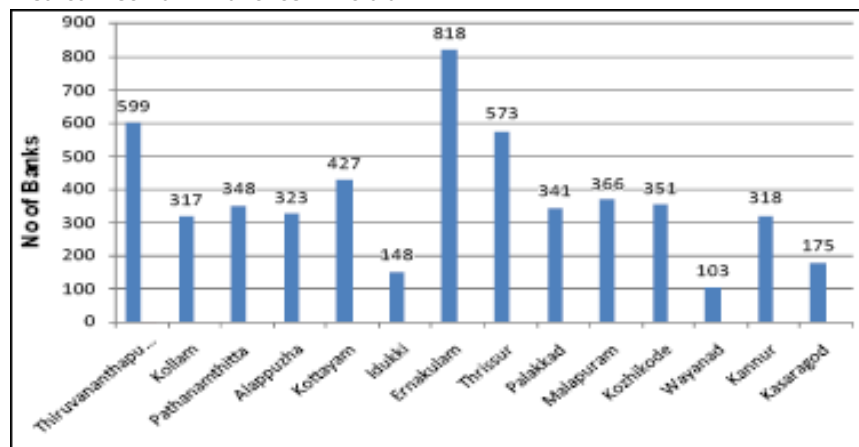
1.86 Micro finance is general terms to describe financial services that have access to typical banking services. It generally targets poor women. By providing access to financial services through women-making women responsible for loans, ensuring repayment through women, maintaining accounts for women, providing insurance coverage through women-micro finance programmes send a message to households as well as to communities. In Kerala More than 4 lakh Self Help Groups (SHG) maintaining their savings bank accounts with ` 2397.97 crore in various banks as on March 2013, against ` 625.49 crore in 2011-12. (SLBC:2013)

District –wise analysis of Banking Statistics

1.87 The District-wise details of banking statistics in Kerala (Fig:1.15) reveals that Ernakulam district with 818 branches holds the largest number of branches followed by Thiruvananthapuram with 599 branches. In Wayanad and Idukki districts, the credit intake exceeded considerably against the deposits (Appendix.1.46). The disbursement of credit against deposit in Pathanamthitta district was very low with the C.D ratio of 31.1 per cent

Fig 1.15

District Wise Bank Branches in Kerala



Financial Inclusion Plan (FIP) 2013-16

1.88 The first three-year Financial inclusion plan of banks for the period 2010-2013 has ended. Although there has been reasonable progress in the penetration of banking services and opening of basic bank accounts, the number of transactions through ICT-based Business Correspondent (BC) outlets is still very low. To continue the process of ensuring access to banking services to the excluded, banks have been advised to draw up a 3-year Financial Inclusion Plan for the

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period 2013-16.

Annual Plan 2013-14

1.89 Annual Plan (2013-14) of the State is formulated based on specific guidelines. While formulating the plan, critical review of the performance of ongoing schemes during 2012-13 was held. The recommendations of the respective Working Groups were also considered for formulating new schemes. In order to avoid proliferation of schemes, attempts have been made to reduce the number of schemes and wherever possible, schemes having similar nomenclature have been proposed under a single head as an 'umbrella' scheme. Care has also been taken to drop unproductive schemes. Likewise, as a step towards Gender Responsive Budgeting, efforts were made to categorise specific need based programmes to address the concern of women/girls.

Box 1.1

Highlights of Annual Plan 2013-14

- Comprehensive Fallow Land Cultivation programme with people's participation.
- Establishment of Hi-Tech Agriculture Training Centre
- Kasaragod package
- Zoological Park / Wild Life Protection and Research Centre
- Infrastructure development of Government Colleges.
- Scheme for Comprehensive Mental Health Programme
- Burns Units in 5 Medical Colleges
- Deceased Donor Multi Organ Transplantation
- Creation of sculptures in major cities
- Establishment of IIT in Linguistic Minority Area
- Replacement of old pipes of existing water supply schemes
- Emphasis on PPP mode projects for Infrastructure development
- New head for Major Infrastructure Development Projects
- Kochi-Palakkad NIMZ (National Investment and Manufacturing Zone)
- Petroleum, Chemical and Petrochemical Investment Region (PCPIR)
- Seaport-Airport Road at Kochi
- Modernisation and qualitative Improvement of Fleet (KSRTC)
- Karamana River Scientific Management Project
- Modernisation of Police Department
- Smart Revenue Zone Offices, Zero landless in the State.
- Hike in the outlay for Scheduled Castes and Scheduled Tribes Development, Backward and Minority Communities
- Financial support to Kerala State Welfare Corporation for Forward Community

1.90 Major sector wise comparative statements of the outlays of Annual Plan (2012-13) and (2013-14) is given in table 1.11 below. The total outlay for 2013-14 is `17000 crore, reflecting an increase of more than 21 percent over the previous financial year's outlay of `14010 crore. Out of the outlay of `17000 crore, `4000 crore is for assistance to LSGIs and the remaining `13000 crore is for State sector schemes. This includes mandatory provisions such as Other Central Assistance, One Time ACA, EAP, NABARD, XIII Finance Commission Award, Power, SCP/TSP, SS to CSS and MLASDF.

Table 1.11

Annual Plan 2012-13 and 2013-14 - Sector wise Outlay Comparative Statement (` crore)

Sl.No	Sector / Sub Sector	Outlay 2012-13	Outlay 2013-14	% of increase
1	2	3	4	5
I	Agriculture and allied activities	1236.41	1409.51	14.00
II	Rural development	467.69	544.32	16.38
III	Special area programmes*	284.30	265.70	-6.54
IV	Irrigation and flood control	465.80	505.14	8.45
V	Energy	1165.41	1222.70	4.92
VI	Industry & minerals	547.70	595.33	8.70
VII	Transport	1195.81	1596.35	33.50
VIII	Science, technology & environment	446.52	534.43	19.69
IX	General economic services	276.56	705.16	154.98

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X	Social services	4650.13	5572.69	19.84
XI	General services	45.67	48.67	6.57
	Total - I to XI	10782.00	13000.00	20.57
XII	LSGD	3228.00	4000.00	23.92
	GRAND TOTAL	14010.00	17000.00	21.34
	*The decrease in outlay during 2013-14 is due to reduction under Other Central Assistance in respect of Western Ghat Development Programme and Backward Region Grant Fund.			

Macro Economic Outlook for Kerala

With subdued growth at global and national levels, there is little room for optimism regarding Kerala's own growth prospects in the short run. Nevertheless, both GSDP growth and per capita 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 be a problem giving rise to social tensions, inflationary trends and rampant 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 cost and quality of service. It would be in 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 life style 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.

State Planning Board Thiruvananthapuram, Kerala, India.

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Chapter 2

AGRICULTURE AND ALLIED SECTORS

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Introduction

The agricultural system in Kerala is unique and distinct from other states in terms of land utilization and cropping pattern. Plantation and cash crops, food crops, and homesteads are the predominant system of crop production in the state. The analysis of agro ecology of Kerala based primarily on climate, geomorphology, land use and soil variability resulted in delineation of five agroecological zones and twenty three widely varying agro ecological units with significant yield gaps. The supply side performance of agriculture in these agro ecological units is affected by a large number of factors like natural resources endowments including rainfall, location specific technology, infrastructure including irrigation, and the economic environment comprising price signals, and institutions. The agriculture production is usually seasonal and cyclical in nature and is vulnerable to natural phenomena such as drought, pests and diseases. All these factors make agriculture production risky, and highly dependent on the existence of good infrastructure, robust input supply, and price signals apart from technology. The agriculture in Kerala has undergone significant structural changes in the form of decline in the share of GSDP, indicating a shift from agrarian economy towards service sector dominated economy. The contribution of agriculture in the GSDP of the state has been steadily declining from 36.99 per cent in 1980-81 to 8.95 per cent in 2012-13. There has been a negative growth in all the years of the Eleventh plan period except in 2008-09. The crippling growth rate in agriculture has started a reversal in 2012-13 with the quick estimate indicating a positive performance.

This chapter deals with the performance of various agriculture crops and discusses the major concerns as well as the initiatives taken by Government to mitigate them. An analysis of Livestock development and Fisheries has also been made. Separate sections have been devoted to Water Resources, Forests and Environment, Rural Development and Food security bringing out the critical issues and recent key initiatives taken. Various sources of agricultural finance are also detailed in this chapter.

Performance of Agriculture

The growth performance of the agriculture and allied sector has been fluctuating across the plan periods. It witnessed a negative growth rate of 1.3 per cent in XIth Five Year Plan while a positive growth of 1.8 per cent in Xth Plan period. But there has been a turnaround in 2012-13, with the quick estimate indicating a growth rate of 4.39 per cent over the previous year, the sub sector wise growth rate being agriculture (5.62 per cent), forestry and logging (1.26 per cent) and fisheries (-2.79 per cent). The revival is reported mainly due to the dynamism in the livestock sector.

2.2 Although the share has fallen to 8.95 per cent of GSDP, the robust performance of the sector in line with others is a matter to cheer considering the agrarian nature of the state and the role that it plays in providing livelihood to the people. The annual growth rate of agricultural income and share of agricultural GSDP for the last five years are shown in Table 2.1.

Table 2.1

Annual Growth rate in Agricultural Income and share of agricultural GSDP in Kerala

SL No.	Year	Rate of change over previous year	Share of Agriculture and Allied Sectors in GSDP
1	2008-09	2.08	12.7
2	2009-10	-3.01	11.5
3	2010-11	-7.28	10.1
4	2011-12*	-0.15	9.1
5	2012-13**	5.62	8.95

*Provisional ** Quick

Source: Directorate of Economics and Statistics

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Live stock

Fisheries

Water Resources

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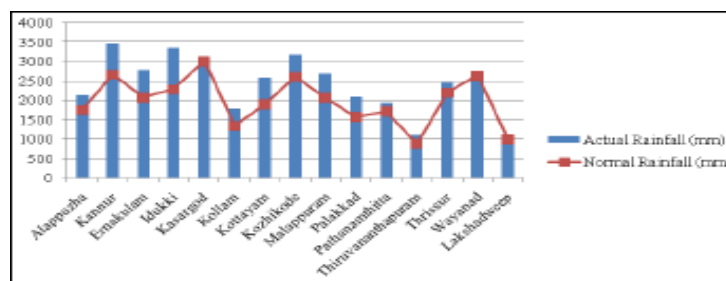
Monsoon 2013

2.3 The pre monsoon rainfall received in the State from 1st March 2013 to 31st May 2013 was normal with a departure of -42 per cent from the normal. The actual rainfall received during the period was 218.9 mm. All the Districts except Kottayam and Wayanad recorded deficient rainfall. The percentage departure from normal was highest in Palakkad (-56 per cent), Malappuram (-56 per cent) and Thrissur (-56 per cent) Districts.

2.4 South West monsoon current advanced over the Andaman Sea 3 days earlier than its normal date of 20th May and set in over Kerala on its normal date of 1st June. The South West monsoon covered the entire country by 16th June, about 1 month earlier than its normal date of 15th July. Out of the total 36 meteorological subdivisions, 14 subdivisions constituting 48 per cent of the total area of the country received excess season rainfall, 16 subdivisions (38 per cent of the total area of the country) received normal season rainfall and the remaining 6 subdivisions (14 per cent of the total area of the country) received deficient season rainfall. Out of the total of 641 districts, 100 were affected by moderate meteorological drought (seasonal rainfall deficiency of 26 per cent to 50 per cent), while 39 were affected by severe meteorological drought (seasonal rainfall deficiency of 51 per cent to 99 per cent). The actual rainfall received in Kerala during the South West Monsoon season (1st June to 30th September 2013) was 2570.3 mm as against the normal rainfall of 2039.6 mm which was 26 per cent excess. During the previous SW monsoon (2012) Kerala had received an actual rainfall of 1551.3 mm which was -24 per cent deficient. During 2013 SW monsoon season, 10 districts in the State received excess rainfall and 4 districts viz. Wayanad, Thrissur, Pathanamthitta and Kasaragod had normal rainfall. Excess rainfall was maximum in Idukki District with 47 per cent departure from normal.

Fig 2.1

South West Monsoon Rainfall received from 1st June – 30th Sept 2013

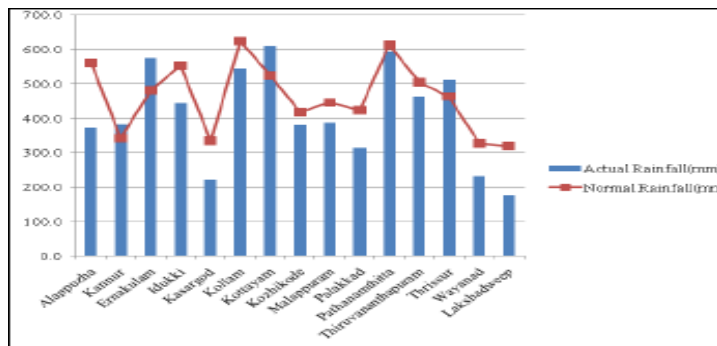


2.5 During the North East Monsoon season 2013 the State received 430.7 mm (till 18th December 2013) of rainfall as

against 473 mm of normal rainfall which was normal with a percentage departure of -9 per cent. Five Districts in Kerala received deficient rainfall (Alappuzha: -33 per cent, Kasaragod: -34 per cent, Idukki: -20 per cent, Palakkad: -26 per cent, and Wayanad : -29 per cent). District wise rainfall distribution in the state during 2013 is given as [Appendix 2.1](#).

Fig 2.2

North East Monsoon Rainfall received from 1st October to 18th December 2013

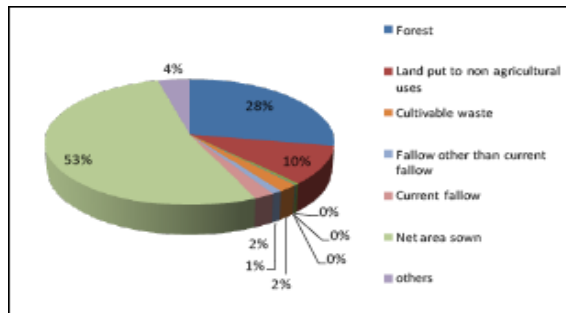


Land Use Pattern

2.6 Kerala is one of those states in India where land resources are put to more intensive use than anywhere else, mainly because of the low per capita availability of land in the state. Data on land use pattern for the year 2012-13 is given in [Appendix 2.2](#). Out of a total geographical area of 38.86 lakh ha, one fourth was under forests, and one tenth of it was put to non agricultural use. Also, while the net sown area which accounts for 53 per cent of the total area, did not record any significant changes, the area sown more than once which accounted for 14 per cent of the total geographical area recorded a notable decline of 13 per cent from 6.2 lakh ha to 5.4 lakh ha in 2012-13. As a result, the gross cropped area registered a decline of 3 per cent. One notable feature is the decline in the area of barren and uncultivated land and an increase in permanent pastures and grazing land which although accounts for only 0.003 per cent of the total geographical area registered a sharp increase of 39 per cent in 2012-13. The land use pattern is shown in Fig 2.3

Fig 2.3

Land Use Pattern Of Kerala 2012-13



Trend in Area, Production and Productivity of Crops and Performance

2.7 Data regarding the area, production and productivity of important crops grown in Kerala are shown in Table 2.2 and [Appendix 2.4](#) and 2.5. Out of a gross cropped area of 25.92 lakh ha. in 2012-13, food crops comprising rice, pulses and tapioca occupy 10.4 per cent. Kerala state which had a low base in food production is facing serious challenges in retaining even this meager area. Kerala agricultural economy is undergoing structural transformation from the mid seventies by switching over a large proportion of its traditional crop area which was devoted to subsistence crops like rice and tapioca to more remunerative crops like banana and plantations.

Table 2.2

Area, Production and Productivity of Principal Crops

Sl. No.	Crops	Area (Ha.)		Production (MT)		Productivity (Kg./Ha.)	
		2011-12	2012-13	2011-12	2012-13	2011-12	2012-13
1	Rice	208160	197277	568993	508299	2733	2577
2	Pulses including Tur	3668	2948	3128	3246	853	1101

3	Pepper	85335	84707	37501	46298	439	547
4	Ginger	6908	4505	37125	22064	5374	4898
5	Turmeric	2970	2628	7946	6904	2675	2627
6	Cardamom*	41600	41600	10222	10222	246	246
7	Areca nut	104548	101775	121623	118233	1163	1162
8	Banana	59069	61011	514054	515607	8703	8451
9	Other Plantains	48747	48859	330634	351315	6783	7190
10	Cashewnut	54052	52086	36743	37919	680	728
11	Tapioca	74498	69586	2547399	2458515	34194	35331
12	Coconut	820867	798162	5941	5799	7237	7265
13	coffee**	85359	85359	68175	68175	799	799
14	Tea \$	37028	30205	57904	62963	1564	2085
15	Rubber #	539565	545000	798940	800050	1931	1903

Production of Coconut in Million Nuts, Productivity in numbers. Source; Directorate of Economics and Statistics. # Rubber Board, productivity based on tapped area. *Spices Board . ** Coffee Board . \$Tea Board

2.8 All the major crops except rubber, banana and other plantains showed decline in area in 2012-13. While the production of rubber, pepper, tea, pulses, banana and other plantains showed an increase, all other crops showed a decline in production in 2012-13.

Table 2.3

Share of Rice to NSA (Net Sown Area) of Kerala over the last 6 decades

Year	Share of Rice in NSA (%)	Share of Tapioca in NSA (%)	Share of Pulses in NSA (%)
1960-61	40.49	12.59	2.29
1970-71	40.30	13.62	1.82
1980-81	36.78	11.24	1.55
1990-91	24.90	6.52	1.04
2000-01	15.75	5.20	0.32
2010-11	10.29	3.49	0.18
2011-12	10.20	3.65	0.18
2012-13	9.63	3.39	0.14

Source : Dept. of Economics and Statistics, GoK

2.10 Tapioca is another important food crop of Kerala which was popularised as a cereal substitute towards the end of 19th century itself in the State. The role of cassava in the food security of the state is even more prominent today with ever declining area and production under rice. The tapioca crop occupied 12.59 per cent of the NSA of the State in 1960-61 and the area expanded to 13.62 per cent of the NSA in the next decade. However the area started declining from 1990-91 onwards and dropped down to 3.39 per cent of the NSA by 2012-13.

2.11 About six decades back pulses occupied a prominence in the cropping system of the State. In 1960-61, it was cultivated in an area of 44120 ha with a production of 17550 tons though the productivity was low (398 Kg/ha). By 2000-01, the pulse area in the State drastically declined to less than 1/6th of its area in 1960-61 which amounts to 0.32 per cent of NSA. By 2012-13, the pulse area in the State has dropped down to 0.14 per cent of the NSA though there was definite productivity enhancement..

Decline in Food Crop Production

2.12 Production trends of important food crops of the State over the last 6 decades is given in Table 2.4. In Commensurate with the decline in area, the production of food crops also declined drastically in the State. In the production scenario, early periods indicated production enhancement in case of rice. However rice production showed declining trends since 1980s and the lowest production is recorded in 2012-13. The state is producing only about 12 per cent of our requirement(State Planning Board, 2011).

2.13 Though Tapioca continue to be a major substitute of staple food in Kerala till 1980s, shift in the cropping pattern of the State towards more profitable plantation crops affected its cultivation and the production started declining since 1990s. However due to the popularisation of High Yielding improved varieties and advanced production technologies coupled with better price, the crop is on the way to recapture its past glory in the current decade.

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Fig 2.4
Production of major food crops in Kerala over the last 6 decades

Year	Production(Tons)		
	Rice	Tapioca	Pulses
1960-61	1067531	1682998	17550
1970-71	1226413	4665764	13050
1980-81	1271962	4060911	22479
1990-91	1086578	2803001	16544
2000-01	751328	751328	5472
2010-11	522738	2408962	2908
2011-12	568993	2547399	3128
2012-13	508299	2458515	3246

2.14 Though India is the largest producer and consumer of pulses in the world, it imports a large quantity of pulses to meet the growing domestic needs. Accordingly, the projected pulse requirement for the year 2030 in the country is 32 million tons with an anticipated required growth rate of 4.2 per cent (Source : Indian Institute of Pulses Research, 2011). Production of the pulse crop in the State in 1960-61 was 17550 tons and the decline in area also reflected in the production frontier of this crop and the total production dropped down to roughly 3128 tons by 2011-12. However in 2012-13, the pulse production showed a slight enhancement.

2.15 Vegetables are another major food crop item for which the State is depending on the neighbouring states. In Kerala vegetables are cultivated in 31,449 ha, with 50 per cent 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. Vegetable production in the State is not sufficient to meet the requirement of the population, and efforts made through the department as well as through other agencies could not bridge the gap between demand and production and are still depending upon our neighbouring states for our daily requirement. 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 (Source : Report of the Task Force on Vegetable Development, State Planning Board 2013). A comprehensive vegetable development project has been launched by the department of Agriculture during 2012-13 covering development of district clusters, school gardens, homestead vegetable development, grow bag and poly house based production and a dynamism is reported in reviving vegetable production in the state.

2.16 Increase in production of food crops would be possible mainly from improvements in productivity through the use of location specific technology generation and adoption and modernisation of agriculture coupled with appropriate policy measures. The stabilisation and augmentation of productivity assume critical importance, given the limited scope for increasing area under cultivation of food crops in the state.

System of Rice Intensification (SRI)

2.17 The yield of rice, despite decades of investment in plant breeding, has remained relatively unchanged. There are no known technical solutions presently available to improve rice productivity significantly. However, SRI is a well documented practice that has given promising results in India and elsewhere. System of Rice Intensification (SRI) as an alternate rice cultivation practice, developed in Madagascar 25 years ago, is gaining wider acceptance in many countries including India. SRI method claims to greatly enhance water productivity and grain yield. Benefits of SRI as abridged from the recent publication on Transforming Rice Production with SRI knowledge and practice, National Consortium on SRI (NCS) 2013 is given in the Box 2.1. The adoption of SRI in Kerala is gaining popularity in recent years.

Box 2.1

Transforming Rice Production with SRI (System of Rice Intensification) knowledge and practice, National Consortium on SRI (NCS) 2013

- SRI experiments across India show an increase in grain yield up to 68%. Results of evaluations in farmers' fields showed yield advantages of 1.5 t ha⁻¹ in Tamil Nadu, and 1.67 t ha⁻¹ in Andhra Pradesh. On-farm evaluation in Tirunelveli District, Tamil Nadu, showed a 29% increase in straw yield along with a 27.7% increase in grain yield.
- In conventional irrigated rice cultivation 3400 lit of water is required to produce 1 Kg rice, research findings on SRI water management suggested around 49.4% water saving in case of SRI.
- The nursery required for one ha under SRI management could be raised using just 5-7.5 kg

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seed as against 20-30 kg ha⁻¹ under conventional method. For conventional planting, farmers generally use high seed rates, up to 75 kg ha⁻¹

- Experiments conducted in Kerala have shown that cono-weeding reduced the labour required for weeding by 35 man-days ha⁻¹ and labour cost by Rs 3,125 ha⁻¹.
- On-farm trials in the Tamiraparani river basin in 2003 showed that there was a 11% reduction in overall costs of cultivation. There was 86-165 % increase in net income is reported in various experiments

Source : Thiagarajan, T.M and Bikhsm Gujja, 2013 Transforming Rice Production with SRI (System of Rice Intensification) knowledge and practice, National Consortium on SRI (NCS)

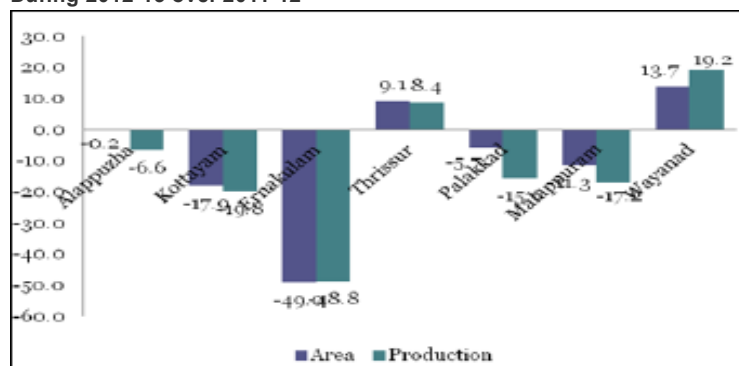
Crop Wise Analysis

Rice

2.18 The area under rice has been declining consistently over the last several years. After a long period of continuous decline, area under rice increased from 2.29 lakh ha in 2007-08 to 2.34 lakh ha in 2008-09 but it sharply declined by 20828 ha in 2010-11 period over to the previous year. During 2011-12, the area under rice declined by 5027 ha, but the production increased by 0.5 lakh MT. The upland rice development was implemented in 6539.06 ha and fallow land cultivation in another 731.7 ha. In 2012-13, there was a 5.2 per cent decline in area under rice while the production declined by 10.6 per cent. District wise analysis shows that all the major rice producing districts recorded a decline in area as well as production except Thrissur and Wayanad., the most prominent of them being that of Ernakulam which recorded a 49 per cent decline in area and 48 per cent decline in production. Details are given in Fig 2.4 and Appendix 2.6, 2.7, 2.8 and 2.9. In spite of focussed intervention through state plan and RKVY along with enhancing per hectare assistance from ` 1500 to ` 4500 in the 12th plan and introduction of procurement in all districts, rice production is not responding positively.

Fig 2.4

Percentage change in area and production of Rice in major districts of Kerala During 2012-13 over 2011-12



Coconut

2.19 Although one of its principal crops Kerala's share in area as well as production of coconut in the country is declining over time. While it accounted for 69.58 per cent of the area and 69.52 per cent of the production in the country in 1960-61, the corresponding shares declined to 40.2 per cent and 42.12 per cent respectively in 2011-12. Area, production and productivity of coconut in Kerala as well as India are given in Appendix 2.10. A decline of 2.3 per cent was marked in the production of coconut in Kerala during 2012-13 over the previous year. The productivity of coconut in Kerala also declined slightly.

2.20 The main cause for falling productivity is the prevalence of root wilt disease, poor management and existence of senile and unproductive palms. Hence massive replanting of root wilt palms by elite palms and elimination of senile palms, setting up of nurseries for production of quality seedlings and their subsequent distribution is required for increasing productivity. Restructuring of the cluster development programme is also essential for more effectiveness. The isolated attempts of production of dwarf coconut seedlings and hybrids need to be scaled up substantially with the support of Research and Development institutions. Entrepreneurial ventures for the production of value added products like desiccated coconut, beverages, shell based products, coconut cream, neera etc. has to be promoted with appropriate tie up with credit and marketing agencies. The coconut procurement system through KrishiBhavans in association with Kerafed was introduced in 2012-13. The initiative taken by Govt. in promoting neera in 2013-14 is expected to revive coconut economy of the state.

2.21 A study was conducted by State Planning Board to analyse the process of implementation of the coconut rejuvenation

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and replanting scheme implemented in Oachira and Kottarakkara blocks of Kollam District. The salient findings of the study is abstracted in the Box 2.2. The findings of the study could be considered in restructuring the scheme while extending the scheme in the entire State in Twelfth Plan period.

Box 2.2

Replanting and Rejuvenation of Coconut gardens in Oachira and Kottarakkara Block Panchayats of Kollam District- An Analysis

- In release of cutting subsidy, both the GramaPanchayats could not meet the target and cutting subsidy was not distributed in equal proportion.
- More than 85 % of people in Oachira block and 60% of the people in Kottarakkara block are aware of the programme, its components and process of implementation.
- Under the programme, more disease affected palms are removed from coastal region (73 %) than the mid land region (66.6 %).
- Fifty per cent of replantation targeted by the scheme could not be achieved. 33.3% of respondents in Oachira block and 73.3% in Kottarakkara block received fertilizer in a period of 12 months only.
- Soil testing was not carried out properly before replanting.
- In Oachira Block only 50 % diseased palms and in Kottarakkara block 16.67% diseased farms were removed.
- About 50 % of farmers did not show interest in fresh cultivation after removal of old and diseased palms. Only 43.33 % of respondents received seedlings for replanting.
- Rejuvenation programme was not properly carried out and time frame of implementation of scheme was not maintained.
- After removal of unproductive and old palms about 54 % respondents in Oachira block and 44 % in Kottarakkara block cultivated coconut in place of removed palms.
- Adequate training for scientific management of coconut cultivation was not provided as part of implementation of scheme in study area.

Source: Replanting and Rejuvenation of coconut gardens in Oachira and Kottarakkara Block Panchayats of Kollam District- An Analysis ,Evaluation Report, Kerala State Planning Board,September 2013. •

Pepper

2.22 In Kerala, area under pepper cultivation has declined from 0.85 lakh ha in 2011-12 to 0.84 lakh ha in 2012-13. Meanwhile, there has been increase in production of 8797 MT. The methodology of estimation of area under pepper has been revised by the department of Economic & Statistics from 2011-12 resulting in a downward revision of area under pepper, which added to the higher level of productivity estimates of pepper.

2.23 Pepper prices have shown improvement in 2012 , with price realization increasing by Rs 98.89 per kg to reach ` 387.99 per kg. The price realization during 2013 (January-june) was Rs 370.24 per kg compared to ` 368.7 per kg during the corresponding period of 2012.

2.24 This stagnant nature of pepper production in recent years is mainly due to low productivity and disease affected pepper gardens. In order to revive spices development in the state, the department of Agriculture has initiated comprehensive pepper development in Wayanad, Malappuram, Kozhikode, Kannur and Kasargod districts. Spices Board is implementing a revival scheme in Idukki and Wayanad districts. However more co-ordination is essential to improve production of planting materials. An integrated action plan needs to be prepared for the revival of the crop in the State.

Cashew

2.25 India continued to be the largest producer of raw cashew nuts in the world, with production of cashew nuts increasing from 6.92 lakh MT in 2011-12 to 7.28 lakh MT in 2012-13. The area under cashew cultivation declined from 9.91 lakh hectares to 9.82 lakh hectares in the respective years.

2.26 On the contrary in Kerala in the last one decade, there has been a continuous and considerable decline in both area under cultivation as well as production of cashew. Its alarming to note that the production which stood at 60 thousand MT in 2004-05 declined to 37.9 thousand MT in 2012-13. while area dwindled from 81 thousand hectares to 52 thousand hectares Productivity of the crop which was around 900 kg per hectare during the late eighties also dwindled to 730 kg per hectare. Details are given in [Appendix 2.11](#)

2.27 Area and production are increasing steadily in other producing states in the country. Eventhough the major share of area under cashew comes from Andhra Pradesh (19.5 per cent), Maharashtra is the leading producer with 32.2 per cent

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share in production during 2011-12, whose share was only 10 per cent in 1990-91. Kerala holds 4th position in this regard.

Rubber

2.28 The production of natural rubber in the country was 9.14 lakh tonnes in 2012-13, marginally up by 10 thousand tonnes from 9.04 lakh tonnes produced in the previous year. The increase in production during 2012-13, despite a fall in the average yield, was contributed by the expansion of yielding area to 504,000 hectares in during the year from 490,870 hectares in the previous year. The average yield, measured in terms of the production per hectare of yielding area, declined to 1813kg during the year from 1841 kg in the previous year due to adverse climate coupled with farmer's short run responses to fall in prices. Low rubber prices often compel farmers to reduce frequency of tapping and application of inputs. The total consumption of natural rubber in 2012-13 was 9.72 lakhtonnes with a growth of 0.8 per cent as against 9.64 lakh tonnes during 2010-11. The import of Natural Rubber in the country upsurged to 2.17 lakh tones in 2012-13 from 2.14 lakh tones in 2011-12 while export of NR during 2012-13 declined to 30.5 thousand tones. Meanwhile in Kerala the production increased to 8 lakh MT and area to 5.45 lakh hectares. Details are given in [Appendix 2.12](#), [1.3](#) and [2.14](#). The global Natural rubber production in 2012 was estimated at 113.3 lakh tonnes vis –a vis 111.1 lakh tonnes in the previous year. All the major producing countries except Malaysia reported increase in crop owing to better growing conditions and area expansion. The declining price of rubber is a cause of concern. A revival of rubber prices is expected consequent to the revision of import duty and other measures announced in 2013-14 by Government of India.

Coffee

2.29 Domestic coffee production for the year 2012-13 was estimated at 315.5 thousand tonnes (post monsoon estimates) which represents an increase of 1.5 thousand tonnes compared to previous year. This meant that the domestic production for the second consecutive year has crossed the record highest. The area under coffee planting and bearing in India has shown an upward trend due to the expansion of cultivation in non-traditional areas. This suggests that the growth in production was on account of area increase rather than productivity increase. As per FAO estimates, yield in India is 837.8 kg per hectare much below Vietnam (2187.9kg per hectare) and Brazil (1256.7kg per hectare). Interestingly, a comparison of the productivity levels in 1971 vis –a vis 2011 suggests that India (-2.75) and Indonesia (-13.15) are the only two countries who have reported a decline in yield levels in last 40 years.

2.30 The area under coffee in Kerala was 0.84 lakh ha out of 4.09 lakh ha in the country during 2011-12, which works out to around 21 per cent. The percentage share of area under coffee is highest in Karnataka (56.1 per cent). The share of Kerala in production is around 22 per cent during 2011-12. Major variety grown in Kerala is Robusta with a share of 97.1 per cent in planted area. Production of coffee during the year was only 0.68 lakh MT against 3.14 lakh MT for the country. Productivity of the crop in terms of bearing area in Kerala is 808 kg/ha which is lower than the national level of 852 kg/ha during 2011-12. Even though the area under coffee registered a slight decline during the period, the production has recorded 3.8 per cent increase as against the previous year. Among the States, Kerala stands next to Karnataka which produces 70.4 per cent of total coffee production.

Tea

2.31 As one of the largest tea producing countries, India accounts for 24.8 per cent of the total world production. In 2011, domestic production breached the one billion mark and was placed at 1126.3mkg in 2012-13. However North India accounted for majority of the increase as South India reported lower crop consequently for the fourth year.

2.32 Kerala accounts for 6 per cent of the area and 5.4 per cent of the total domestic production of tea in the country and it has been consistently falling for the last three years. There was some respite from this in 2012-13 as tea production recorded an increase of 5059 MT as compared to the previous year despite a decline in area of 18 per cent from the previous year. Details are given in [Appendix 2.15](#).

2.33 The world tea production after crossing the crucial milestone of 4 billion kilo mark in 2010 has reached 4299.3 M Kgs in 2011, an increase of 129.1Mkgs (3.1 per cent) compared to the previous year. During 2012, the available information from major producing countries indicated that production was higher by 6.9 per cent. However a close look at the figures confirms that the production increase mainly came from China (17.6 per cent).

2.34 The latest trends in domestic prices during 2012 indicate buoyancy in price realization in both North India and South India. While South Indian price during January-December 2012 was higher by ` 17.22 per kg at ` 87.39 per kg, North India reported increase of ` 18.40 per kg to reach ` 135.59 per kg during January /December 2012.

2.35 The major issues plaguing the tea industry are stagnant productivity, acute labour shortage, high cost of machines, and lack of indigenous machinery

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Cardamom

2.36 Cardamom production in the country during 2012-13 was estimated at 12.42 thousand tons compared to 15 thousand tonnes in 2011-12, a decline of 2.58 thousand tonnes. The improvement in cardamom prices since 2006-07 continued till 2010-11 but the price started falling since then and had reached ` 645.04 per kg during 2011-12. The increasing trend could not be sustained and price fell to ` 323.30 per kg in 2011-12. During the current season there was marginal improvement in price realization with prices increasing by ` 67.18 during 2012-13 to reach ` 703.03 per kg.

Plantation crops

2.37 Plantation crops in general are either export oriented or import substituting and therefore assume special significance from the national point of view. It is estimated that nearly 14 lakh families are dependent on the plantation sector for livelihood. Each of the four plantation crops of South India has its distinct characteristics and economic problems. Consequent to the removal of quantitative restrictions on import, plantation crops in general are facing the threat of low quality imports.

2.38 Kerala has a substantial share in the four plantation crops of rubber, tea, coffee and cardamom. These four crops together occupy 7.02 lakh ha, accounting for 34.4 per cent of the net cropped area in the state. Kerala's share in the national production of rubber is 87.3 per cent, cardamom 79 per cent, coffee 22 per cent and 7 per cent in tea during the year 2011-12. Details are given in [Appendix 2.16](#).

Collective farming through Kudumbashree

2.39 Collective farming is an important area of Kudumbashree which aims at food security both at household and community level. The major crops cultivated are paddy, vegetables, banana, pineapple and tubers. Area brought under cultivation of paddy was 642.75 ha, vegetables contributed to 659.18 ha and 2219.5 ha of area was covered by other crops (banana, pineapple and tubers). Details of area covered are depicted in [Appendix 2.19](#). More hand holding support including facilitation with banks and technology support are essential for improving livelihood of the women groups involved in farming.

Key initiatives of the Department of Agriculture in 2013-14

2.40 The key initiatives of the Department of Agriculture in 2013-14 for the improvement of agriculture sector are shown in Box 2.3. The E-Payment system was streamlined and farmer registration completed for 18.5 lakh farmers. In addition existing schemes and programmes like organic farming, high tech agriculture etc were streamlined and strengthened for better results. New components like grading of clusters, organization of clusters at block level, popularization of bio-control agents etc were introduced under Vegetable development initiative. Crop health management including launching of Post graduate diploma programme for plant health management, Publishing of Nutrient management plan for 500-Panchayats and establishment of seedling production units at centralized location and at block level as well as biogas plants in schools and ATMA plus model of extension are new initiatives. The new initiatives coupled with services notified under Service Delivery Act 2012 are expected to revitalize the agriculture sector of the State.

Crop Development Programme - Review of Annual Plan 2012-13

2.41 During the Annual plan 2012-13, as against an amount of ` 708.89 crores earmarked for this sector, expenditure incurred was ` 661.9 crores (93 per cent) including CSS. For crop husbandry, an amount of ` 272.99 crores was allotted, out of which ` 231.7 crores was expended which constitutes 85 per cent of the total outlay. An amount of ` 49.08 crore was utilized for the development of rice in the State. The ultimate objective of rice development programme is to improve the production of rice and to attain the productivity of a minimum of 3 tonnes per ha by the end of the twelfth plan period. Major activities include group farming, upland cultivation, promotion of speciality rice in six districts i.e; Alapuzha, Ernakulam, Thrissur, Palakkad, Wayanad and Kannur, and fallow land cultivation under Kuttanad Package.

2.42 For the development of vegetables, commercial vegetable cultivation was undertaken in 2940 ha by utilising an amount of ` 260 lakh. School gardens in 2400 schools, promotion of homesteads by distributing 20 lakh vegetable seed kits through students and 4 lakh seed kits via publication and media, promotion and establishment of urban clusters are the main activities. Under pepper development programme in Wayanad, an area of 3500 ha was covered for controlling pest diseases by utilizing ` 350 lakhs. For Coconut development ` 44.77 crores was utilized. For the production of TxD seedling 4.31 lakh coconut seedlings was procured. Under comprehensive coconut development programme 19600 hectares were covered and 784-clusters were formed to improve production.

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Box 2.3**Key initiatives of the Department of Agriculture in 2013-14**

- Completed farmer registration and 18.5 lakh farmers registered with the Krishi Bhavans upto November 2013.
- E- payment system streamlined
- Strengthened the functioning of 35 agro service centres
- Karshaka Karma Sena established in 200 Krishibhavans
- Hi tech agriculture focussing on polyhouse based vegetables and flower production and open farming initiated. Implementation is progressing with construction of 667polyhouses.
- 100 A grade clusters established in vegetable development and 20 federated organisations at block level for strengthening group activities, marketing and input support.
- ATMA Plus has been introduced for strengthening extension.
- Seedling production unit established through VFPC.
- Mobility support provided to all blocks for service delivery.
- Strengthened coconut procurement system through Krishibhavans.
- Revitalised the implementation of organic farming in Kasargod.
- Initiated setting up of Kuttanad Heritage Centre
- Nutrient management plan for 500 -panchayats published
- The scheme on Plant health management launched and a PG Diploma on plant health management was also launched for human resource development.
- Biogas plants established in schools to support vegetable initiative.
- Soil Health Management initiated in Wayanad on pilot basis.

Horticulture Mission

2.43 Formed to implement the programme of the National Horticulture Mission the main objective of the mission is a holistic development of the horticulture sector covering fruits, plantations, spices , flowers, aromatic and medicinal plants and mushroom. The important schemes under the mission include production and productivity improvement, post harvest management, value addition and marketing.

2.44 A total amount of ` 4600 lakh was released during 2012-13 and the total expenditure was ` 4102.4 lakh including state share. The important activities include production and distribution of quality seeds and planting material, establishment of model nurseries, strengthening and rehabilitation of tissue culture units, extending the area under cultivation by bringing more areas under horticulture crops, rejuvenation and rehabilitation of senile plants, promotion of Integrated Nutrient Management and Pest Management programme, organic farming, pollination support through bee-keeping, mushroom unit for spawn and compost production, and horticulture mechanizations.

2.45 A project oriented monitoring system has to be evolved for realizing the envisaged outputs. A number of NGOs as well as private sector are also part of the project which needs further monitoring. More convergence of schemes with state plan and RKVY with deliverable are required for improved outputs.

Vegetable and Fruit Promotion Council's Programme

2.46 During the year 2012-13, 9664 farmers were inducted and 515 new SHG's were formed for the promotion of fruits and vegetables, the number of registered farmers counting up to 164472 and number of SHGs to 8543. The council had initiated 10 new farmer markets and 19 collection centres during the financial year. 42 lakh High Yielding vegetable seedlings were produced and distributed throughout the state to promote homestead cultivation. In spite of this, area under vegetable cultivation declined from 25100 hectares to 22840 hectares and the production declined from 301200 MT to 175022 MT. The production of banana declined from 526320 to 265110 in 2012-13 and area under banana declined from 30960 ha to 23694 ha.

Rashtriya Krishi Vikas Yojana (RKVY)

2.47 During 2009-10,an amount of ` 110.92 crores was released and fully utilized.During 2010-11 and 2011-12 ` 149.65 crores and ` 182.89crores were released and fully utilized.

2.48 An amount of ` 253.03crore was released during 2012-13 and ` 169.87 crore has been expended. The share of allocation for Kerala is very low compared to the budget provision for the country. A number of very small schemes are included for assistance under RKVY in the state like adoption of naturally ventilated green house technology , adoption of

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precision farming technology, establishment of mushroom cultivation units, popularization of temperate fruit crops in Idukki district, development of cool season vegetables in Kanthalloor and Vattavada, etc. More focused areas with larger projects have to be identified for support under RKVY. The preparation of district and state agriculture plans are a prerequisite for getting assistance for which concrete steps are required. Most of the documents prepared are a compilation of proposals for assistance under RKVY. The state

Agricultural plan also has to be prepared for availing assistance under RKVY. More integrated approach is required for RKVY linkage with state plan. Details are given in [Appendix 2.21](#)

Support to State Extension Programme

2.49 Even though a convergence approach is envisaged in the scheme on extension reforms, more needs to be done to realize the objectives. The extension system needs a thorough restructuring. The total expenditure under ATMA during 2011-12 was ` 957.20 lakhs. The newly introduced lead farmer centered extension advisory and delivery service (LEADS) to be implemented under the ATMA frame work, with field visit on a regular basis in more districts after the evaluation of the pilot phase. All extension schemes components under ATMA Plus needs to be implemented in 12th Five Year Plan with more convergence of schemes under Animal Husbandry, Dairy and Fisheries.

Crop Insurance Schemes

2.50 Around 20,000 farmers were insured under National Agricultural Insurance Scheme covering an area of 20,278 ha during 2012-13 Season. An amount of ` 54.17 Lakhs were paid as claims during 2012-13 and a claim of around ` 475 Lakhs has been approved for disbursement in respect of Rabi 2012-13 Season. Under weather based insurance scheme 28315 farmers were enrolled covering an area of 20482 ha. An amount of ` 338.49 Lakhs were allocated as Subsidy under the Scheme. Around ` 372 Lakhs were disbursed as claims under WBCIS during 2012-13 and ` 403.48 Lakhs during 2013-14. In 2012-13, 6845 farmers were insured under coconut palm insurance scheme covering an area of 2126.67 ha. Around ` 60.34 Lakhs were disbursed as claims benefiting 1354 farmers. The Scheme provides compensation in the event of Total loss of coconut palms in the age category 4-60 yrs due to any of the insured perils which includes loss due to pest and disease. Rubber Plantation Insurance (RPI) is a policy of AIC for the benefit of Rubber growers. During 2012-13, 558 farmers and an area of 5901 ha were covered under the Scheme. Around ` 54 Lakhs were paid as compensation. Under Rainfall Insurance Scheme for Coffee during 2012 ` 16.33 Lakhs were paid as claims. During 2013-14, all the insurance schemes were integrated under a single scheme by Government of India.

Organic Farming

2.51 An area of 55.51 lakh ha has been brought under organic certification (including wild harvest) in India as on 2011-12. The four States occupying top position with respect to area under organic certification are Himachal Pradesh (9.33 lakh ha), Madhya Pradesh (4.32 lakh ha), Chhattisgarh (3.00 lakh ha) and Maharashtra (2.45 lakh ha). During 2011-12, a quantity of 17345 MT of rice (including basmati) has been produced under organic certification in the country and the production under conversion was 5329 MT. Quantity of fruits and vegetables under certification in the country was 7801 MT and that under tea and coffee were 5272 MT and 1139 MT respectively (Source: NCOF, Ministry of Agri Co Operation, GoI). A number of 78932 farmers have been enrolled under Organic Farming Programme supported by State Horticulture Mission. Total Certified area in the state (till June 2013) brought under State Horticulture Mission is 1888.57 ha and total area under organic farming is 10168.74 ha. Banana occupies highest area under organic farming in the state (2697.93 ha). During 2012-13, 278 vermi compost units have been established under organic farming by the Mission and an area of 250 ha has been brought under organic certification (Source: State Horticulture Mission-Kerala). The department of Agriculture has initiated a comprehensive project on organic farming in Kasaragod district.

Expansion of High Tech Agriculture

2.52 The promotion of high tech agriculture covering protected agriculture and open precision farming was initiated in 2012-13 as part of vegetable development programme of the State. It is expected to construct about 548 polyhouses and 21 demonstration units in 2012-13. Several biotic and abiotic stresses are the major factors responsible for low productivity and poor quality in large number of vegetable crops. Protected cultivation structures with partially modified environment are useful for combating both biotic and abiotic stresses that limit the productivity and quality of produce, and also for production throughout the year. The area under protected cultivation in the country is about 2000 ha at the end of 2011 while it is reported 20 lakh ha in China. The scheme has evoked good response from the farming community with large number of young farmers actively participating in the programme getting good returns from crops like salad cucumber, cow pea, and capsicum. The issues like marketing and technical support need to be addressed for the development of high tech farming in the state.

More details under this sector are shown in [Appendix 2.3](#), [2.17](#), [2.18](#), [2.20](#), [2.22](#) and [2.23](#).

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SECTION- 2

Livestock Development

2.53 In recent years, the livestock sector has emerged as an important source of rural employment and income of the farmers of the State. Driven by the structural changes in agriculture and food consumption pattern, the importance of livestock as a source of quality food has increased. The positive growth rate of agricultural GSDP during 2012-13 is reported due to the good performance of livestock sector.

Production of major livestock products

2.54 Total milk production in the state which was 24.20 lakh tonnes in 2003 declined to 21.11 lakh tonnes in 2004 and increased to reach 27.91 lakh tones in 2012-13. At the same time, over the period, at national level the milk production has been continuously increasing. Contribution of Kerala to national milk production which was 2.4 per cent during 2003-04 showed a declining trend and reached to 2.1 per cent during 2011-12. The growth rate of milk production in the state was 2.76 per cent in 2012-13.

Table 2.5
Average Annual Growth Rate of Milk Production (%)

Sl. No.	Year	Kerala	India
1	2002-03 to 2006-07(Xth Plan Period)	-4.64	3.99
2	2007-08 to 2011-12(XI Plan Period)	5.11	4.40
3	2012-13	2.76	3.54

2.55 India continues to be the largest producer of milk in the world with a total production of 127.90 million tonnes in 2011-12. India's contribution towards world milk production in 2010 was 16.2 per cent. During 2012-13 India's milk production is estimated at 132.43 million tones. Among the major states in India milk production is highest in Uttar Pradesh(225.56 lakh MT) followed by Rajasthan(135.12 lakh MT) and Andhra Pradesh (120.88 lakh MT). Kerala ranks 13th position with 27.16 lakh MT in 2011-12. Though India is the largest producer of milk in the world the per capita availability of milk is low compared to developed countries. Substantial increase in this regard was attained over a period of 10 years, from 225 gm/day to 281 gm/day.

2.56 In spite of India's position as highest producer of milk, productivity per animal is very poor. At the national level it is only 987 Kg/lactation as compared to the world average of 2038 Kg/lactation. This is mainly due to poor level of nutrition as well as low genetic potential for milk production and health care. Among the major states in India, there are significant interstate differences in the productivity of cows and buffaloes. As per the available estimates milk yield/day of exotic cows were highest in Punjab(10.54 Kg), followed by Meghalaya (8.98 kg) Kerala(8.92 kg) and Chandigarh (8.60 kg). At the same time the yield/day of exotic breeds in Karnataka is 5.97 kg and Tamil Nadu is only 6.39 kg. The average yield/day of buffaloes is highest in Punjab (7.425 kg) followed by Kerala (6.242 kg), Tamil Nadu (4.222 kg) and Karnataka (2.481 kg). In general the milk yield of both cows and buffaloes were lowest in Assam.

2.57 Comprehensive dairy development projects need to be prepared to augment milk production in the state covering the potential milksheds. Integrated diary development projects also to be prepared for implementation under Idukki package, Wayanad and the potential districts with appropriate components on infrastructure development, technology and credit support. The recently approved World Bank aided National Dairy Plan is expected to provide significant financial and technical support for augment milk production in the state.

Milk Marketing

2.58 During 2012-13 a total of 4886 lakh litres of milk was procured by the DCS in the state of which 3079 lakh litres were sent to the dairies and 1768 lakh litres were marketed locally by the societies. The procurement by the DCS is only about 15-16 per cent of the total estimated production. The average milk procured per day by APCOS during the year 2012-13 was 875 MT against the previous year average of 787 MT. The procurement /day/society during 2012-13, 369 litres and during 2011-12 it was 344 litres. The MILMA Federation is importing milk from the neighboring states during lean periods when the internal supplies used to shrink. The procurement of milk by dairy under KCMMF stood at 3188.14 lakh litres against the sale of 4332.27 lakh litres during 2012-13 showing a wide gap between procurement and supply. Data on procurement and sale of milk by different dairies of KCMMF during 2007-08 to 2012-13 is given in [Appendix](#)

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2.24 and performance of KCMMF 2007-08 to 2012-13 are shown in [Appendix 2.25](#) and average quantity of milk procured per day by APCOS are shown in [Appendix 2.26](#).

2.59 The procurement and selling price of milk has been revised in Kerala w.e.f 14.10.2012. The average quality of milk procured in the state is 4.1 per cent fat and 8.3 per cent SNF and the procurement price paid for the same is ` 28.61 per litre and sales price for toned milk is ` 33 per litre. Price revision details of milk and price spread of milk from 2008 onwards is given in [Appendix 2.27](#) and [Appendix 2.28](#) respectively.

Weak Feed and Fodder Base

2.60 Special focus has been given to fodder and feed production in Kerala to support the development of the livestock sector considering the wide gap in the availability of these two critical inputs. The new fodder varieties like CO3 and other varieties from TNAUs have been introduced. During 2013-14 fodder production in Hi-tech mode also has been initiated. In order to augment supply of cattle feed two new plants at Kozhikode and Idukki have been initiated. The total production of cattle feed during 2012-13 was 3.05 lakh metric tone indicating almost stagnant level of production over 2011-12 for 3.03 lakh MT. The production of feed and fodder are shown in [Appendix 2.29](#), [Appendix 2.30](#) and [Appendix 2.31](#).

Breeding Support

2.61 Kerala Livestock Development Board (KLDB) is involved in the production and distribution of frozen semen. Compared to 2011-12, semen production increased from 24.05 lakh doses to 28.40 lakh doses during 2012-13. The distribution inside and outside the State increased from 17.60 lakh doses to 17.67 lakh doses and from 5.28 lakh doses to 10.49 lakh doses respectively during this period. Details are shown in [Appendix 2.32](#).

2.62 The number of AI centres in the state as on 31-03-2013 was 2979. The number of inseminations done during 2012-13 was 12.90 lakh and calving recorded was 3.57 lakh. This is against 4.13 lakh calving recorded out of 14.85 lakh AI during 2011-12. The average number of inseminations needed for producing one calf is 3.59 (see [Appendix 2.33](#)). The quality of AI is not improving and so measures to improve the quality of semen supplied to be taken up immediately. Activities of the Board are given in [Appendix 2.34](#).

Special Livestock Breeding Programme (SLBP)

2.63 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 as against 12947 calves in 2011-12. Year wise details from 2003-04 onwards are shown in [Appendix 2.35](#)

Egg and Meat

2.64 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 to 1705 million numbers during 2011-12.

2.65 Though meat production is increasing over the years, it cannot cater to the demand fully. Poultry meat production decreased from 184000 tonnes in 2011-12 to 128842 tonnes in 2012-13. The major reason for the decrease was due to the ban of the poultry birds entering the State from neighboring States due to the outbreak of bird flu in Karnataka. The meat production other than poultry meat increased from 242000 tonnes in 2011-12 to 272152 tonnes in 2012-13 registering an increase of 12.46 per cent over the previous year. The per capita availability of meat per day in Kerala during 2012-13 was 32.89gms (Poultry meat 10.57gms and meat other than poultry meat 22.32gms). Kerala has not exploited the potential of meat production. Regional projects with appropriate buy back arrangement have to be prepared for the improvement of meat production in the state.

Animal Health Care

2.66 With the improvement in the quality of livestock through cross breeding programmes, the susceptibility of various diseases including exotic diseases has incurred. Better health care facilities are provided through a network of 27562 polyclinics/hospitals/dispensaries, 25195 veterinary aid centres supported by about 250 disease diagnostic laboratories are functioning in the country. For the production of vaccines, there are 27 veterinary vaccine production units. The primary

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emphasis is on clinical services and as a result, endemic diseases such as Foot and Mouth Diseases (FMD) are still prevalent. With increased trade activity and extensive cross-breeding programmes, the chances of ingress of exotic diseases into the country have increased.

2.67 The state is implementing a programme for Foot and Mouth disease control with the assistance of Government of India. Also Brucellosis has now emerged as a new threat to the livestock wealth of the State. Helminthiasis control also needs attention. Worms and other internal parasites cause considerable economic loss to the farmers. Data regarding outbreaks, attacks and deaths of major contagious diseases of animals in Kerala for the period from 2007-08 to 2012-13 are given in [Appendix 2.36](#)

2.68 Even though vaccinations were carried out, frequent outbreaks were reported which lead to production loss to farmers. Further strengthening of the laboratories under the sector needs to be taken up on priority basis from the improvement of diagnostic and testing facilities.

2.69 The reports of minor attacks of major diseases like Anthrax, and Hemorrhagic Septicemia are also reported and are more in numbers compared to previous years. 14 deaths due to anthrax and 46 of Hemorrhagic Septicemia reported during 2012-13. The State has already eradicated the dreadful disease of rinderpest and no outbreak was reported after 1994. Outbreak of black quarter also not reported during 2012-13.

Production of Vaccine in Veterinary Biological Institute, Palode

2.70 The Veterinary Biologicals, Palode is the sole agency engaged in the production and distribution of animal vaccine in the state. The production details of vaccines manufactured here are shown in [Appendix 2.37](#). Compared to previous year poultry vaccine production during 2012-13 was 260.95 lakh doses as against 189.08 lakh doses during 2011-12 and production of livestock vaccine decreased by 41 per cent from 4.56 lakh doses during 2011-12 to 2.67 lakh doses. Number of vaccinations done during 2012-13 was 30.25 lakh Nos for livestock and 109.45 lakh Nos for poultry. Compared to previous year, vaccination to cattle increased by 80 per cent and vaccination to poultry increased by 7.1 per cent. Anti Rabies Vaccinations done in dogs decreased from 1.68 lakh to 1.43 lakh during the year under report. Details are given in [Appendix 2.38](#)

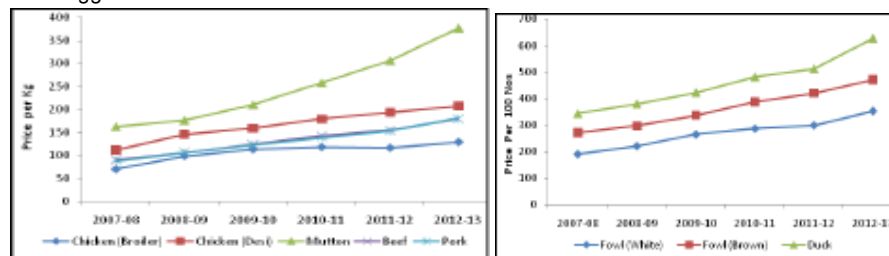
Prices

2.71 Average price of important inputs and products of livestock sector for the last five years is presented in [Appendix 2.39](#) and almost all the products recorded increase in prices during the period. Compared to 2011-12 there was increase in the price of all categories of meat during 2012-13. During 2012-13, the highest increase was in the case of Mutton (23 per cent), followed by pork (17.84 per cent). Compared to 2011-12, the price of fowl-white egg increased by 17.72 per cent, brown egg by 11.84 per cent and duck egg by 19.53 per cent during 2012-13. Corresponding increase during the previous year was 4.2 per cent 8.8 per cent and 6.2 per cent respectively.

2.72 On the input side, the price of grass recorded 105 per cent increase during 2012-13. Compared to previous year, the price of gingely oil cake increased by 28.1 per cent, coconut oil cake by 9.18 per cent, straw by 12.75 per cent, ground nut cake by 26.47 per cent during 2012-13 and the increase in the price of inputs is a serious threat to dairy farming. The trend in average prices of livestock products from 2007-08 to 2012-13 are shown in Fig 2.5.

Fig 2.5
Trend in Average Prices of Livestock Products from 2007-08 to 2012-13

Meat Egg



Milk Feeds

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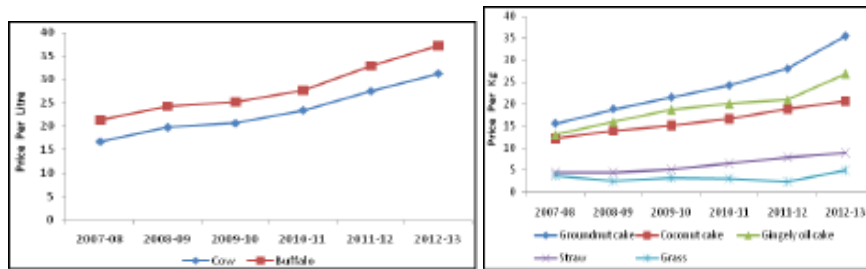
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Annual Plan 2012-13

2.73 Annual Plan 2012-13 earmarked outlay of ` 211.17 crore and ` 35 crore respectively for Animal Husbandry and Dairy Development sector and expended ` 183.41 crore (86.85 per cent) and ` 35.27 crore (100.77 per cent). Special Livestock Breeding Programme (SLBP) and Backyard Poultry Development Project were two major projects implemented with outlay of ` 25 crores and ` 10.42 crore respectively and ` 24.90 crore (99.61 per cent) and ` 10.42 crore (100 per cent) were expended. Under dairy development, milkshed development and fodder development are the major schemes with expenditure of ` 13 crore (100 per cent) and ` 4.70 crore (94 per cent) respectively.

Key initiatives in 2013-14

2.74 The key initiatives of Animal Husbandry Department and Dairy Department are 2013-14 are the expansion of special Livestock breeding programme to cover 75000 calves, introduction of emergency veterinary services in 20 blocks for 24 hours, door step services of farmers, establishment of two new cattle feed plants, expansion of production of young ones of cattle and goats, strengthening of dairy cooperative societies and introduction of high tech fodder production units.

SECTION-3

Fisheries Development

2.75 As per the population census 2011, the fisher folk population in Kerala is 10.02 lakh covering 7.71 lakh in coastal area and 2.31 lakh in inland sector. It is also estimated that about 74100 people are engaged in fishery – allied activities. This fishermen of the state contribute about 9 per cent of the GSDP from the agriculture sector which gives the significance of the sector to the state economy. The total fishermen population in Alappuzha district is 1.68 lakh which is the highest fishermen populated district, followed by Thiruvananthapuram (1.65 lakh) and Ernakulam (1.33 lakh). The district wise details of fisherfolk population are given in [Appendix 2.40](#). The Gross State Domestic Product of the State has increased by about 69 per cent during the period from 2005-06 to 2012-13 and the share of fisheries sector in the State Domestic Product has declined from 1.3 to 0.82 per cent in the same period. The share of Primary Sector in GSDP has also declined from 17.1 to 9.3 per cent. The contribution of fisheries sector in GSDP is given in [Appendix 2.41](#)

2.76 Marine fish landings of India during the year 2012 has provisionally been estimated as 3.32 million tonnes with a decrease of about 0.05 million tonnes compared to the estimate for the last year. Among the states Gujarat was the highest contributor of Marine fish production followed by Kerala. In total fish production Andhra Pradesh was the highest contributor and Kerala stands 4th position. During 2012-13, 5.31 lakh tonnes of marine fish were landed in Kerala showing a decline of 0.22 lakh tonnes (4.14 per cent) over the previous year. The high value species among the fish catches are still few, prominent among them are Seer fish, Prawn, Ribbon fish and Mackerel. The quality of these high value species in the total catch ultimately decides the income of the fishermen. The species wise marine fish landings in Kerala from 2008-09 to 2012-13 are shown in [Appendix 2.42](#).

2.77 India has been a major contributor to the world marine fish production and second largest producer of inland fish. The south west comprising Kerala, Karnataka and Goa were the top contributors among regions. Presently fisheries and aquaculture contribute 0.78 per cent to the national GDP and 4.47 per cent to agriculture and allied activities. Fisheries sector contributes significantly to the national economy while providing livelihood to approximately 14.49 million people in the country. It has been recognized as a powerful income and employment generator as it stimulates growth of a number of subsidiary industries and is a source of cheap and nutritious food besides being a source of foreign exchange earner. Fishery being one of the promising sectors of agriculture and allied activities in India.

Trend in Production

2.78 Estimates of the fishery resources assessment shows that among the maritime states in India, Kerala occupies the second position in marine fish production. The total fish production in Kerala during 2012-13 was 6.8 lakh tonnes. The marine fishery resources of the state has almost attained the optimum level of production. At national level more than 60

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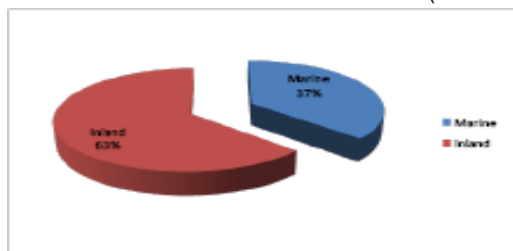
per cent of the total fish production is contributed by the inland sector. Government have approved a master plan for increasing the inland fish production of the state from the current level of 75000 tonnes to 2 lakh tonnes over a period of 10 years. The current level of Inland fish production is to the quantum of about 1.49 lakh tones, an increase of 6 per cent of the previous year. The species-wise inland fish production in Kerala from 2008-09 to 2012-13 are shown in [Appendix 2.43](#).

2.79 Indian marine fisheries is also passing through a crisis due to its over capacity and open access nature. During 2012-13, India's total fish production was 9.04 million tonnes of which 3.32 million tonnes was from marine sector and 5.72 million tonnes was from Inland sector (Fig 2.6).

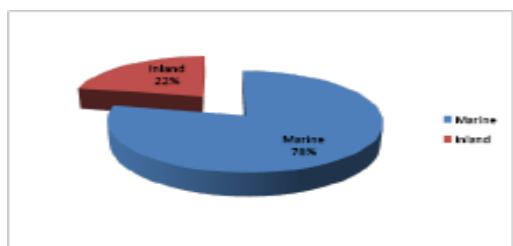
Fig 2.6

Marine and Inland Fish Production All India (2012-13) Marine and Inland Fish Production Kerala (2012-13)

Marine and Inland Fish Production All India (2012-13)



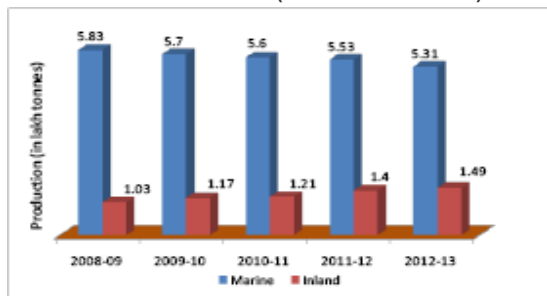
Marine and Inland Fish Production Kerala (2012-13)



2.80 The marine fish production in Kerala tended to fluctuate while the inland fish production showed a sign of improvement from 1999-2000. During 2012-13, the marine fish production has declined to 5.31 lakh tonnes from 5.53 lakh tonnes of 2011-12. Inland production sustained on increasing trend. During 2012-13, the share of inland fish production to the total fish production of the state was 22 per cent. The details of fish production for the last 5 years are given in [Appendix 2.44](#) and Fig 2.7.

Fig 2.7

Fish Production in Kerala (2008-09 to 2012-13) in lakh tonnes



2.81 To improve fish production in Inland water bodies, a comprehensive programme need to be chalked out. It is possible through by utilizing all available resources augmenting the aquaculture production and productivity through diversification 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 resources for fish culture in Kerala. The potential resources of back waters estuaries and river systems are to be suitably utilized for the enhancement of fish production of the State. 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

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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 seeds. 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.

2.82 The Key elements of the 12th plan Approach paper in the fisheries sector are launching of a comprehensive coastal area development project 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, enhancement of seed production, 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 and improvement in the production of value added products, micro enterprises, credit support and coverage under social security. Accordingly the first year plan programme of the XIIth five year plan was completed in 2012-13.

Performance Review under XIth Plan & Annual Plan 2012-13

2.83 The total approved outlay during the 11th plan under the fisheries sector was `255.25 crore which accounts 0.6 per cent of the total state plan outlay and 11 per cent of the outlay under Agriculture & Allied Sectors. But the actual amount budgeted during the plan period was ` 380 crore and the expenditure was ` 437.21 crore (115 per cent). In addition to this an amount of ` 55.89 crore was set apart for Integrated Coastal Development Scheme under Special Area Development Programme and the expenditure incurred was ` 40 crore (71.64 per cent). The total expenditure under state plan schemes during 2012-13 was ` 213.03 crore which accounts 187.09 per cent of the state plan outlay. There are 10 partially aided central sector schemes having an outlay of ` 52.71 crore and the expenditure during this period was ` 40.36 crore. The outlay and expenditure for various schemes implemented in the fisheries sub sector during 2012-13 are given in [Appendix 2.46](#)

Key Initiatives during 2013-14

2.84 Key Initiatives of the department during 2013-14 are safe house to 2850 number of fishermen families, address the issue of drinking water facility, electrification, sanitation, livelihood opportunity and library support to 20 fishing villages, modernization of 10 fish markets with the assistance of NFDB, establish 2500 individual sanitary latrines to fishermen. Construction of 4 Fishing Harbours under 75 per cent CSS viz Vellayil, Thannoor, Arthungal and Manjeswaram.

Debt Relief to Fishermen

2.85 It has been estimated that fisherman have a debt liability of ` 524 crore. During the period 2008-09 to 2011-12, an amount of ` 36 crore was provided with budget for debt relief measures to fishermen and as on 31.03.2012, ` 35.69 crore has been released for this programme.

Major Developmental Programmes

2.86 Government have initiated the new project Matsyakeralam during 2008-09. From 2009-10 to 2011-12, the total amount budgeted for this scheme was ` 5.50 crore as state share and the provision was fully utilised for the scheme. The total project cost estimated as ` 71.16 crore. The achievement of the project during the first phase shows an encouraging result especially in shrimp and mussel farming. Under the Mastya Samarudhi Project 2068 tonnes Shrimp, 1720 tonnes Mussel and 80 tonnes of Karimeen were produced by the 1st phase of the scheme. During 2012-13, a new scheme viz., model fishing villages was envisaged in the budget with an outlay of ` 50 crore under state plan for the development of 25 fishing villages @ ` 2 crore per village. More pro active steps in the implementation of the coastal area development project is required since the progress is quite slow.

2.87 During 2012-13 an amount of ` 200 lakh were expended for the implementation of one paddy one fish in kuttanad and kole lands for covered an area of 1446 ha in kuttanadu and kole lands. About 103 tons of scampi and 750 tons of fish were produced during 2012-13 and a revenue collection of ` 656 lakh was achieved. The project sustainable development of shrimp aquaculture aims at the development of 2500 ha of Pokkali fields of Ernakulam, Thrissur and Alappuzha districts during the Xth plan period. During 2012-13 an area of 63 ha was brought under culture and an amount of ` 100 lakh was provided for the scheme. 35 tons of Shrimp worth ` 86 lakh was produced during the period.

Fishing Harbour

2.88 The Government of Kerala has so far implemented 9 fishing harbour and the works of other 8 harbours are in progressing. The completed fishing harbours are Thangassery, Neendakara, Kayamkulam, Munambam, Bepore, Puthiyappa, Chombal, Moplabay, Azheekal and Ponnani. The fishing harbours now supported are Koyilandi, Thalai, Cheruvathoor, Chettuvali, Muthalapozhi and Chethi. The works of Thalai, Koyilandi and Chettuvali fishing harbours were

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completed soon. The construction of Muthalapozi fishing harbour now supported under RKVY is lagging. The project was approved in 2000 at a cost of ` 13.66 crore with total expenditure till 2012-13 was ` 13.52 crore. During 2012-13, ` 36.80 crore including central share were allotted for the construction of fishing harbours for which ` 24.65 crore was expended. An amount of ` 11.11 crore was expended during the year through RIDF. Time bound completion schedules for all ongoing harbours need to be worked out. Status of the progress of ongoing fishing harbours is shown in [Appendix 2.47](#)

2.89 Total revenue collected from the completed fishing harbours and fish landing centres during 2011-12 and 2012-13 were ` 416.04 lakh and ` 434.94 lakh respectively. Revenue collection from Neendakara fishing harbour during 2011-12 and 2012-13 were ` 115.54 lakh and ` 185.91 lakh, which accounts 60 per cent increase over the previous year. During 2012-13 the highest revenue collection was from Neendakara harbour which accounts 43 per cent of the total revenue collection. Puthiyappa fishing harbour contributed 18 per cent of the total revenue collection during 2012-13 which accounts 54 per cent decrease in the revenue collection for the previous year. The details are given in [Appendix 2.48](#).

2.90 Under RIDF XI, NABARD has approved two projects viz balance work of Kayamkulam fishing harbour and modernisation of Neendakara fishing harbour and sanctioned a loan amount of ` 1062.54 lakh and ` 895 lakh respectively and the cumulative expenditure as on 31.3.2013 was ` 1266 lakh and ` 886 lakh respectively. Under RIDF XIII, NABARD has sanctioned a loan of ` 1026.43 lakh for the construction of fishing harbour at Thalai. The expenditure upto March 2013 was ` 1025.19 lakh. Prioritised action plan has to be prepared for the completion of all ongoing and pending infrastructure projects. Expansion of more harbours to be based on need and technical studies.

Social Security and livelihood support to Fishermen Community

2.91 The major highlights of social security schemes are given in [Appendix 2.49](#) to 2.50. During 2012-13, 800 number of houses were completed including spillover from 2011-12 and the expenditure incurred was ` 1600 lakh. The saving cum relief schemes provided assistance to about 185000 beneficiaries at an amount of ` 1076 lakh and interest free loan to 24740 beneficiaries for an amount of ` 2609 lakh.

Matsyafed

2.92 Matsyafed is an apex federation of 666 primary level Fishermen Development Welfare Co-operative Societies, of which 343 numbers are in marine sector, 198 are in inland sector and 125 women co-operative societies. The total membership in these societies is 3.81 lakh. The paid up share capital of the federation is ` 150 crore. Matsyafed have organised more than 15770 SHGs with 192083 members. The groups have mobilized ` 6423 lakh as thrift. The achievement of various programmes implemented by Matsyafed is given in [Appendix 2.51](#).

2.93 In the last five year plan, marine fisheries sector has achieved better growth in its infrastructure development. The 12th plan strategy 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 offshore marine fish production and maximum utilization of harvested fish and its value addition. The major issues in the sector are price exploitation of selected stock, ineffective regulation, ever 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. Maximum utilization of harvested resources can be ensured for its proper storage, transportation and distribution. Effective preservation of fish quality as per international standard, promote export as well as domestic marketing legislation is needed for the assurance of hygiene and quality in domestic fish marketing. 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, total sanitation and solid waste management etc. needs special care and attention. Focussed attention for the implementation of coastal area development project including livelihood security is urgently required. More details under this sector is shown in [Appendix 2.45](#).

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Water Resources

2.94 At the national level during Twelfth Five Year Plan, it has been targeted to improve the efficiency of irrigation projects by at least 20 per cent from the existing level of 30 per cent. Irrigation development should be given more priority for the completion of medium irrigation projects and to utilize the created potential for the cash crops of the State. Rice is the major crop benefited through irrigation infrastructure in the State. Even in the case of this crop, the incremental yield, which the irrigation support could bring, is not significant. With the fast changes taking place in the farm front of Kerala with notable reduction in the area under rice cultivation, even the distribution systems already developed for gravity irrigation to service rice cultivation now require realignment. Investments in irrigation are changing globally in response to changes in environment and experience with previous

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projects. Increased water scarcity has shifted the focus from exploitation of water resources and building infrastructure to improvement of water use efficiency. The source development along with area wide micro irrigation systems is an option for the state in most of the agro-ecological zones.

Live Storage Capacities of Irrigation Reservoirs

2.95 The surface irrigation constitute major chunk of irrigation infrastructure in the state. There are 18 dams in the state intended for irrigation. Out of this, 14 have storages and remaining are barrages. The live storage position of the reservoirs during the beginning and end of the monsoon period during 2011 to 2013 are given in [Appendix 2.52](#). In the beginning of the Monsoon in 2013 the total storage was 280.59 Mm³ and at the end of the monsoon, the level was 1290.25 Mm³, against the levels of 403.69 Mm³ and 744 Mm³ respectively, during the previous year. The increase in storage is due to about 50 per cent increase of rain fall during 2013 compared to the previous year.

Fig 2.8

Live storage position in the Reservoirs (2011, 2012 & 2013)

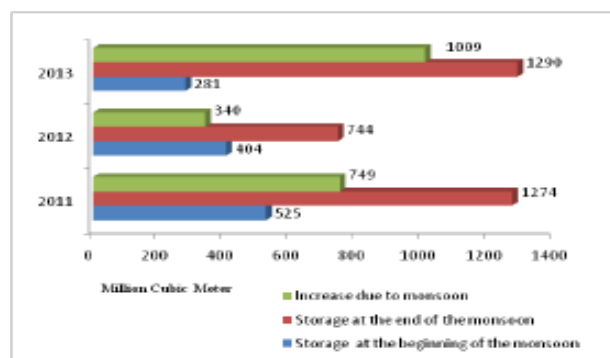
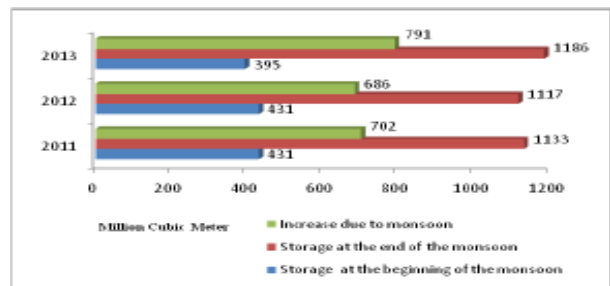


Fig 2.9

Live storage position in the Reservoirs (Average for 10 years): 2011, 2012, & 2013



Review of Major Projects

2.96 The overall performance of the major and medium irrigation sector during the initial years was not encouraging. The cumulative area brought under irrigation through major and medium irrigation projects is 32044 hectares (gross). The details of the progress of implementation of ongoing projects as on October 2013 are given in [Appendix 2.53](#). Time and cost overruns have been a major cause of concern for medium projects in the state.

Karapuzha Irrigation Project

2.97 Karapuzha Project is the first project for irrigation taken up in the Wayanad District of Kerala to create a reservoir of 76.50 Mm³ storage capacities. The original estimate of the project was ` 7.60 crore in 1976 and the revised estimate as per 2010 schedule of rates was ` 441.50 crore. The cumulative expenditure incurred upto October 2013 is ` 294.69 crore. The project has been partially commissioned on 20.6.2010 and an ayacut area of 938 ha has been achieved so far. Major components under head works and the works of 8.805 Km right and 16.59 Km left bank canals are also completed. Land acquisition in respect of distributaries of Left and Right Bank Canals are yet to be completed. 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 but the implementation of the work plan is very slow. Prioritization of work to complete the ongoing work is also required.

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Muvattupuzha Valley Irrigation Project

2.98 The project envisages the utilisation of the tailrace water from the Idukki Hydro electric project and is intended to give irrigation facilities to 19237 ha.(net) and 37737 ha.(gross) in Ernakulam, Kottayam and Idukki districts. MVIP was started in 1974 with an estimated cost of ` 20.86 crore.The estimated cost of the project as per 1980 Schedule of Rates was ` 48.08 crores and the revised estimate cost, which is under finalization. The expenditure as on October 2013 is ` 855.40crores. The work of the dam, Left (37.1km) and Right (28.337km) bank main canals are completed. Out of the total length of 57.154 km of branch canal the work of 54.237km have been completed. For distributaries,out of the total length of 217.997 km, 182.077 km have been completed so far. The project was commissioned partly in November 2004, and the ayacut area created so far is 31106 ha gross. The project has to be closed at a convenient stage for the optimum utilisation of resources invested considering the implementation of the project for more than three decades. The cropping pattern in the ayacut has changed and additional investment is required to irrigate the crops.

Idamalayar Irrigation Project

2.99 The Idamalayar Irrigation Project is a diversion scheme intended to irrigate an extend of 14394 ha. of wet and dry lands and the Cultivable Command Area (C.C.A.) is 13209 ha. The latest estimate of the project being prepared as per 2012 SOR is ` 750crores and the cumulative expenditure as on October 2013 is ` 381.24crores.

2.100 The works of 98.14per cent of main canal, 45.02 per cent of low level canal, 36.85 per cent of link canal and 96.72 per cent of RBMC have been completed so far. In view of the Government policy to complete the long pending projects, the execution of the 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.

Banasurasagar Irrigation Project

2.101 The project was commenced in 1971 with an estimated cost of ` 8 crore to irrigate an area of 2800 ha. agriculture land for the second and third crops. The project report was revised based on 1996 SoR and Administrative Sanction was given to a cost of ` 37.88 crores. The revised estimate of the project based on 2010 SoR is ` 185.5 crores. The work of the Main canal of length 2.73 Km is completed except from Ch.1130 M to 1500 M. The land acquisition process of distributaries is in progress. Expenditure incurred up to October 2013 is ` 44.61crore.

Accelerated Irrigation Benefit Programme (AIBP)

2.102 The release of central assistance to Kerala under AIBP is very low compared to other states. The details of release of central assistance under AIBP to Kerala with respect to other states are shown in the [Appendix 2.54](#). The total central assistance released by Govt. of India for the 28 states from 1996-97 to 2012-13 is ` 60254.82 crore.The central assistance received for Kerala from 1996-97 to 2012-13 is ` 179.27 crore which accounts only 0.30 per cent of the total release of Govt. of India to all states. There has been a decreasing trend in the utilization during the last few years and release was received only up to 2010-11 and no release was reported thereafter. The total central assistance received under AIBP under PM's package is ` 13.64 crore for the projects Karapuzha (` 2.72 crore), Kanhirapuzha-ERM (` 5.07 crore) and Chitturpuzha (` 5.85 crore). The total central assistance received for Muvattupuzha project is ` 133.14 crore and the assistance was received up to 2009-10. The Kallada irrigation project is the only major/medium irrigation project completed under AIBP in Kerala which included in AIBP during 1996-97 and completed in 2004-05 and the central release was ` 32.50 crore. More focused attention is required for the implementation of AIBP assistance projects in Kerala and for tapping up of more central assistance as per the revised guidelines. Separate proposals could be prepared for the development of minor irrigation under AIBP.

Kuttanad Package

2.103 The total outlay of the Kuttanad Package as per MSSRF report is ` 1840.40 crore. Out of this ` 1518.59 crore is set apart for the Irrigation sector (82.5 per cent). The total project sanctioned under the irrigation sector is ` 1849.31 crore. The Central share released for the project is ` 88.40 crore and State share released so far is ` 64.31crore. Of the total state share of ` 64.31 crore,an amount of ` 43.08 crore was released as additional state share and ` 21.23 crore was released as 25 per cent state share. The total amount utilized so far for the project is ` 106.64 crore. The percentage of expenditure based on the released amount is 69.84 per cent.The time bound completion of the project is required to avail maximum assistance from Government of India and to develop the Kuttanad wetland ecosystem.

Box 2.4

Revised Guidelines of Water Resources Schemes for 12th Five Year Plan

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- Scheme on Repair, Renovation and Restoration (RRR) of water bodies

Under the scheme GoI targeted 10000 water bodies having a Cultural Command Area (CCA) of 6.235 lakh hectare at a cost of Rs 10000 crore during XII Plan. For non-special category states/areas the central assistance is 25% of the project. Project with an individual water body with sub basin approach and all public and community owned water bodies are covered under the scheme with a unique code number for water body. Water bodies having minimum water spread area of 5 hectare in rural areas and water spread area from 2 hectare to 10 hectare in urban areas are eligible under the scheme.

- Accelerated Irrigation Benefit Programme(AIBP)

1. Ongoing Major and Medium Projects: Major and Medium Projects having investment clearance of Planning Commission and are in advanced stages of construction and can be completed in the next four financial year: can be considered for inclusion in the scheme.

2. Extension/Renovation and Modernisation Projects(ERM): The Major/Medium ERM projects having investment clearance of Planning Commission and projects already completed and commissioned at least 10 years earlier from the proposed year of inclusion in AIBP are eligible.

3. Surface Minor Irrigation Scheme: For non special category states, the individual surface minor irrigation schemes having CCA of 20 hectare and cluster of MI schemes within the radius of 5 km having total CCA of 50 hectare benefitting tribal areas, drought prone areas, desert prone areas and left wing extremists affected areas will be eligible for assistance under AIBP.

- Flood Management Programme

A state sector scheme under Central Plan to provide central assistance amounting to Rs 10000 crore during XII Plan period for taking works related to river management ,flood control, anti-erosion, drainage development, flood proofing, restoration of damaged flood management works, anti-sea erosion and catchment area treatment etc.

- Flood management works in an integrated manner covering entire river/tributary or a major segment is suggested. For general non special category states the funding pattern is 50(Centre):50(State).The flood management programmes costing Rs 40 crore and above having BC Ratio more than 1.0 is eligible.

Source: *Source :Ministry of Water Resources .Government of India, 2013*

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Irrigation Status

2.104 The source-wise area irrigated as on March 2013 is given in [Appendix 2.55](#) and [2.56](#). As per the assessment of the Directorate of Economics and Statistics the net irrigated area in the state as on March 2013, is 3.96 lakh ha. and the gross area irrigated is 4.58 lakh ha. There is a decrease of 3.2 per cent in the net irrigated area of the state in compared to the previous year of 2011-12. Gross irrigated area also decreased 6.7 per cent during the period. Gross irrigated area to Gross Cropped Area in the period is 17.67 per cent. During 2012-13, among the crops, coconut tops among the major crop supported by irrigation. It accounted for about 36 per cent followed by paddy 32 per cent, banana 10 per cent, arecanut 8 per cent and vegetable 4 per cent.Details are given in [Appendix 2.57](#) and [2.58](#). There has been a good progress in irrigated area under vegetable cultivation during the year and also an increase in the area under irrigation for banana cultivation compared to the previous year.

Minor Irrigation

2.105 Minor irrigation is considered to have an important role to play in states like Kerala, where the average farm size is small. A master plan needs to be prepared for development of minor irrigation in the state. A survey has already been completed on tanks and ponds in Palakkad district and action is initiated for preparation of DPR on restoration of tanks and ponds in the State. As a first step DPR preparation is in progress for Palakkad district. Minor irrigation has been given a considerable thrust during the Annual Plan 2012-13 and the same accounted nearly 21.40 per cent of the total budgeted outlay of the irrigation sector. The details of physical achievement for 2010-11, 2011-12 and 2012-13 are shown in [Appendix 2.59](#). NABARD has been providing loan assistance for irrigation works through RIDF phase I to XVIII since 1995-96 and so far 1229 works has been completed. The assistance of NABARD is by way of reimbursement. RIDF I to XI have been closed and the works under RIDF XIII to XVIII are in progress. Details are given in [Appendix 2.60](#).

Ground Water Development

2.106 Ground water fulfils the irrigation needs of around 50 per cent of irrigated area. The total annual ground water availability in Kerala State has been computed as 6.620 Billion Cubic Meter (BCM) and the net ground

water availability in the entire state is 6.029 BCM. The rainfall recharge accounts for about 82 per cent of the annual recharge. The annual ground water draft for all uses in the state is 2.809BCM. The net Ground water availability for future irrigation development in the state as in 2009 is of the order of 3.021 BCM. The overall stage of development of the State is 47 per cent. The districtwise stage of development is maximum in Kasaragod (71 per cent) and minimum in Wayanad district (17 per cent). Details are given in [Appendix 2.61](#).

2.107 The net annual ground water availability for the state of Kerala during 2009 has reduced to 3.22 per cent compared with the data during 2004. The annual ground water draft for all uses has reduced by 3.80 per cent during the period. The net ground water availability for future irrigation development in the state as a whole shows a decline of 1.74 per cent in 2009 compared to 2004.

2.108 The expenditure incurred during the period 2012-13 for the implementation of ground water development schemes was ` 19.83crores against the budget outlay of `12.52crores. The detailed physical achievement during the year under report is given in [Appendix 2.62](#).

Performance of Irrigation sector during 2012-13

2.109 During the Annual Plan period 2012-13, an expenditure of `52.75crore was incurred for Major and Medium irrigation, ` 75.06 crore for Minor Irrigation ` 3.39 crore for CADA and ` 20.11crores for Flood Management and Coastal zone management against the total budgeted outlay of ` 465.80 crore for the water resources sector. A major share of the total outlay for the water resource sector (66.95 per cent) was budgeted for Major and Medium sector, followed by Minor Irrigation (21.37 per cent). The details are given in [Appendix 2.63](#). Overall performance of the Irrigation sector was not encouraging during the Annual Plan, besides poor utilization AIBP assistance and under performance in the implementation of Kuttanad Package also aggravated the situation.

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Forestry and Wild Life

2.110 The forest cover of the Kerala State as per the 2011 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 per cent of the total geographical area of the State, shows that the forest cover of Kerala increased over previous assessment. There is an increase of very dense forest cover to the tune of 419 sq.km, moderate forest of 774 sq.km and open forest 536 sq.km. As per FSI, the main reason for forest cover increase was due to the change in the area of the trees outside forests. In Kerala, Idukki District has the maximum forest cover of 3930 sq.km and Alappuha District has the lowest forest cover of 38 sq.km. In terms of per centage of forest cover with total geographical area, Wayanad has the highest forest cover of 83.3 per cent, followed by Idukki and Pathanamthitta. The district wise details of forest cover in Kerala is given in [Appendix 2.64](#). The estimated forest area (provisional) in Kerala is 11309.475 sq.km. This includes 9107.206 sq.km of reserve forest, 364.473 sq.km of proposed reserves and 1837.796 sq.km of vested forests.

2.111 The total forest cover of the country as per India State of Forest Report 2011 is 78.29 million ha. which constitute 23.81 per cent of the geographical area of the country. In comparison to the 2009 assessment, there is a decrease of 367 sq.km. in country's forest cover. 15 states have registered aggregate increase of 5000 sq.km. in their forest cover with Punjab leading with increase of 100 sq.km. 12 States mainly in (Northern Eastern States) have shown decreased the extent of 867 sq.km. Decline of 281 sq.km. in forest cover of Andra Pradesh is mainly attributed to cutting the Eucalyptus and other species. The state of Madhyapradesh has the largest forest cover in the country at 77700 sq.km. followed by Arunachal Pradesh at 67410 sq.km. As per the 2011 assessment, forest cover of Kerala is 17300 sq.km.

Natural Forest

2.112 The forest of Kerala is mainly classified into 5 major categories. The coverage of the plantations forestry is to the extent of 13.5 per cent of the total area. The major types of forests in Kerala are given in [Appendix 2.65](#). The quantity of timber production in 2011-12 was 17283.23 cum (round log). The number of bamboos and reeds produced were 4.66 lakh and 93.91 lakh respectively. The sandal wood production was 52104.08 kg. The trend in production of forest produces from 2001-02 to 2011-12 (provisional) are shown in [Appendix 2.67](#).

2.113 The forest policy of the state is guided by the 1988 National Forest Policy. In Kerala the strategies adopted for the development of forests envisages maintenance of environmental stability through preservation and reduction of degraded forests, conservation of bio-diversity, increasing productivity of forest, increasing substantially the forest cover through massive afforestation and developing participatory forest management. A comprehensive state forest policy to address the specific problems and issues related to the conservation of forests and biodiversity of the state as well as the livelihood

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needs of the forest development communities has been formulated during 2007. The Forest Management Policy of the state encompasses technology improvement, bio-diversity conservation and development of partnership with the forest dependent communities and fringe dwellers. Special thrust is also given for protecting species of plants and animals.

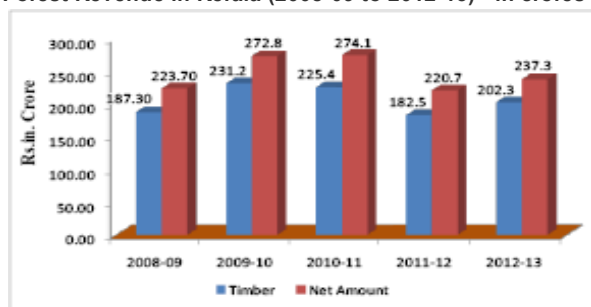
National Afforestation Programme

2.114 27 Forest Development Agencies were participating in the implementation of NAP. Till the end of March 2013, Govt has released ` 6517.73 lakh and the amount was fully utilized thereby afforesting an extent of 36011.77 ha degraded forest.

Forest Revenue

2.115 The forests contribute substantially to the non-tax revenue of the State. The revenue from the forestry sector by way of sale of timber and other forest products comes to ` 237.3 crore in 2012-13 and the revenue from the forest sector in 2011-12 was ` 220.67 crore, compared to the forest revenue for these two years, an increase of 8 per cent over the previous year. Major portion of the forest revenue is from timber (Fig. 2.10). During 2012-13 ` 202.3 crore was the revenue from timber, which account for 85 per cent of the total forest revenue. The forest also supply non-wood forest produce valued at ` 5 crore annually. Forestry sector provides maximum employment opportunities to the rural masses including the tribes. Details are given in [Appendix 2.68](#).

Fig 2.10
Forest Revenue in Kerala (2008-09 to 2012-13) ` in crores



Wild Life and Biosphere Reserve

2.116 The 'Malabar Wildlife Sanctuary' was constituted in 2009 with an extend of 7421.50 Ha (74.21 Sq.Km) area. Also a new wild life sanctuary by name "Kottiyoor Wild life Sanctuary" was constituted in 2011 with an extent of 30.38 sq.km. The name of sanctuaries, National Park, Biosphere Reserves and other Protected Areas in Kerala is shown in the [Appendix 2.69](#). The India Eco-development Project implemented in Periyar Tiger Reserve has got wide recognition nationally. The project was successful in weaning out forest offenders and make them part of conservation efforts. Presently, the Forest Department is trying to emulate the Periyar model in the management of all the PAs of the State. During 2011-12, an amount of ` 28 crore was earmarked under various plan schemes for protected area management and out of which ` 22 crore were utilized.

General Forestry

2.117 Natural Forests in Kerala are being managed mainly for sustaining the life support systems and biodiversity conservation. During 2011-12 also, no timber was extracted from the natural forests by way of clear felling or selection felling. Only timber from wind fallen trees was extracted wherever it is economically viable. Under 'Hardwood' species 276.9 ha new areas was raised and 419 ha was maintained during the year 2012-13. Also under industrial plantation, 703ha were newly planted and 852 ha were maintained. Under the NTFP including medicinal plantation, 15 ha new areas was raised and 938 ha were maintained.

Performance review under XIth Plan and Annual Plan 2012-13

2.118 The total state plan outlay during XIth plan under forestry sector was ` 288.87 crore and the expenditure was ` 251.05 crore (87.15 per cent). In addition an amount of ` 114.58 crore was provided for centrally sponsored schemes and the expenditure reported was ` 67.57 crore (59 per cent). The state plan expenditure during 2012-13 is ` 100.3 crore against the budgeted outlay of ` 114.1 crore, which includes forest protection with an expenditure of ` 17.96 crore, strengthening bio-diversity conservation and management of protected area with ` 19.15 crore, strengthening of infrastructure facilities with ` 6.37 crore for roads and buildings, improving productivity of Plantation with ` 6.6 crore, extension forestry with ` 7.11 crore and 13th Finance Commission Award with ` 27 crore. Under central sector scheme the

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expenditure reported was 31 per cent of the budgeted outlay. The outlay and expenditure for various schemes implemented in the Forestry sector is shown in [Appendix 2.70](#). The major physical achievements during 2012-13 were distribution of seedlings/plants under Harithakeralam, Harithatheeram and VazhiyoraThanal programme is 88.16 lakh, construction of cairns 2064 numbers, construction of kayyala 3.49 km., construction of fire line 3462 km., regeneration denuded forest 16 ha., plantation raised 1209 ha, improvement of forest roads 97 km. and launching the project Suvarnodhyanam at Nedumbasseri in 4 ha. area.

Key initiatives during 2013-14

2.119 Key initiatives of the department during 2013-14 are establishment of Zoological Park in Puthur, Thrissur District; renovation of forest museum at PTP Nagar, Thiruvananthapuram as National history museum, establishing orchidarium at Vagamon in Idukki District, setting up elephant care centre at Kottur, Kappukode in Thiruvananthapuram District, establishing Gandhi smrithivanam and eco-tourism project at Purakkad in Alappuzha District, establishment of new forest stations and model forest stations, establishment of Kottiyoor Wildlife Sanctuary, initiate actions for mechanization of forestry works and forest watershed based management units, longterm monitory programme for Periyar Tiger Reserve, Vanadeepthi programme etc.

Management of Non -Wood Forest Produce (NWFP)

2.120 The quantities of bamboo and reed annually harvested are at a level of 40-50 thousand tonnes of bamboo and 80-100 thousand tonnes of reeds. The productivity and management of NWFPs are to be improved through sustainable and scientific management by adopting improved methods of harvesting, processing, value addition and marketing. Under the scheme Management of NWFPs, new NWFP species were planted at an area of 15 ha. Also maintenance of NWFP plantations of different species was done at an area of 938ha. A new brand for value added products of NWFP known as "Vanasree" was developed and 22 sales outlets of vanasree products were established in the State.

Afforestation Outside Forest Area

2.121 The objective of the programme is to increase tree cover in non-forest areas to achieve the ideal target of 33.3 per cent of forest cover. The department have embarked on massive afforestation programme outside forest areas since 2007 with novel ideas. The massive afforestation programme launched outside the forest areas are 'Entemaramprogramme, 'Nammudemaramprogramme, Vazhiyorthanal programme, Harithatheeram programme and Harithakeralam programme'. The total number of seedlings distributed/planted under the various programmes upto 31-03-2013 are 323.5 lakh. The details of seedlings distributed under these programmes are given in [Appendix 2.71](#). The sustainability of the trees planted has to be ensured. More details under this sector is shown in [Appendix 2.66](#)

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Environment

2.122 One important cause of environmental destruction is inequitable consumption of resources and sharing of responsibility for environmental well-being. Lack of integrated environmental planning also shares the responsibility for environmental deterioration in the country. Often departments, municipalities, local authorities and industries use environmental resources according to the priorities of their individual sectors, without much regard to the overall needs of the state or the question of sustainability. To proactively manage environmental resources, environmental resource planning will have to be made a central component of policy making in the state. The fragile nature of ecosystem in Kerala is a concern and many natural and man-made causes pose a great threat to its biodiversity. About 159 species of flowering plants are threatened and same is the case with hundreds of animal species. The major man made causes include collection of firewood, illicit felling of trees, cattle grazing, encroachments, poaching, illegal sand mining, mass tourism soil, water and land contamination. The summary of state wise/Union Territory wise status of highly polluting industries in 17 categories indicated that in Kerala of the total of 49 industries, 24 are complying with standards, 8 are not complying and 17 are closed down. Among the 29 grossly polluting industries in the state discharging their effluents in rivers and lakes (as on 31st March 2011), 20 are complying, 2 are not complying and 7 are closed down. Under the Environment Surveillance (ESS) Scheme of Central Pollution Control Board, highly polluting industries in 17 categories were selected through usage of ESS software especially developed for inspections. In Kerala 12 industries were subjected to ESS inspections and based on inspection reports, directions/ advices are issued to the concerned SPCBs/industries depending upon severity of violations (Source :CPCB Annual Report, 2011-12). The air quality parameters of major cities of Kerala (2011-12) is shown in [Appendix 2.72](#).

Biodiversity

2.123 The Kerala State Biodiversity Board was constituted in 2005 with vision of Conservation of biodiversity and its

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sustainable utilization for the benefit of human beings. Peoples Bio Diversity Register is a comprehensive data base recording people's traditional knowledge and insight of the status, uses, history, ongoing changes and forces driving these changes on the biological diversity resources of their own localities. The Biodiversity Board has been actively involved with the preparation of Plant Biodiversity Registers (PBR) in the LSGs. A number 670 PBR have been completed till March 2013. The Board has also achieved the constitution of Biodiversity Management Committees in all the 978 panchayats, 60 municipalities and 5 Corporations in the state.

2.124 The increased pressure on land for more resources and accelerated human interventions in the form of mining, quarrying, filling of low lands along with all the ingredients like high rainfall, undulating topography etc. has led to significant land modifications influencing the biophysical system and adversely affecting the ecological security and environmental stability. Concerted efforts are needed to educate the people on the importance of environmental protection and for redressing the complaints of the public on pollution problems and environmental issues.

SECTION -7

Co-operation & Agricultural Finance

2.125 The co-operative movement in Kerala has a solid foundation and impressive record in terms of strength and financial stability and it is one of the most vibrant cooperative movements in the country. There are 14205 co-operative societies were functioning under the Registrar of Co-operative Societies. Details are given **Appendix 2.73**. The major physical achievements in the sector during 2013 are shown in **Appendix 2.74**. The Integrated Co-operative Development Project (ICDP) was successfully implemented in all districts and the second phase of ICDP in Wayanad district was completed in March 2013 and action is being taken to implement the second phase of ICDP in Idukki, Palakkad and Trichur districts.

Support by National Cooperative Development Corporation

2.126 As on 31.3.2013, the cumulative financial assistance of the NCDC was 4774.78 crores in Kerala. Types of NCDC Assistance are shown in **Appendix 2.75**. During the fiscal 2012-13, Kerala stood 4th in all India standing for sanction and 3rd for disbursement of NCDC's financial assistance to States. Sanctions and release of NCDC funds to the state of Kerala for 2012-13 was ` 541.94 crore and ` 358.84 crore, respectively contributing around 7.55 per cent of total sanctions and 7.38 per cent of total release made by NCDC, countrywide. Around 300 cooperatives in Kerala were benefitted by NCDC funding through State Govt /Direct funding scheme during 2012-13 either through sanctions/ disbursement of funds. Almost all sectors of Agriculture & allied activities including short term agriculture credit, marketing of agriculture produce, distribution of fertilisers & inputs, consumer cooperatives, Processing activities, storage/ godowns, infrastructure creation, service sector, industrial cooperatives, Labour cooperatives and weaker section programme like Fisheries, SC/ST etc. were covered by NCDC finance in the state during 2012-13.

2.127 Activity wise and year wise sanction and release of assistance from NCDC are shown in **Appendix 2.76**. The Year-Wise amount released by NCDC from 1962-63 to 2012-13 with rate of interest is given in **Appendix 2.77**. The interest rate of NCDC loans ranged from 10.40 per cent to 12.5 per cent in 2012-13. The interest rate of NCDC loan is referred as one of the highest rates reported. Reduction in rate seems to be essential to avail more support from NCDC

Primary Agricultural Credit Societies (PACS)

2.128 The Co-operative Credit structure in Kerala comprises of 1636 Primary Agricultural Credit Societies (PACS) and 63 affiliated Primary Co-operative Agricultural and Rural Development Banks supported by the Central and Apex Co-operative banks. As on 31.3.2013, there were 1636 PACS out of which 617 were running in loss and 69 societies were threatening under liquidation. The PACS are functioning with a paid up share capital of `1231.21 crores and reserves of ` 2193.41 crores. The co-operatives during the year under report were encouraging. The total loan disbursed during 2012-13 was ` 82410.64 crores against that of ` 46689.63 crores in 2011-12. Compared to the previous year, there as increase in the disbursement of short term and medium term and long term loans.

2.129 The Selected indicators of the credit operations of the Primary Agricultural Credit Societies show that, during 2012-13, deposits of the societies increased to ` 56942.33 crores as against ` 39856.86 crores during 2011-12. The average deposit per member is increased to ` 11642 from last year's level of ` 8251.94. The average working capital position of the societies declined to ` 4309.35 lakh against ` 4732.23 lakh during 2011-12. Selected indicators and credit operations of PACS are given in **Appendix 2.78** and **Appendix 2.79**.

Deposit Mobilisation Campaign by Co-operative Societies

2.130 Deposit Mobilisation campaigns by co-operative credit institutions continued during the year under report also. The deposit mobilisation by the Co-operatives have shown a decreasing trend over the years. During the period under review, the co-operatives could mobilize ` 5194.36 crore as against the target of ` 4500 crores, showing 115.43 per cent of increase, which was 126.3 per cent in the previous year. Year wise target and achievement is given in **Appendix 2.80**.

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Agricultural Finance

2.131 Agency-wise disbursement of the annual credit flow in the state reveals that out of total disbursement of priority sector advances, commercial banks stood at the first place disbursing ` 43135 crore (56.10 per cent) in 2012-13, followed by Co-operative Banks (36.63 per cent), RRBs (6.96 per cent) and others (0.30 per cent). In Agriculture lending also commercial banks dominated by disbursing ` 25780 crore (68.36 per cent) followed by Co-operative Banks (22.69 per cent) and RRBs (8.94 per cent). Details are given in [Appendix 2.81](#).

2.132 The credit flow to agriculture sector during the last 5 years is given in Table 2.6 The share of production credit has declined by 2 per cent while investment credit increased by 2 per cent during 2012-13, compared to the previous year. The overall credit to agriculture sector has increased by 9.92 per cent over the previous year. The improvement in investment credit is a welcome development, even though on absolute term this is less than the investment credit disbursed in 2010-11.

Table 2.6
Production and Investment Credit to Agriculture Sector (` crores)

Year	Production Credit	Investment Credit	Total
2008-09	14605 (78%)	4228 (22%)	18836
2009-10	18817 (78%)	5307 (22%)	24124
2010-11	23512 (82%)	5141 (18%)	28653
2011-12	30405(89%)	3901 (11%)	34306
2012-13	32651(87%)	5059 (13%)	37710

Source: SLBC

Long Term Credit

2.133 A network consisting of the Kerala State Co-operative Agricultural and Rural Development Bank (KSCARDB) at the Apex and 63 Primary Co-operative Agricultural and Rural Development Banks at Taluk Level is responsible for long term credit disbursement for Rural Development in the State. Various activities covered by KSCARDB's lending include Minor Irrigation, Plantation and Horticulture, Agriculture Machinery, Land Development, Poultry, Fisheries etc where as under ordinary loan include construction of wells, tanks, construction of Godowns/cattle sheds, Barbed wire or stone fencing, construction of drainage channels etc. The Bank raises funds through floating of debentures issued on Government guarantee. Purpose wise classification of long term loans issued by Primary Co-operatives Agriculture and Rural Development banks is shown in [Appendix 2.82](#).

Refinance Support by NABARD

2.134 In Kerala the total refinance disbursement from NABARD was ` 2744.39 crores during 2012-13. Commercial Banks accounted for the highest share of 66.53 per cent in the total refinance disbursed in the state. This was followed by Kerala State Co-operative Agricultural Rural Development Bank ` 682.43crore (24.87 per cent) and RRBs. The disbursement of RRBs registered a lowest of 8.61 per cent. Agency wise and purpose wise disbursement of refinance assistance by NABARD in Kerala is given in [Appendix 2.83](#) and [Appendix 2.84](#).

2.135 The purpose-wise analysis of the refinance by NABARD reveals that as against the previous years, the major share of assistance was availed by non farm sector (48.17 per cent) followed by plantation and horticulture sector (38.4 per cent). Other major schemes availed refinance support was minor irrigation, SHGs and land development, dairy Development etc. The sectors like fisheries and poultry, which are very important in the rural economy of Kerala, were neglected during 2012-13 from the disbursement of refinance by NABARD.

Rural Infrastructure Development Fund (RIDF)

2.136 The RIDF was set up in NABARD with contribution from the Commercial banks which were not able to fulfill the commitment of channelising at least 18 per cent of their total lending to agriculture. RIDF has been instrumental in strengthening the rural infrastructure in the State. From RIDF I to XVII total sanction and disbursement stands ` 158321 crores and ` 111831.49 crore respectively as on 31-03-2013 in India.

2.137 Kerala has been receiving assistance under RIDF for the last fifteen years. The major projects for which RIDF has been disbursed include watershed development projects, rural bridges, rural roads, reclamation of waterlogged area, inland navigation, tourism oriented roads and rural market yards. In Kerala the cumulative sanction and disbursement as on 31-03-2013 was ` 5217.42 crores and ` 3135.4 crores respectively. During the XVII tranche an amount of ` 738.75 crores was sanctioned and ` 147.76 crores was disbursed. The tranche wise sanction and disbursement under RIDF are shown

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in [Appendix 2.85](#).

SECTION 8

Rural Development Programmes

2.138 Participatory Development and Decentralization are the main features of Rural Development in Kerala focusing on people centered inclusive growth. Since poverty and unemployment are inter related and form a vicious circle, the major CSS of the Government of India under Rural Development focus on gainful wage employment as well as self employment opportunities to the poor so as to improve their livelihood conditions. A brief review of the financial and physical performance of these CSS are given in the following paragraphs.

The Mahatma Gandhi National Rural Employment Guarantee Programme (MGNREGP)

2.139 The National Rural Employment Guarantee Act 2005 seeks to enhance the livelihood security of the households in rural areas of the country by providing atleast one hundred days of guaranteed wage employment to every house hold whose adult members volunteer to do unskilled manual work. Every household whose adult members volunteer to do unskilled manual work would be entitled to get registered with the Grama Panchayat and get a job card through the Grama Panchayat. Every registered household would be entitled to get atleast hundred days guaranteed wage employment during a year. If the eligible applicant is not provided employment within 15 days of receipt of application or from the date from which the applicant seeks employment (in the advance applications), he or she shall be entitled to a daily unemployment allowance, in cash.

2.140 The financial achievement under MGNREGP during 2012-13 was ` 1,41,199.10 crore which is 99 per cent of the total release during the year. The total employment in terms of mandays generated during this period was 7.8 crore. The physical and Financial progress of the programme 2013-14 till October 2013 is given in [Appendix 2.86, 2.87](#) and [2.88](#).

Indira Awas Yojana (IAY) (25 per cent State Share)

2.141 The objective of IAY is primarily to provide grant for construction of houses to members of Scheduled Castes/Scheduled Tribes, freed bonded labourers and also to non SC/ST rural poor below the poverty line. Under this scheme Central and State Government shares the fund in the ratio of 75:25. Government of India has revised the unit cost of IAY houses from ` 45000/- to Rs.70000/- in plain areas and from ` 48500 to ` 75000/- in hilly difficult areas w.e.f. April 2013onwards. The State Government have enhanced the unit cost to ` 2 lakhs for SC and General Categories and ` 2.5 lakh for ST Categories. The additional amount over and above the unit cost fixed by the Government of India is to be met by Grama-Block-District Panchayats in the ratio of 25:50:25. As the three tier Panchayaths are not in a position to meet the additional amount, State Government has decided to provide ` 75000/- per house to all categories during the year 2012-13 and ` 50000/- during 2013-14. 3 per cent of the funds have been earmarked for the benefit of disabled persons below poverty line. Financial and physical achievements of IAY up to October 2013 is shown in [Appendix 2.89](#) and [2.90](#).
Rural Infrastructure Development – PMGSY

2.142 PMGSY is a 100 per cent CSS to build up rural infrastructure with the objective of facilitating a higher degree of rural – urban integration and for achieving an even pattern of growth for the poor and disadvantaged sections of the society. The spirit and the objective of PMGSY is to provide good all-weather road connectivity to the unconnected Habitations.

2.143 Since Government of India funds can be utilized only for the actual estimated cost of construction of roads under scheme, state support to PMGSY for meeting tender excess, shifting of utilities and maintenance provision for assets already created was included in the state budget from the financial year 2010-11 onwards. The financial and physical achievements are shown in [Appendix 2.91](#).

SECTION -9

Food security

2.144 Food security ensures economic and social access to adequate food for all persons in the country at all times, in pursuance of their fundamental right to live with dignity. Public Distribution System (PDS) assures food security to people, particularly to Kerala, a State which has a very high deficit in production of food grains; Kerala produces only 15 per cent of actual requirement. Necessarily, PDS has a critical and functional role in Kerala.

2.145 Public Distribution System was launched in Kerala in 1962 with the implementation of the Kerala Rationing Order. Timely lifting of commodities allocated from the Central pool and ensuring distribution of the same through more than 14000 ration shops and ensuring that it occurs timely and effectively is a major responsibility of the PDS. Kerala made

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pioneering achievements in the implementation of a Universal Rationing System. Approach to the Twelfth Five Year Plan undertakes reforms to plug the leakages in the PDS such as end to end automation of the entire PDS chain, introduction of GPS tracking, activating vigilance committees etc across the state.

2.146 Number of ration cardholders in the State increased by 3 per cent and reached 81 lakh in 2012-13 from 78.6 lakh of 2011-12. Similarly number of APL cardholders also increased to 59.25 lakh in 2012-13, which was 58.24 lakh during 2011-12. There were 14.56 lakh BPL cardholders and 5.92 lakh Anthyodaya Anna Yojana (AAY) card holders in 2012-13.

2.147 During 2012-13 rice allotment to APL cardholders was 6.2 lakh MT and BPL card holders 4 lakh MT. At the same period rice allotment to AAY card holders was 2.5 lakh MT. Supply price of rice for APL and BPL during 2012-13 was ` 8.90 and ` 1 respectively and that of wheat is ` 6.70 for APL and ` 2 for BPL. Public Distribution System, Kerala profile; 2007-08 to 2012-13 is given in [Appendix 2.92](#) and details of distribution of rice, wheat, kerosene and sugar through PDS from 2007-08 to 2012-13 is shown in [Appendix 2.93](#).

Food grain at Rs.2/kg and Re.1/kg

2.148 Govt. of Kerala approved a scheme for providing food grain @ ` 2/kg to all prescribed special category of beneficiaries subject to certain conditions in January 2011. All BPL and APL beneficiaries in the state were provided with rice and wheat @ ` 2/kg in 2012-13. Since 1st September 2011, the State Govt. has started to implement schemes for issuing rice @ ` 1/kg to all BPL beneficiaries in the state. Food grain distribution details under PDS for BPL and APL from 1-09-2012 to 31-05-2013 is shown in [Appendix 2.94](#).

Anthyodaya Anna Yojana (AAY) & Annapoorna Scheme (ANP)

2.149 The scheme is to provide 35 kg of rice per month to the poorest of the poor families under BPL and is being implemented in the State since 25-12-2001. In 2012-13 also the allotment of rice under AAY continued at the level of 250260 MT. Govt. of India supplies food grains under AAY to the state @ ` 3/kg and the State Govt. in turn provides it to the beneficiaries at the subsidized rate of ` 1/kg.

2.150 Annapoorna scheme provides 10kg of rice free of cost per month to destitutes of the age of 65 years and above who are not in receipt of any of the pensions from the Govt. There are only 32152 ANP cardholders in the State as on 31-03-2013. Details of distribution of food grains under AAY and ANP schemes during 2012-13 are given in [Appendix 2.95](#).

Central Allotment of Sugar and Kerosene

2.151 Allotment of sugar to Kerala in 2012-13 was 58076 MT and that of Kerosene, 125196 KL. Allotment of sugar is restricted to BPL/AAY card holders.

Kerala State Civil Supplies Corporation (Supplyco)

2.152 Kerala State has one of the best Public Distribution System networks in India. Kerala State Civil Supplies Corporation being the second line of Public Distribution System is very instrumental in stabilising the prices of essential commodities in the State. It was set up in 1974 to provide food security to the State.

2.153 Kerala, being a consumer oriented State, controlling the undue rise in prices is not at all possible without a powerful public distribution system that intervenes the open market effectively throughout the year. The system ensures the distribution of essential items through Fair Price shops and Supplyco outlets to reach every common man unlike in other states.

2.154 Supplyco has its headquarters in Kochi and operates through 5 regional offices, 56 depots and many outlets. Details of outlet are given in [Appendix 2.96](#). Retailing of Fast Moving Consumer Goods (FMCG) at lower price, conducting special fairs for arresting the undue rise in prices during festival seasons, retailing of medicines by opening medical stores, procurement of paddy, arranging process of wheat and distribution of its products, acting as dealer of petroleum products like kerosene, petrol, diesel and LPG and also acting as nodal agency to implement the programmes of Government Of India in the state to start Micro Biology Lab and Food Processing Unit. The sales turnover of the corporation has increased in 2012-13 to ` 3015 crore from ` 2378.8 crore in 2011-12.

Mid-day Meal Programme

2.155 Mid-day Meal Programme in schools is implemented in the State with the financial support of State govt. and Central

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assistance. The programme was introduced in 1995 by the Ministry of Human Resources Development, Government Of India, to provide nutritional support to primary school going children and to boost universalisation of primary education by increasing enrollment, retention and attendance.

2.156 Supplyco is entrusted for providing commodities to mid-day meal programme in the State. The required quantity of rice is taken from Food Corporation of India and pulses from the stock of Supplyco. During 2012-13, the Corporation supplied 471686.4 Qtls of rice, 283721.2 Qtls of special rice and 26525.9 Qtls of pulses to 12638 schools, benefiting 26.33 lakh children. The cost of the food grains is met by Education Department. Number of children benefitted from the mid-day meal programme is given in fig 2.11 and details of supply of food grains from 2007-08 to 2012-13 is shown in [Appendix 2.97](#).

Fig 2.11
Mid-day Meal Programme



Outlook

While agricultural self sufficiency may not be possible in Kerala, over dependence on other states for consumption of food is not advisable. Concerted efforts are being made to improve productivity in agriculture and allied sector. Better soil and water management, increased focus on organic farming, vegetable cultivation, livestock rearing, replanting and rejuvenation of coconut gardens, all this require good coordination and targetted planning and implementation by all agencies involved. Access to affordable finance for farmers is also a necessity to create viable farms. Innovative, yet environmentally friendly techniques will need to be encouraged among the farming community so that higher productivity is achieved. The well being of Kerala depends to a large extent on the well being of its rural sector and economic development must necessarily have a rural focus. Food security and sustainable livelihood options for fishermen, and other vulnerable sections of people who depend on agricultural income, will continue to be a major priority for Kerala..

State Planning Board Thiruvananthapuram, Kerala, India.

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Chapter 3

INDUSTRY, LABOUR AND EMPLOYMENT



Introduction

Industry has been performing sub-optimally in the country in recent times. During April- October, 2013, at the All India level, there was negative growth of 2.7 per cent and 0.3 per cent in Mining and Manufacturing over the same period in the previous year. Only the electricity sector showed a growth of 5.3 per cent in this period. Taken together, Industry (mining, manufacturing and electricity) remained stagnant. Negative growth was observed in Food products, Wood products, Rubber and Plastics Products, Basic metals and various machinery items. Capital goods industry showed a negative growth of 0.2 per cent in April- October 2013. This dismal performance of industry, due to a variety of reasons including low business expectations and high interest rates, has critical implications on Kerala, which is dependent on the supply of industrial inputs, intermediary goods and final consumption goods from the rest of the country. Any supply bottlenecks can push up input as well as output prices. Further, Kerala's own industry, especially export oriented industry will also be dampened if industry in the rest of the country (and world) is stagnant, as there will be less demand for Kerala's goods. This chapter brings out critical issues relating to State Public sector Industries, Micro, small and medium industries and traditional industries. Critical issues on labour and employment are brought out to show Kerala's unique achievements on the labour front and concerns on the employment front.

In Kerala the manufacturing sector registered a growth rate of 12.4 per cent at current prices during 2012-13 compared to the growth rate of 15.4 per cent in the previous year. The contribution of income from manufacturing sector to GSDP at constant and current prices during 2012-13 was 7.7per cent and 7.6 per cent respectively. The income from manufacturing sector to GSDP and its growth rates from 2007-08 to 2012-13 are given in [Appendix 3.1](#). The per centage contribution of Manufacturing sector to GSDP from 2007-08 to 2013-14 did not show a definite trend. A drastic decline can be observed during 2009-10 and after that there was an increase, which again declined during 2011-12 as shown in Fig.3.1

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Industry

Minerals

Kerala is endowed with minerals such as Heavy Mineral Sands (Ilmenite, Rutile, Zircon, Monazite, Silimanite), Gold, Iron Ore, Bauxite, Graphite, China Clay, Fire Clay, Tile and Brick Clay, Silica Sand, Lignite, Limestone, Limeshell, 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 major mineral production in the State. However, 75% of the mineral revenue comes from the minor minerals. Major industries in Kerala based on Major minerals are given in Box 3.1

Box 3.1

Mineral Based Industries in Kerala

- Indian Rare Earths Ltd., Chavara
- Kerala Minerals and Metals Ltd., Chavara
- Malabar Cements, Walayar
- Travancore Cements Ltd., Kottayam
- Kundara Ceramics, Kollam
- English Indian Clays Ltd. (EICL), Thiruvananthapuram
- Excel Glass Industry, Alappuzha
- Kerala Clays and Ceramic Products Ltd., Pazhayangadi, Kannur

3.2 Unlike other states, due to the unique nature of the State of Kerala (non availability of land for mining, vast expanse of reserve forest and dense population) mineral resources cannot be exploited with ease. Mining, being a destructive activity, invites all kinds of environmental problems (lowering of water table, noise pollution, dust pollution, public safety, threat to flora and fauna, contamination of water, deterioration of river ecosystem etc.). However mining in the State cannot be stopped altogether as minerals (especially those of the category of building materials) are an integral part of infrastructure development of the State.

3.3 There are 83 major mineral mines that are mined in the State. Also there are 3924 licensed minor mineral quarries in the State. Government gets revenue from minerals mainly by way of royalty. Revenue collected during the year 2012-13 is ` 49.7 crore (` 12.33 crore from major minerals and ` 37.37 crore from minor minerals) which is 12 % higher than the previous year collection of ` 44.3 crore. Total area covered by mining leases is 3314.52 ha. The mineral wise details of area covered by mining leases are given in [Appendix 3.2](#).

3.4 The production of various major and minor minerals in the state during 2012-13 and the royalty are given in [Appendix 3.3](#). An analysis of revenue collection shows that Kollam district has the highest collection of ` 8.51 crore (17% of total revenue) followed by Ernakulam (12%). The least revenue collection of ` 1.21 crore is from Idukki (2%). The district wise collection of revenue from major and minor minerals are furnished in [Appendix 3.4](#)

Manufacturing

Fig.3.1

Contribution of Manufacturing Sector to GSDP at 2004-05 prices



Table 3.1

Plan Outlay and Expenditure (₹in Lakh)

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MSME

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(` in Lakh)

Sl. No.	Sector	Annual Plan 2011-12		Annual Plan 2012-13		Annual Plan 2013-14
		Outlay	Expdr.	Outlay	Expdr.	
1	Village & Small Enterprises					
i	Small-scale Industries	4060.00	2616.50	5505.00	4604.93	5755.00
ii	Commerce	10.00	10.00	75.00	75.00	90.00
iii	Handicrafts	226.00	226.00	300.00	348.25	431.00
iv	Handloom & Power loom	5767.00	6539.22	6832.00	5645.19	7676.00
v	Coir Industry	8205.00	8734.51	10070.00	9838.38	11137.00
vi	Khadi & Village Industries	928.00	928.00	1210.00	411.00	1331.00
vii	Cashew Industry	5200.00	4750.00	6500.00	6121.95	7150.00
viii	Beedi Industry	40.00	32.27	Nil	Nil	Nil
	Subtotal – VSE	24436.00	23836.50	30492.00	27044.70	33570.00
2	Other Industries	22030.00	15266.12	24067.00	23606.00	23934.00
3	Minerals	162.00	58.22	211.00	187.16	432.00
	Total : Industry & Minerals	46628.00	39160.84	54770.00	50837.86	57936.00

Source: Finance Department, Govt. of Kerala

3.5 There was an increase of 17.5% in outlay provided for Industry and Minerals during 2012-13 over the previous year. The total outlay during 2013-14 is ` 579.36 crore which is 5.8% higher than the outlay in 2012-13. Upto November 2013, only 16.25 per cent of allocation under Village and Small Industry has been spent. Performance on the expenditure front in Other Industries and Minerals has also been low. Expenditure usually does pick up in the last quarter of the financial year

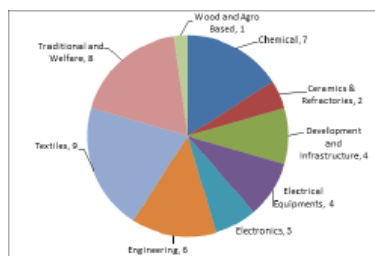
Public Sector Undertakings

3.6 Public Sector Enterprises, both at the Central level and at the State level have played a very important role in the industrialisation and the overall development of the country. State Public Sector Enterprises are one of the largest employers in the organised sector in the state.

3.7 There are 44 PSUs under the Industries Department, of which 37 are in the manufacturing sector and 7 in the non-manufacturing sector. Sector wise number of PSUs is shown in Fig. 3.2.

Fig 3.2

Sector wise number of PSUs as on 31.3.2013



3.8 Public Sector Restructuring and Internal Audit Board (RIAB) constituted in 1993 executes State Owned Enterprise Reform Initiatives. Performance planning and monitoring of PSUs, Enterprise reconstruction, Capacity building / Recruitments in PSUs and Governance advisory support are the major responsibilities.

Box 3.2

Major Initiatives in PSUs during 2012-13

- For ensuring transparency in purchases, e-procurement was introduced from August 2012 in PSUs for all purchases above ` 1 lakh. Purchase worth ` 293.67 crores were made through e-procurement.
- E-payment was introduced as part of the e-procurement system.
- To co-ordinate all the activities of PSUs and Departments, a web based MIS portal was launched by Keltron.

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- For speedy and timely completion of audit and for ensuring transparency in accounting, ERP system is being introduced in all PSUs.
 - Various social and welfare measures for education, health, basic necessities like drinking water etc are being implemented by Malabar Cements Ltd., Kerala Minerals and Metals Ltd, Transformers and Electricals Kerala Ltd, Kerala State Industrial Development Corporation Ltd, Steel and Industrial Forgings Ltd and Kerala State Industrial Enterprises Ltd, as part of Corporate Social Responsibility initiatives of these PSUs.
 - An MOU was signed with SAIL for a project worth ` 3250 crore for increasing the production of the new Titanium Sponge plant of Kerala Minerals and Metals Ltd, to 10000 MT.
 - Keltron has set up Solar Power Panels in various jails. Establishment of solar panel by profit making PSUs is under progress.
 - Kerala Cashew Development Corporation has started production of Chocolate coated cashew, a value added product
- One Time Settlement with banks is under progress for settlement of long pending dues of cashew development and CAPEX.

3.9 During 2012-13, 22 PSUs have registered profit and 22 registered loss. The performance trend of PSUs during the last 5 years is given in [Appendix 3.5](#). During 2013-14 (up to October 2013) PSUs have recorded a turnover of ` 1508.94 crore and a net loss of ` 90.05 crore. During 2012-13, PSUs have recorded a net profit of ` 75.25 crore. Details of PSU-wise turnover and profit/loss during 2012-13 are shown in [Appendix 3.6](#). The number of loss making PSU's have reduced from 26 to 22 and turned to profit making units. But the net profit has reduced from ` 222.87 crore to ` 75.25 crore, indicating higher cost of inputs.

Joint Stock Companies

3.10 The total number of joint stock companies in Kerala as on March 2013, is 21990 of which 93% are private limited and 7% public limited. During 2012-13, 2729 companies were newly registered (2680 private and 49 public) and 262 companies were wound up. Seven public companies were converted to private companies and 13 companies were converted from private to public. Details of joint stock companies working in Kerala are given in [Appendix 3.7](#).

Box 3.3

Newly Registered Government Companies during 2012-13

1. Kerala State Minorities Development Finance Corporation Limited
2. Vision Varkala Infrastructure Development Corporation Limited
3. Kerala State Welfare Corporation For Forward Communities Limited
4. Kerala Medical Infrastructure Development Limited
5. Kerala Monorail Corporation Limited

Micro Small and Medium Enterprises (MSMEs)

3.11 The Micro, Small and Medium Enterprises (MSME) sector is fast emerging into a major income generating and employment providing sector in Kerala with relatively lower investment. Kerala is one of the main centres of MSMEs in the country. As per the MSME survey & Quick Results of 4th Census 5.62 per cent of all India share of MSME enterprise is in Kerala. MSME sector can lead the State economy by increasing exports through quality production techniques and products. Government provides various schemes in MSME sector, targeting various social groups like SC, ST, Women, Youth, Physically Handicapped etc. In Kerala, Government and banks are providing lot of facilities for MSME Sector.

3.12 Within the MSME Sector there is a significant increase of Micro Enterprises, both in terms of working enterprises and employment. There are over 6000 various MSME products ranging from traditional to high-tech items which are manufactured in this sector.

3.13 MSMEs play a critical role in innovation, and have ability to experiment with new technologies on small scales. However, they often suffer from funds, lack of entrepreneurial spirit, inability to take technology developments risks and face the difficulty of attracting skilled manpower. 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.

3.14 The Industrial and Commercial Policy 2011 will strive to convert Kerala State into an entrepreneurial society from a wage earning society. (www.kerala.gov.in/docs/policies/draftic_policies11)
Draft Industrial and Commercial Policy in Kerala - 2011

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National Manufacturing Policy (NMP)

3.15 National Manufacturing Policy notified in November, 2011, with the objective to enhance the share of manufacturing in GDP to 25% and create 100 million jobs over a decade, gives importance to rationalization and simplification of business regulations, NIMZ, Incentives for SMEs, Industrial training & skill upgradation measures etc.

Profile of the MSME Sector

3.16 The number of New Enterprises filed Memorandum under MSMED Part II during the year 2012-13 was 13043. Out of which 413 MSMEs are by SC, 66 by ST and 3122 by Women. The number of new enterprises that filed Memorandum during 2012-13 shows 18 per cent increase against 11079 of the previous year. Investment on the sector decreased by 3 per cent from ` 190642.75 lakh of the previous year to ` 185074.41 lakh in 2012-13 while employment generated increased by about 4 per cent from 79181 to 81964. The value of goods and services produced in 2012-13 has been increased by 6 per cent ie, ` 621424.55 lakh over ` 584985.35 lakh in the previous year. The details are in [Appendix 3.8](#).

3.17 During the current year (as on 30.11.2013) 9048 new enterprises have filed memorandum with an investment of ` 134207.07 lakh to provide employment to 54707 persons. The details are given in [Appendix 3.9](#).

3.18 The total number of SSIs/MSMEs registered in Kerala as on 31.3.2013 is 219444 against 205987 in the previous year indicating a growth of about 7 per cent. Out of the total SSIs/MSMEs, 4 per cent are promoted by SCs, approximately 1 per cent by STs and 25 per cent by women entrepreneurs. The total investment was ` 1212674 lakh in 2012-13 against ` 1083169 lakh in the previous year, with an increase of almost 12 per cent and the total number of employment generated was 1103126 indicating more than 8 per cent over the previous year which was 1021162. Details of enterprises are given in [Appendix 3.10](#).

Performance of the sector for the past 5 years

3.19 Investment, number of new units, production & employment in MSME sector over the past years is shown in the figure 3.3 and 3.4. The employment & production has been increased over the period while investment decreased. The details is given in [Appendix 3.11](#).

Fig 3.3

Investment, Production & Employment in MSME sector over the past years from 2007-08 to 2012-13

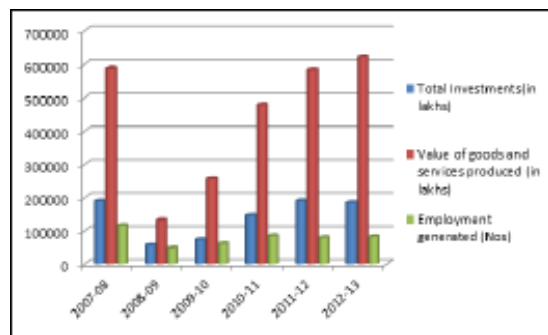
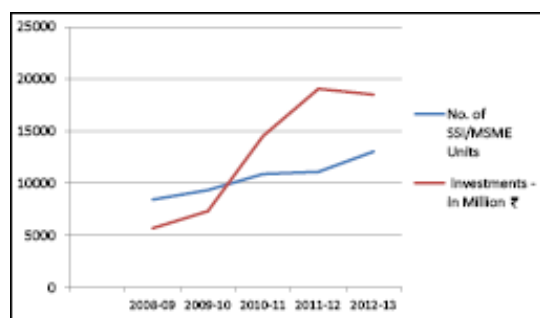


Fig 3.4

New units and Investment in MSME sector over last 5 years



District wise achievements

3.20 District wise analysis reveals that during the year under review, Ernakulam occupies highest position in all aspects with 1878 new MSME units and Idukki was at the lowest position except in total investment. Idukki has only 193 new MSME

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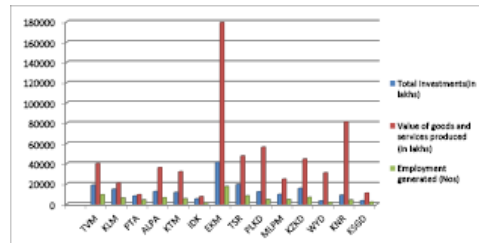
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units. The Wayanad District shows the minimum investment of ` 3296.74 lakh. But the maximum number of SSI/MSME units are in Thiruvananthapuram with 29720. Thrissur at second position.

3.21 Details of enterprises that filed memorandum & District-wise details of enterprises which filed memorandum in Kerala during 2012-13 and 2013-14 (up to 30.09.2013) are given in Fig 3.5.

Fig 3.5
District wise investment, Value and Employment of Enterprises registered in Kerala during 2012-13



Box 3.4
Major schemes/initiatives of the Annual Plans 2012-13 & 2013-14

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, Thrust Industries and enterprises starting in Wayanad and Idukki Districts.

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 Multistoried Industrial Estates and an exhibition cum convention centre.

Capacity Building

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

Development of Commerce

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

MSE-Cluster Development Programme

This is a Centrally Sponsored Scheme of cluster development for micro, small and medium enterprises and provide assistance for sourcing of raw material, mutual credit guarantee for sourcing loans, common brand creation, marketing, setting up of CFSC, training, quality testing etc. Infrastructure development is also incorporated in this programme.

Achievements

In the plan period, State Government created appropriate investment climate to attract private investment to MSME sector by providing assistance such as working capital, adequate infrastructure, skill development training and financial assistance for technology upgradation and participation in fairs & marketing. The Government also implemented schemes/programmes on revival and strengthening of existing industrial enterprises/units, modernization, product diversification and value addition. KINFRA started and established several new Initiatives in Food Processing through Food parks.

Industrial Co-operative Societies

3.22 In Kerala, the total number of working Industrial co-operative societies as on 31.3.2013 was 621 against 582 in the previous year. Out of which, 151 Societies were registered by women. The details are given in [Appendix 3.12](#).

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Industrial Development Plot / Areas

3.23 Directorate of Industries and Commerce (DIC) is providing and developing infrastructure facilities for small scale sector in the state. At present there are 38 DA/DP s under DIC having a total acquired area of 2478.51 Acre. A total of 2176 working units are working in these DA/DPs which was 2019 in the previous year. The details are given in [Appendix 3.13](#)

Mini Industrial Estates

3.24 The total number of Mini Industrial estates under DIC as on 31.3.2013 is 88 and the total number of SSI units are 753. (94 and 780 as on 31.03.2012). Out of which 659 units are working . The total number of employees under these units is 3153. The Income generated from these units is ` 2908.96 lakh. (2012 -Out of which 663 units were working. The total number of employees under the units were 3345. The Income generated from these units amounted to ` 11952.86 lakh during 2011-12.) The details are given in [Appendix 3.14](#).

Common Facility Service Centres

3.25 There are two Common Facility Service Centres at Changanassery and Manjeri under Directorate of Industries & Commerce. These CFSCs provide services like Quality Control testing as per National and International Standards, Design and fabrication of moulds, dies and machineries, Maintenance of costly machines used for rubber and plastic product manufacturing, Conducting EDPs and seminars on rubber and plastic based industries etc. Also they extend new technical information, advice on product diversification and assist research scholars and students for their Project works of in the field of Chemistry, Rubber Technology, Polymer Chemistry by utilising the facilities of the centres.

Entrepreneurship Development

3.26 Entrepreneurship is a process of identifying and starting a business venture, sourcing and organizing the required resources and taking both the risks and rewards associated with the venture. In Kerala, entrepreneurship is restricted to trade, transport and tourism, all of which are low knowledge-intensive sectors. The labour scenario in Kerala is also very challenging for entrepreneurs. It is envisioned that Kerala will be a knowledge economy by 2030.

Bank Credit to SSI / MSME Sector

3.27 RBI issued a master circular with the enactment of MSMED Act 2006, to all Scheduled Commercial Banks stating that the Bank Loans to Micro and Small enterprises, both Manufacturing and Service are eligible to be classified under Priority Sector advance and provide direct Finance to Manufacturing Enterprises, Loans for food and agro processing, Service Enterprises, Export Credit, Khadi and Village Industries Sector (KVI) and Rehabilitation of sick Micro and Small Enterprises. Public sector banks have been advised to open at least one specialised MSME branches in each district for Lending to MSME Sector.

3.28 As per State Level Bankers' Committee (SLBC), the highest body of bankers in the State, report, the outstanding bank credit to various sectors by the commercial banks in Kerala at the end of March 2013 was increased by 17 per cent ie. ` 175087 crore against ` 149293 crore in the previous year. The outstanding flow of credit to MSME sector was ` 23563 Crore which shows an increase of 14 per cent from ` 20593 crore in 2012-13. The status of flow of credit to various sectors is given in [Appendix 3.15](#).

Small Industries Development Bank of India (SIDBI)

3.29 Small Industries Development Bank of India (SIDBI) is the principal financial institution for the promotion, financing and development of MSME industries. It also acts as the nodal agency for the scheme sponsored by Government of India in this regard.

Kerala Small Industries Development Corporation (SIDCO)

3.30 Kerala Small Industries Development Corporation was established for strengthening the Small Scale Sectors in the State by providing infrastructure facilities, distribution of scarce raw materials, marketing the products etc. Execution of construction works for Industries department and public sector undertakings is another activity of SIDCO and there are some manufacturing units under SIDCO. There are 17 major industrial estates and 877 units are working in these estates. These working units provides nearly 7239 employment opportunities as on 31.03.2013 which is about 1 per cent more than that of the previous year. Besides, there are 36 mini industrial estates under SIDCO as on 31.03.2013.About 604 employees are working in 285 working units all over the state. Details of SIDCO are given in [Appendix 3.16](#), [3.17](#), [3.18](#) and [3.19](#).

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Institutes for Skill Development and Training

Kerala Institute for Entrepreneurship Development (KIED)

3.31 Kerala Institute for Entrepreneurship Development (KIED) is a Public Sector Training Institute registered under The Travancore-Cochin Literary, Scientific and Charitable Societies Registration Act. The institute is aimed to create awareness, finding the factors for the poor entrepreneurship culture and sorting out the issues for the development of entrepreneurial culture in Kerala. KIED is a premier institute promoted by Government of Kerala and Government of India for promotion and development of entrepreneurial activities in the State.

3.32 The institute conducts various programmes for developing the spirit of entrepreneurship among the people such as Entrepreneurial Awareness Campaign, Seminars, Workshops, Research etc leading to more and more self employment thereby developing the people of Kerala as an enterprising society.

Kerala State Self Entrepreneur Development Mission (KSSEDM)

3.33 The Kerala State Self Entrepreneurship Development Mission aims at inculcating entrepreneurial confidence among the youth of the State through a process of selecting persons with aptitude and earnestness, training them meticulously and enabling them to avail of finance on easy terms from Banks/Financial Institutions. The youth will be given opportunities in the agriculture and IT sectors. In a Panchayat-level scheme aimed at educated unemployed youth, KSSEDM providing training and soft loans to 10 select entrepreneurs in each Panchayat up to ` 20 lakh to start an enterprise.

Indus Entrepreneurs (TIE)

3.34 The Kerala Chapter of the Indus Entrepreneurs (TIE), a global not-for-profit organization, was registered in March 12, 2003 for providing advice, guidance and assistance to budding entrepreneurs by successful & experienced entrepreneurs and professionals.

Kerala State Small Industries Association (KSSIA)

3.35 Kerala State Small Industries Association establishes fellowship and co-operation among Small scale industrialists to protect their interests, publish journals, facilitate exchange of information etc.

Industrial Cluster Development

3.36 Industrial clusters are increasingly recognised as an effective means of industrial development and promotion of small and medium-sized enterprises. For MSME participants, clusters play an important role in their inclusiveness, technology absorption, efficiency improvement and availability of common resources. The Ministry of Micro, Small and Medium Enterprises (MSMEs) adopted the cluster approach as a key strategy for enhancing the productivity and competitiveness as well as capacity building of small enterprises.

3.37 The major clusters in Kerala are Rubber cluster, Rice millers cluster, Furniture cluster, Plastic cluster, Plywood cluster, Terra Tile cluster, Wood cluster, Ethnic food processing cluster, General engineering cluster, Printers cluster, Natural Fibre & allied products cluster, Automobile cluster, and Note books cluster.

3.38 The Ministry of MSME, Government of India provides financial assistance for setting up of Common Facility Centers (CFC) in various clusters under MSE-CDP scheme. Government of India has sanctioned assistance for a total amount of ` 5492.25 lakh for setting up CFC in 7 clusters, (work is progressing on 4 of them) of which Government of India share is ` 3593.91 lakh, Government of Kerala share is ` 1084.00 lakh and balance is the share of consortium.

MSME Development Institute, Thrissur & Cluster Development in Kerala

3.39 MSME-Development Institute, Thrissur, Kerala (MSME-DI, Thrissur), is the field outfit of Development Commissioner(MSME) under the Ministry of MSME, Government of India to take care of the needs of MSME sector in the State of Kerala and the Union Territory of Lakshadweep in the area of Techno-economic and managerial consultancy services.

3.40 The institute has conducted 165 tailor made development training programme on Entrepreneurship Development, motivation campaigns, Business Skill Development, Entrepreneurship Skill Development, Management Development and Special Skill Development and several Educational Seminars and other awareness programmes during 2012-13. 6625 persons benefited through these programmes. and 188 units are benefited through service workshop. The institute has been providing technical consultancy to the units for acquiring ISO 9000/14000 scheme and also providing reimbursement to the extent of 75 per cent of the expenses incurred by the units under the scheme.

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3.41 MSME-DI, Thrissur has taken up 13 clusters for development. The clusters which are in various stages of development are in the areas of Wood, Plywood, Furniture, Rubber, Terratile, Rice Mill, Plastic, Printers, Ethnic Food, Natural Fibres and General Engineering. Details are given in [Appendix 3.20](#).

Kerala Bureau of Industrial Promotion (K-BIP)

3.42 Kerala Bureau of Industrial Promotion(K-BIP) is designated as the nodal agency of Ministry of MSME, GOI for the cluster development projects in the state. The programmes undertaken by K-Bip includes Industrial Cluster Development in association with Directorate of Industries and Commerce, Food Processing Certification (HACCP), Participation in National/International/Regional fairs on behalf of Industries Department, Govt.of Kerala.

Central Govt. Schemes & Programmes

Prime Minister's Employment Generation Programme (PMEGP)

3.43 Government of India introduced PMEGP Scheme, ie, credit linked subsidy programme from 2008-09 by merging the two schemes viz,PMRY and REGP.The Khadi and Village Industries Commission (KVIC) was approved as the nodal agency for implementation of the scheme at national level. In Kerala, State KVIC Directorate, State Khadi and Village Industries Board(KVIB), District Industries Centres (DICs) and bankers are the agencies for implementation of the scheme. A target of 568 number of units were allocated to DICs and 2480 applications were received during the year 2012-13, 123% increment compared to 1112 during 2011-12. The banks sanctioned 1304 applications about 53% more than 851 in the previous year and provided Margin Money of `1513.44 lakh which is 30% more than ` 1162.13 lakh in 2011-12. Details are given in [Appendix 3.21](#) and [3.22](#).

Micro & Small Enterprises-Cluster Development Programme (MSE-CDP)

3.44 The Micro & Small Enterprises-Cluster Development Programme of the Ministry of MSME, Government of India aims at enhancing the productivity and competitiveness as well as capacity building of Micro and Small Enterprises (MSEs) and their collectives in the country. The main objectives of the programme are to support the sustainability and growth of MSEs by addressing common issues, building capacity of MSEs and creating sufficient infrastructural facilities & common facility centres.

Industrial Infrastructure Upgradation Scheme (IIUS)

3.45 The central sector scheme Industrial Infrastructure Upgradation Scheme (IIUS) of Ministry of Commerce& Industry aims to enhance international competitiveness of the domestic industry by providing quality infrastructure through Public-Private Partnership approach in clusters/locations which have greater potential to become globally competitive. Priority will be given to develop clusters having small industry concentration.

Credit Guarantee Scheme

3.46 This scheme is implemented with the objective of facilitating flow of credit to the MSEs, particularly to Micro Enterprises.

Credit Linked Capital Subsidy Scheme for Micro and Small Enterprises (CLCSS) for MSEs

3.47 This scheme aims at facilitating technology upgradation of MSEs by providing 15 per cent capital subsidy for purchase of plant and machinery.

Food Processing - A major MSME sector

3.48 Food processing industry is a sunrise sector that has gained prominence over the recent years. As per Annual Survey on Industry results, in India, the contribution of food processing sector to GDP has been growing faster than that of the agriculture sector. Declared a priority sector, food processing has been allowed a 100 per cent FDI by the Government of India. In Kerala, it has the potential for sustainable and more inclusive growth, diversification, possibility of generating substantial employment and further advancement in respect of industrial development in urban and rural areas. The FPI in Kerala spreads over both organized as well as unorganized sectors. Spices, pickles and the marine products are the major food product export from Kerala. Two thirds of Kerala's export income comes from processed food. Dairy products, Fish/Meat products, Rice & wheat products, Ready to eat/ Ready to cook products and bakery products, masala powder, Coconut & other oils, Ayurvedic medicines, Fruit juices etc. are the major food items produced in the State.

3.49 Kerala Industrial Infrastructure Development Corporation (KINFRA) has set up exclusive Food Processing Parks to suit the specific needs of the food processing sector and they offer space for food processing units in their Industrial parks also. Out of these Mazhuvannur (Ernakulam) and Kakkancherry (Malappuram) food processing parks are having the highest number of units. KINFRA provides 4114 sq.ft space for 132 food Processing Units with an investment of ` 26979

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lakh.

3.50 The National Centre for Hazard Analysis Critical Control Point (HACCP) Certification in association with K-BIP has initiated the process of auditing and certification of 41 food processing and allied units from the State and outside the State. Out of this, NCHC has successfully audited and certified 25 food processing units and the remaining is under progress. Surveillance audits are being conducted at regular intervals.

Box 3.5

State Food Processing Mission, Kerala

The Government of Kerala has nominated KINFRA as the Nodal Agency for State Food Processing Mission in Kerala for implementation of centrally sponsored scheme "National Mission on Food Processing" under Ministry of Food Processing Industries, Govt. of India. Setting up of new food processing units, modernization/expansion of existing ones, development of cold chain infrastructure, human resource development for food processing sector, proper infrastructure for abattoirs/meat shops, development of primary processing centres and collection centres in rural areas for assisting farmers, promotional activities etc are the thrust areas covered under State Food Processing Mission. The Mission has sanctioned ` 3.72 crore in 2012-13 and ` 2.00 crore till November in 2013-14 under various schemes. KINFRA is also the Nodal Agency for Ministry of Food Processing Industries, Govt. of India.

General Promotional Activities and Exhibitions

3.51 The Directorate of Industries and Commerce conducted/participated in 31 Exhibitions /Fairs /Expos inside Kerala with 1125 stalls in 2012-13 and generated an income of ` 13.04 Crore. The DIC represented Kerala in 8 national/international Exhibitions/ Fairs/ Expos outside Kerala with 17 stalls. Details are given in [Appendix 3.23](#).

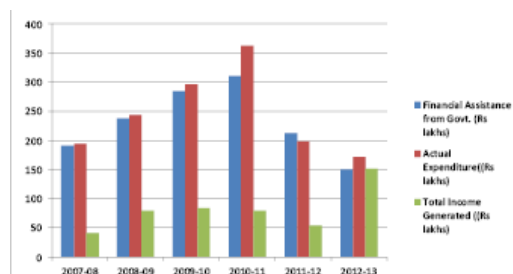
3.52 Government of Kerala has organised several Promotional Activities/ programmes and expos in co-ordination with Directorate of Industries & Commerce and other departments as follows:

Industry Institution Linkage Expo (Illuminate 2012), an Industry Institution Linkage Expo at Manjeri, Malappuram from April 2 to 4, 2012.

- Emerging Kerala 2012, at Hotel Le Meridian, Ernakulam from September 12 to 14, 2012.
- Kerala Bamboo Fest 2012, 9th edition at Jawaharlal Nehru Stadium Ground, Kaloor, Kochi from December 6 to 9, 2012.
- Nilambur Handicrafts Skill Development Fair 2013, concurrent to Pattulsav Tourism Festival at Nilambur from January 8 to 18, 2013.
- Kerala Agri Food Pro Meet 2013, at Jawaharlal Nehru Stadium Ground, Kaloor, Kochi from February 17 to 19, 2013
- Educational Industry Institution Linkage Expo (Illuminate 2013), at Malappuram from April 19 to May 1, 2013.

Fig 3.6

Result of Exhibition & Fairs conducted by Department of Industries & Commerce inside the State



Outlook - MSME Sector

3.53 Lack of space, poor quality infrastructure and lack of sufficient entrepreneurial spirit are the main constraints in Micro, Small and medium scale industrial development in the state. Hence State should concentrate on design oriented and value based industries by clearly assessing the latest market trends and finding ways to collect adequate raw material

3.54 In a densely populated state like Kerala, multi-storied industrial galas/ parks built, where required are ideal. Land pooling techniques can be used on uncultivable / unused land identified at district level for this purpose and the cost of Government land should be rationalized.

3.55 The labour productivity and output per unit of capital in Kerala has always been less than the national average. Also the labour scenario under active trade unions in Kerala is very challenging for entrepreneurs. To improve entrepreneurial

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spirit among people, awareness programmes based on specific, innovative studies in small industries, diversity of products, technical know-how and value addition should be promoted. Financial Assistance to new worthy entrepreneurs for preparing good project reports, gaining technical know how and for maintenance of imported machines in the industrial units should be ensured.

3.56 Industrial effluent is a big issue. The focus would continue to be pollution free, power saving, Green and Eco-Friendly light manufacturing / traditional industries, with ethical and fair labour standards.

3.57 The traditional sector should be enhanced by producing value added, innovation driven, design oriented, socially and environmentally sustainable products like hand worked fabrics as these are a market niche, a small market segment in which the product features aimed at satisfying specific market needs, as well as the price range, production quality and the demographics that is intended to impact. The skill development programmes, cluster development, enhanced wage rates and trained private players for better profit making management could attract the young generation. Thus the structure of industry should be shifted from resource driven to efficiency driven in long run. It is important to assess actually how much people get benefitted from the traditional sector.

Traditional Industries

Textile Industry

3.58 Kerala's textile industry comprises of traditional handloom sector, powerloom sector, weaving and spinning sector.

Handloom Sector

3.59 The Handloom Sector in Kerala stands second to the coir sector in providing employment among the traditional industries of the State. The Handloom Industry in the State is mainly concentrated in Thiruvananthapuram and Kannur District and in some parts of Kozhikode, Palakkad, Thrissur, Ernakulam, Kollam and Kasaragod Districts. The Industry is dominated by the Co-operative sector, covering 94 per cent of total looms. The remaining 6 per cent of Handlooms units are owned by Industrial entrepreneurs. The Co-operative sector consists of factory type and cottage type societies. There were 664 registered Primary Handloom Weavers Co-operative Societies in the State as on November, 2013, indicating a 12 per cent increase from March 2012. Of the 664 registered Primary Handloom Weavers Co-operative Societies, 153 are factory type and 511 are Cottage type societies. Of these 664 societies, 431 are in working condition as in November 2013. Details are given in [Appendix 3.24](#).

3.60 The major varieties of products produced in the handloom sector of the State are dhothis, furnishing material, bed sheets, shirting, saree and lungi. These items contribute about 67 per cent of the total production of handlooms sector. About 80 per cent of the major items are produced in the southern region followed by Northern region (12 per cent) and Central region (6 per cent). Of the total production, nearly 95 per cent is contributed by the co-operative sector.

Box 3.6

Traditional Industries in Approach Paper to Twelfth Five Year Plan (2012-17) - Kerala

- Efforts of the Government shall be towards revamping the sector and making them sustainable.
- Thrust areas identified are enhancing export earnings, technology upgradation, product diversification / value addition, market promotion and skill development.

Box 3.7

Major schemes introduced in Annual Plan 2012-13

1) Self Employment under Handloom Sector

The aim is to attract new generation entrepreneurs by providing training, marketing support and margin money to set up units.

2) Weavers / allied workers motivation programme

The scheme aims to motivate weavers / allied workers to enhance production by providing attractive incentives.

3) Establishment of Handloom Village and Integrated Handloom Village

The aim is to provide assistance to build infrastructure for establishing Handloom Villages and Integrated Handloom Villages in the state to showcase the rich old craftsmanship, evolution of the industry, and the processes/ activities involved in making handloom products.

Government Assistance extended for the development of handloom industry, by way of loan and grant in the 12th Plan and 2012-13 is shown in [Appendix 3.25](#).

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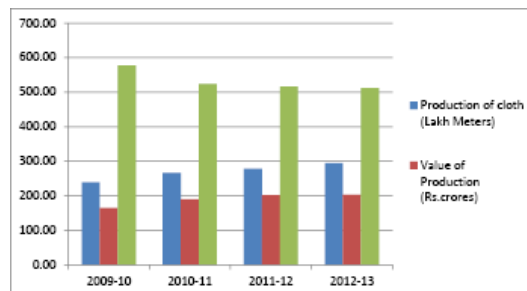
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3.61 The total value of production shows an increase of 10 per cent from 202.14 crores in 2011-12 to 222.87 crores in 2012-13. The total number of weavers employed has increased from 49930 in 2011-12 to 50433 in 2012-13. The number of women employed is also increased from 20784 in 2011-12 to 21434 in 2012-13. The total number of employment generated has increased from 90.32 lakh man days in 2011-12 to 105.86 lakh man days in 2012-13. Details are given in [Appendix 3.26](#) and in Fig 3.7.

3.62 The membership in Kerala Handloom Workers Welfare Fund Board is 32297. As per the Handloom Census of India 2009-10, (Ministry of Textiles, Govt of India) there are around 12,000 Handloom Households in Kerala. Assuming an average of two active weavers per family, the total number of weavers in the state would be about 24000. As per the report of the Survey on Handloom Sector in Kerala 2009, there were 469 societies in Kerala. The total membership in these societies was 65964, of which only 57,405 (87%) were active in the industry. Hence there existed an ambiguity regarding the size of employment in the sector. To solve the issue, a new scheme 'Detailed Survey on Handloom Industry in Kerala' has been initiated in Annual Plan 2013-14.

Fig 3.7
Production and Employment in Handloom sector



Promotional measures of handloom sector

3.63 Promotional measures of handloom sector such as procurement, sales and marketing of handloom fabrics are being undertaken by two state level organisations namely Hantex and Hanveev.

3.64 Hantex is the apex society of handloom co-operative societies in the state. Number of PHWCS registered under Hantex is 504. Despite grants and loans being given to the society, the organisation is running at a loss as per the balance sheet of the year 2012-13. The working results of Hantex are given in [Appendix 3.27](#).

3.65 Hanveev is a PSU setup to assist handloom weavers outside the co-operative fold by providing necessary raw materials at reasonable price and making arrangements for marketing their products. This organisation is also running in losses. The working results of Hanveev are given in [Appendix 3.28](#) & [3.29](#). Hanveev conducted 30 exhibitions during 2012-13 and the sales turnover was `1646.29 lakh.

Box 3.8

Issues in the Handloom sector – As identified by the 12th Plan Working Group Report on MSME and Traditional Industries (Kerala)

1. Low productivity due to lack of technology intervention & poor market segmentation
2. Competition from cheap power loom fabrics and dumping of cheap fabric from outside state.
3. Lack of emphasis on quality and innovative designs of handloom products in market.
4. Lack of product diversification in accordance with new trends.
5. Difficulty in getting workers due to low wages & difficulty to avail credit facility.
6. Lack of working capital and fluctuation in hank yarn price.
7. Weak performance of apex societies and organizations.

Textile Sector – Spinning Mills

3.66 The Textile Industry in Kerala is spread over in public sector as well as in Co-operative Sector and there exists 13 Spinning Mills jointly in the public/ co-operative sector.

3.67 Kerala State Co-operative Textile Federation (TEXFED) has 7 Co-operative Spinning Mills as members. Five of them

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are administered by the Government and two have elected boards. Spinning Industry in Kerala is facing deep crisis due to high cost of inputs, competition from power loom sector and loss of market share. The Mills in Co-operative Sector slipped into the huge accumulated losses amounting to ` 132.52 crore. From 2006 onwards the Government has placed great emphasis on the day to day activities of these mills. Efforts are on to bring a turnaround towards profitability and imbibing financial discipline.

3.68 An amount of about ` 43 crore have already been provided to these mills in the Eleventh Five Year Plan Period, including the NCDG approved revival packages of Malappuram and Cannanore Co-operative Spinning Mills. The 4 spinning mills under KSTC show a declining trend in production. The first phase modernisation of Malappuram and Cannore Co-operative Spinning Mills have been completed and second phase modernisation has started.

3.69 The Co-operative Spinning Mills in the State were formed with a social objective to provide raw material support to the traditional handloom weavers of the state. This support has been stopped in 1999. Instead an integrated approach for the industry has been put in place with establishment of three hank yarn production centres by the Government at Cannanore, Alleppey and Trichur Co-operative Spinning Mills to provide raw material support to the weavers.

Issues of the spinning sector

3.70 The main handicaps faced by the Mills were the lack of working capital and non availability of raw materials. The Government has put in place a centralised purchase system to procure cotton for the entire textile sector through professionally constituted committee comprising of RIAB, TEXTFED and KSTC. The sale of yarn through the depot is also monitored by the committee. Consequently raw material cost has come down heavily, sufficient savings are being generated due to which revenue and turnover has improved.

3.71 Majority of textile spinning mills in the State are over 25 years old and are obsolescent. Even though partial modernization has been done in certain units, it was not at par with the industry standards.

Power loom

3.72 In the power loom sector there are 21 working co-operative societies. Out of the 963 powerlooms in the State, 68 per cent are in the co-operative sector and the rest in the private sector. Comparing the figures for 2011-12 and 2012-13 it is noted that the production of cloth and the value of production has declined in the case of Co-op Sector, and increased in the case of the rest. Details are given in [Appendix 3.30](#).

3.73 The five integrated power loom co-operative societies in the state at Calicut, Wayanad, Neyyattinkara, Kottayam and Malappuram have been accelerated by providing budgetary support.

3.74 The Calicut Integrated Power loom Co-operative Society Ltd., has been converted as a textile park comprising all the segments of a composite mill, with semi automatic and automatic powerlooms together. A modern processing unit to process yarn for both handloom and power loom with modern facilities and a garment making unit with state of art technology and professionally trained manpower is also functioning in this project.

3.75 In Wayanad, the remotest district in Kerala which is lacking industrial initiatives, rehabilitation cum industrial project is functioning. As part of it, a powerloom production centre has started in Thirunelli for tribal women folk for providing training. This will be converted as an employment generating centre in Powerloom & Handloom for adivasi women. Integrated Power loom Co-operative Societies in Neyyattinkara and Kottayam has also been activated and are in the process of production of grey cloth and some conversion orders for export market. The sizing unit functioning at Kottayam is activated as a common facility centre for all the integrated power loom Co-operative societies in the state.

Handicrafts

3.76 Handicraft industry is one of the traditional industries of Kerala, providing employment to Artisans. Eighty per cent of these artisans 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 and so on. Many old handicraft classics can be seen in Palaces, old heritage homes and museums in the State.

Importance of Handicraft Industry

3.77 Kerala State Handicrafts Apex Co-operative Society (SURABHI), Handicrafts Development Corporation and Artisans Development Corporation are the major promotional agencies in the handicraft industry. SURABHI is the apex organization of primary handicrafts co-operatives established with a view to uplift the artisans by marketing the product produced by the primary co-operatives and implementing welfare schemes with the assistance from State and Central Governments.

3.78 Handicrafts Development Corporation of Kerala is engaged in procuring and marketing handicraft products by giving

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fair returns to artisans through SMSE Institute and Kairali emporia spread all over India. At present it is having a net work of 19 such sales emporia. HDCK also owns a Common Facility Service Centre (CFSC) at Thiruvananthapuram where lot of artisans are provided with the facilities for the development of crafts. The Kerala Artisans Development Corporation (KADCO) is one of the State agencies to provide assistance to artisans for establishing production units, promoting marketing of products and providing employment opportunities through schemes of trade fairs and marketing centres.

Bamboo Industry

3.79 The importance of Bamboo as an Eco-friendly raw material capable of meeting multifarious needs of the people at large is gaining global acceptance. From a raw material known as the "poor man's timber" bamboo is currently being elevated to the status of "the timber of the 21st century". A unique feature of the Kerala bamboo scene is that 67.3 % of the extracted bamboo comes from home gardens rather than from the forests.

3.80 The Kerala State Bamboo Corporation Ltd. was established in 1971 in Kerala to develop and promote industries based on Bamboo, reed, cane and rattan. Kerala State Bamboo Corporation's main activity is collection of good quality reeds from Government forests and distributing these reeds to the registered mat weavers of the Corporation, throughout the State of Kerala, on credit basis and procuring woven mats made of these reeds at reasonable prices, thus providing employment and regular means of livelihood to these weaver sections of the society. Bamboo mats, Bamboo ply, Flattened board, Flooring tiles are the main products.

Box 3.9

Handicrafts Sector in Annual Plan 2012-13 & 2013-14

Major Objectives

Share Capital Contribution to Handicrafts Primary Co-operative Societies

To provide Share Capital Contribution to Handicrafts Primary Co-operative Societies for strengthening their equity base. The scheme helps to acquire additional assets which will create more employment and quantify the production.

Assistance to Apex Organizations in Handicrafts Sector

For extending assistance based on definite projects to the following Apex organizations in the Sector.

Entrepreneur Assistance Scheme in Handicrafts/Artisans Sector

To provide term loan to those beneficiaries not belonging to backward classes or minorities, but who are below poverty line and are artisans, on the same terms and conditions as given by NBCFDC and NMFDC.

Establishment of Common Facility Service Centers for Handicrafts

For giving training in handicrafts, quality testing, machine based job works, dyeing, polishing and printing works, modernisation of handicrafts units, development and promotion of new designs and establishment of CFSCs.

Development of Bamboo related Industries

For conducting skill upgradation training programmes for artisans and craftsmen in making diversified and value added products of bamboo, for increasing the sales of bamboo products by promotional activities inside the State like participation in regional and state exhibitions, Organize 'Kerala Bamboo Fest', Promoting Art & Designs, etc.

An amount of ` 370.00 lakh was provided in the Annual Budget 2012-13 for the implementation of the above said schemes in the sector through the apex bodies SURABHI, HDCK, KADCO, KSBC and Bamboo Mission.

Plan Outlay and Expenditure in this sector for last two years

(` in Lakhs)

Annual Plan 2012-13		Annual Plan 2013-14	
Outlay	Expenditure	Outlay	Expenditure
350.00	348.25	431.00	50.00*

*Up to November. Expenditure is likely to pick up in the last quarter of 2013-14.

Achievements

SURABHI conducted 6 exhibitions participating hundreds of artisans and carried out sales through its 16 showrooms inside & outside Kerala. The turnover of the society during the year 2012-13 was ` 293.50 lakh. During 2013-14 the society conducted 5 exhibitions and the total turnover is ` 143 lakh.

KADCO conducted 4 Grihastha training programmes for about 400 female handicraft workers and provided loan to 98 artisans under NBCFDC loan scheme. Through Service & Supply scheme which is benefited to more than 100 units and

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above 3000 artisans, KADCO made a turnover of ` 13.29 Crore and a profit of ` 22.53 lakh in the year 2012-13.

Khadi and Village Industries

3.81 Khadi & Village Industries play a substantial role in generating employment in rural areas with minimum investment. These industries use eco-friendly, local resources and generate higher employment opportunities. "The Kerala Khadi and Village Industries Board is a statutory body constituted by the Act IX of 1957 Legislative Assembly. It is vested with the responsibility of organizing, developing and promoting Khadi and Village Industries in the State. Co-operative Societies, registered institutions and departmental units carry out activities of the Board by availing financial assistance from State Government, Khadi Commission and Nationalised Banks. The Board has achieved 100 per cent financial targets in 2012 and 2013.

Activities during the year 2012-13

3.82 The State Government had provided and released a sum of ` 1185 lakh under plan during the year 2012-13. In addition to this, an amount of ` 96 lakh has been received from State Government towards Modernisation of Khadi Sector under re-appropriation and ` 2000 lakh has been received from the State Government towards Income Support Scheme. The Board had also received ` 2094.84 lakh under Non-Plan Administrative Expenses. An amount of ` 550 lakh has been received towards Special Rebate on retail sale of Khadi throughout the year and a sum of ` 600 lakh has been received towards Special Rebate on retail sale of Khadi on Festival Seasons (for 108 days) under Non-Plan during the year 2012-13. The Khadi and Village Industries Commission had released an amount of ` 829.86 lakh (ie ` 824.76 lakh as Margin Money Grant and ` 5.10 lakh for Publicity) to the Board under Prime Minister's Employment Generation Programme (PMEGP)

Box 3.10

Performance of Khadi Sector during 2012 and 2013

Under Prime Ministers Employment Generation Programme (PMEGP)

An amount of ` 829.86 lakh was disbursed as margin money grant for 374 projects. This generated 335 jobs under Special Employment Generation programmes, 2365 units were set up with total cost of ` 2665 lakh and an amount of ` 200 lakh was given as a subsidy (District wise achievement are shown in [Appendix 3.31](#)).

Goods worth ` 29052.18 lakh were produced and goods for 33830.96 lakh were sold by providing employment of 24852 persons. (Details of value of production, sales, employment, and wages paid are given in [Appendix 3.32](#)).

Under the Expansion and modernisation of sliver project of Ettukudukka in Kannur, a new carding machine and a simplex machine have been purchased and installed.

Board conducted Onam Mela to propagate Khadi.

Goods worth ` 3464-19 lakh has been sold through 216 sales outlets of Khadi & Village Industries. (District wise details are shown in [Appendix 3.33](#)).

An amount of ` 20 crore has been received from Government under Income Support Scheme and disbursed to 11,193 Artisans in the Khadi Sector.

Goods worth ` 560.48 crore has been produced through the aided units of the Board and provided employment to 1,60,202 person.

Box 3.11

Major Schemes in the Khadi sector 2013-14

Scheme	Outlay (` in lakh)
1. Establishment and strengthening of Departmental Khadi production Centres	335
2. Production / Festival Incentive to Khadi Spinners and Weavers. Establishment of new Khadi sales outlets, Modernisation & Computerization of existing sales outlets and Godowns to Khadi Board	241.55
3. Special Employment Generation Programme	450

3.83 The strategy for achieving growth during the 12th plan is to develop product-wise clusters of Khadi and Village Industries products and to develop their domestic as well as export market. Other strategies include introducing innovations

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in design and technology, creation of entrepreneurship and growth in manufacturing in rural non-farm sector to prevent migration by enhanced allocation for Prime Ministers Employment Generation programme.

Coir Industry

3.84 Coir Industry is a major traditional industry in Kerala in terms of the employment generation and foreign exchange it earns. It provides livelihood to nearly 3.75 lakh people. Government has given more emphasis on Coir Industry by considering the social features and problems faced by it. Kerala accounts for about 85% of the total production of coir in the country. The availability of coconut husks, the basic raw material, the natural retting facilities present in the lakes, lagoons and backwaters of Kerala and the traditional expertise of the people of the state were the reasons for the concentration and growth of the industry in the state, especially in the coastal area. The Coir Industry is classified into four sectors viz: Retting and Fibre Extraction Sector, Spinning Sector, Manufacturing Sector and Export Sector.

Major Institutions in Coir Sector

1) Foam Mattings (India) Limited

3.85 In FOMIL the accent is on technology, infrastructure and machinery, which are visible from its quality products. Great care is taken to maintain the world class standards of FOMIL production facilities. The latex backing plant, which were imported from Denmark, is one of its kinds in India. It has a capacity to latex back up to 3.3 million sq.m. of matting 4 metre width, per annum on three shift basis.. Company is providing employment to 163 persons. Sales turnover to FOMIL during 2012 -13 is ` 622.38 lakh.

2) Coirfed

3.86 The Kerala State Co-operative Coir Marketing Federation Ltd. 679 (Coirfed) is the apex federation of primary coir co-operative societies spread all over Kerala. The main objective of the federation is the procurement of the entire product of the member societies and marketing the same through its sales outlet throughout the country and thereby providing fair wages and subsistence to the poor coir workers of Kerala. At present Coirfed has two factories engaged in the manufactures of value added products – One producing rubberized coir products and the other rubber backed coir mats.

Coirfed has 4 Defibering Units.

3) Kerala State Coir Corporation

3.87 The Kerala State Coir Corporation Limited was established in 1969 to cater the needs of the Small Scale Coir Manufacturer by providing them manufacturing and marketing opportunities. It has three production units in Kerala Establishment of one more unit in Adoor, is in progress. Kerala State Coir Corporation has vast infrastructure in terms of land and buildings. However the productivity of employees, material and money is not high enough to compete with private entrepreneurs. The cost of production is the main component which needs to be brought down. To make the product of Coir Corporation competitive in market, the assistance of technically and professionally competent personnel is needed in every department. The compensation /salary package offered is not found lucrative to attract the best hands to this industry.

3.88 Kerala State Coir Corporation is implementing in Purchase Price Stabilization Scheme (PPSS) in Coir Sector. Under the scheme the Kerala State Coir Corporation will directly procure coir products from Small Scale Producers. Mats & Mattings Co-operatives and alike there by avoiding middle men. Details of export by Coir public sector undertaking /Coirfed is in [Appendix 3.34](#).

4) National Coir Research & Management Institute

3.89 The National Coir Research & Management Institute, strengthen the Research & Development activities of Coir Sector to enable the industry to produce more value added and new design products at a reasonable, but competitive price. The National Coir Research & Management Institute has developed a Mini Defibering machine capable of defibering 3000-4000 husk per day. These machines supplied to coir co-operative societies on 100% subsidy and private sector, at 50% subsidy and 60 per cent on SHG. Around 198 Defibering machines were supplied on demand.

Major development activities

Major development activities in the sector during the period of report are as follows:-

(a) The Coir Development Department has organized “Coir Kerala 2013” an international event on coir and natural fibre products at Alappuzha. This fair witnessed participation of buyers from 52 countries apart from those within India

b) Debt Relief Schemes for Co-operative Sector / Entrepreneurs

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Government of Kerala implemented a scheme to provide one time assistance as debt relief to coir co-operatives/Entrepreneur's in the coir sector for the settlement of loan availed to set up coir industry. The Government support is to nullify loan arrears subject to certain limits. During the year 2012-13, an amount of ₹ 1,30,000/- has been sanctioned to 2 societies and ₹ 12,57,047/- to 60 small scale producers under the scheme.

c) Working Capital Assistance to Coir Co-operative

The major issue of the Coir Co-operatives is shortage of working capital. In order to overcome the hurdle the Government of Kerala has released an amount of ₹ 8,96,92,648/- to 440 Coir Co-operative Societies as working capital assistance during 2012-13. (Details of Coir Co-operative societies in Kerala in [Appendix 3.35](#) and Activities of coir Co-operative societies in [Appendix 3.36](#))

d) Husk Collection Scheme

The major hurdle in the coir sector is the shortage of sufficient quantity of husk and also poor mechanism to collect the husk. Government of Kerala has launched a scheme of husk collection. Under the scheme, the activity of collecting husk is done through Coir Co-operative Societies and Consortia. The husk collection scheme was modified and under the modified scheme revolving fund to the tune of ₹ 1,00,000/- can be sanctioned to societies engaging in the collection of husk for their use. And the worker, who collects the husk will be given a financial assistance as incentive. Under the scheme 3,73,28,380 Nos. of husk has been collected during 2012-13.

e) Cluster Development Programme

An amount of ₹ 46,89,950/- is released to 4 societies, Coirfed and Kerala State Coir Corporation during 2012-13, under the scheme.

f) Production and Marketing Incentive

An amount of ₹ 300 lakh has been sanctioned and released to 278 societies under the scheme during the period 2012-13.

g) Marketing Development Assistance:-

An amount of ₹ 8 crore has been released as follows during the period of report in Table

Table 3.2
Market Development Assistance

Coir Societies	₹ 4453690/-
Kerala State Coir Corporation	₹ 49789030/-
Foam Mattings (India) Ltd	₹ 2360938/-
Coirfed	₹ 23396342

h) Income Support Scheme

Government of Kerala introduced a scheme ensuring at least ₹ 210/- as wages per day for the works in the yarn sector providing a portion of the wage directly for the year 2012-13. Under the scheme the enhanced portion of wage will be released direct to the bank account of the coir workers, by utilizing Government fund. The wage increased to ` 260/- from 01.05.2013 onwards.

i) Pension to Coir Workers

A total amount of ` 3,200 lakh has been released as pensions to 60,000 coir workers during the period under report.

Box 3.12

Major Schemes in the Coir Sector 2013-14

Schemes	Objective	Allocation (₹ in lakhs)
Regulated Mechanization of Coir Industry	Modernisation of Coir Industry and enhancement of production	6858.85
Marketing and publicity	Organising trade fairs at State National and International	950.00
Price Fluctuation Fund	Stabilization of price of coir fibre yarn and coir products	1500.00

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Coir Geo Textiles Development Programme	Implementing pilot projects inclusion of Geo textiles as a standard Engineering material	30.00
Cluster Development Programme	Formation of clusters as per direction from Government	250.00

Box 3.13**Challenges and Remedial Measures in Coir Sector**

CHALLENGES IN COIR INDUSTRY	REMEDIAL MEASURES REQUIRED
Husk Procurement not achieved as desired, Shortage of Fibre in the State Frequent hike in price of Fibre in neighbouring States	Strengthening of Husk collection and Fibre Production
Health and environment issues in traditional method in retting and husk beating Low Productivity	Mechanisation in Fibre Extraction, spinning and weaving sector
Competition from synthetic and other cheaper substitutes	Diversification in Coir production Focus on Coir Geo-textiles
Lack of professional management system	Skill and Technology Development for coir workers Modernisation and Technology up gradation in spinning and product development
Migration of workers to construction and other areas	Introducing home concept in spinning sector Strengthening Cluster based activities in Coir Sector from clusters Strengthening support institutions and R & D Providing financial assistance to purchase land for selected societies, Revival of dormant Coir Co-operative

[Industry](#)[MSME](#)[Industrial Cluster](#)[Central Schemes and Programmes](#)[Traditional Industries](#)[Major initiatives of Annual plan](#)[Industrial Financing](#)[Labour welfare](#)[Unemployment Situation](#)[Employment in the Organised Sector](#)[Employment in Unorganised Sector](#)[Top](#)[Other Chapters](#)**Cashew Industry**

3.90 India is the largest producer, processor, exporter, and the second largest consumer of cashew in the world which is an important commercial horticulture crop. India's processing capacity of cashew far exceeds its production of raw nuts, with only half of the cashews processed in the country being produced domestically. The industry is highly dependent on imported raw-materials for value addition and the export marketing is highly competitive which is the most unfortunate situation. One of the key factors in favour of expanding the cashew industry in India is the stable price in the International market when compared to other nuts.

Importance of Cashew industry

3.91 The Cashew Industry in Kerala is a Traditional Industry mainly concentrated in Kollam District and is mainly controlled by private sector. The industry has a long history of employing large numbers of workers in decentralised units. The industry is highly labour intensive which employs more than 3, 00,000 workers, barely literate and majority of them are women. The skills of these workers do not include any entrepreneurial capacities and Cashew processing is a highly labour-intensive activity which includes grading and packaging of finished products. Export of Cashew & Foreign exchange earnings are given under Trade in Chapter 6.

3.92 The Kerala State Cashew Development Corporation (KSCDC) and Kerala State Cashew Workers Apex Co-operative Society (CAPEX) are the two agencies of the State engaged in cashew processing sector in Kerala. CAPEX with headquarters in Kollam, is the apex body of cashew workers primary societies engaged in the procurement of raw cashew nuts and marketing the processed kernels. The Society owns 10 factories. There are about 6300 workers. The performance of CAPEX by the last 5 years is given in [Appendix 3.37](#). The Kerala State Cashew Development Corporation (KSCDC) has 30 factories with about 18000 workers. The Corporation processes raw cashew nuts and produces value added products. The Corporation could provide employment for 202 days in 2012-13. The performance of KSCDC by the last 5 years is given in [Appendix 3.38](#).

Kerala State Agency for the Expansion of Cashew Cultivation (KSACC)

3.93 Kerala State Agency for the Expansion of Cashew Cultivation (KSACC) was constituted by Government of Kerala to

overcome the crisis of diminishing trend in shortfall of area under cashew cultivation in the State. Since 2008, KSACC has been organizing promotional activities in cashew cultivation and distributing cashew grafts of high yielding varieties and financial assistance to farmers and institutions in the State. KSACC is the nodal agency for the Cashew cultivation activities in Kerala, approved by NHM (National Horticulture Mission). The area, production and productivity of cashew in Kerala shows a sharp increase during 2011-12 when compared to previous years.

3.94 An additional 19000 ha has been brought under the canopy of the project and implemented by the KSACC during the period 2008-09 to 2012-13. In spite of all these promotional boost, the area under cashew diminished further to 43848 ha and production to 35000 MT. involving more than 100000 farmers and a good number of institutions. Assistance was also given for establishing apple processing units.

Cashew Export Promotion Council of India (CEPCI)

3.95 The Cashew Export Promotion Council of India (CEPCI), a non-profit making company, was established at Kollam, Kerala with the object of promoting exports of cashew kernels and cashew nut shell liquid from India. The council operates plan schemes for GOI, and offers various services to its member exporters. The council has set up a Laboratory and Technical Division of international standards which is recognised as an approved Research Centre for Doctoral research by Kannur University and University of Kerala. The service of CEPC Lab is available to cashew industry as well as entire food processing industry in India and abroad. The lab analysed 4373 samples during 2012-13 and 69 trainees underwent the training Programmes conducted by the lab.

Box 3.14

Cashew Sector in Annual Plan -2012-13 & 2013-14

Major Initiatives and Objectives

1. Cultivation of Organic Cashew and Establishment of a Raw-nut Bank

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. An amount of ` 410.00 lakh was provided in the Annual Budget 2012-13.

2. Modernisation of Cashew Sector Including Brand Building

New scheme proposed in the Annual Plan 2012-13 incorporating the existing schemes Rejuvenation of cashew Industry, Upgradation of Facilities and Modernisation of Cashew factories, Modernisation of Cashew Factory Sheds, Expansion of Domestic market for cashew/Market Development & International Brand Building for cashews. The objectives were upgradation and modernization of cashew factories, construction and renovation of Godown sheds and factory sheds, upgradation of procurement centres and international brand building of cashews.

An amount of ` 6090.00 lakh was provided in the Annual Budget 2012-13, of which `3790.00 lakh is for KSCDC and ` 2300.00 lakh is for CAPEX.

Major Initiatives of Annual Plan 2013-14

Modernisation and Partial Mechanisation of Cashew Factories and Brand building

The main objectives of the scheme were to enhance the production output and productivity of the factories of Kerala State Cashew Development Corporation Ltd. And CAPEX by introducing partial mechanisation in the production process by installing Shelling, Peeling and Grading machinery which runs in parallel with workers and to achieve maximum capacity utilization in addition to the modernization and upgradation of infrastructure facilities of factories and brand building in Kerala, India and in international markets. ` 4170.00 lakh to KSCDC and ` 2530.00 lakh to CAPEX were provided.

Plan Outlay and Expenditure in this sector for last two years

(` In Lakhs)

Annual Plan 2012-13		Annual Plan 2013-14	
Outlay	Expenditure	Outlay	Expenditure
6500.00	6121.95	7150.00	326.63*

*Up to November. Expenditure is likely to pick up in the last quarter of 2013-14.

Achievements

- During the period, Modernization of Cashew factories were done in all levels.
- Value added products were produced through Value addition units.

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- Continuous Employment was given to workers of KSCDC & CAPEX with good ESI facilities and other benefits.
- Established branded products in domestic and international markets.
- The Area of production of cashew enhanced to 43848 ha and rate of growth of production of raw nuts and the productivity per hectare were improved

Central Govt. Schemes & Programmes with their achievement

Market Development Assistance for MSME exporters (MSME – MDA)

3.96 The scheme encourage Small & Micro exporters in tapping and developing overseas markets, increase participation of representatives of small/ micro manufacturing enterprises under MSME at International Trade Fairs/ Exhibitions and enhance export from the small/ micro manufacturing enterprises. During 2012-13, MDA Grant reimbursed from exporters under this scheme was ` 18.80 lakh and Grant-In-Aid disbursed is ` 500 lakh, through CEPC. In 2013-14 disbursed Grant-In-Aid is `1000 lakh.

Promotional Events

3.97 'Cashewotsavam' a meeting of all stakeholders of cashew in the country along with Cashew Machinery Expo was organised by CEPC in September 2012. Other than this, the Council participates in 3 International Exhibitions, 2 trade delegations, 3 international conferences and organised 2 BSMs abroad.

Outlook for Cashew Industry

3.98 Sustained availability of quality raw cashew nuts should be ensured to meet the requirement of the industry through increased domestic production by enhancing the area, production and productivity of cashew, by adopting high-end technology, promoting organic farming and by empowering women through formation of Self Help Groups (SHG) for processing and value- addition.

Industrial Financing

(A) Kerala Financial Corporation

3.99 Kerala Financial Corporation (KFC), provides long term finance, primarily to Micro, Small and Medium Enterprises (MSME), both in manufacturing and service sectors. Government of Kerala is the major shareholder with more than 97 per cent and the balance is held by SIDBI, LIC, SBT and others.

3.100 Kerala Financial Corporation has achieved substantial growth in terms of sanction, disbursement and recovery of financial assistance with the operational profit making a significant leap crossing the ` 100 crore mark for the first time in the history of the Corporation. KFC has emerged as the best performing public sector undertaking in Kerala. It also ranks No. 1 amongst all State Financial Corporations in the country in terms of profitability and low level of non productive assets (NPAs). The Corporation earned the highest ever profit of ` 66.83 crore during the FY 2012-13. The Non-Performing Assets are at the lowest level.

3.101 The Corporation sanctioned financial assistance of ` 625.82 crore during 2012-13 (16.3% growth over previous year). An amount of ` 475.91 crore was disbursed to various industrial units during 2012-13 (2% increase over previous year). Performance of working of KFC during the last five years is given in [Appendix 3.39](#). The details of loan operations and industry-wise classification of loan during 2012-13 of KFC are shown in [Appendix 3.40](#) and [Appendix 3.41](#).

B) Kerala State Industrial Development Corporation (KSIDC)

3.102 Kerala State Industrial Development Corporation Ltd. (KSIDC) has the main objective of promoting, stimulating, financing and facilitating the development of large and medium scale industries in Kerala.

3.103 KSIDC has sanctioned projects involving a capital investment of ` 2172 crores with direct term loan assistance of ` 54 crores in the financial year 2012-13. The new projects are expected to generate employment for 10,000 persons directly and indirectly. The Corporation has also registered an all-time record of ` 54.20 crores profit before taxes (provisional) and an income of ` 63.72 crores. The disbursements also touched an all-time high record of ` 118.49 crores. Details of investment and employment made in KSIDC units during 2012-13 are given in [Appendix 3.42](#).

3.104 During the year 2012-13, KSIDC initiated various industrial and infrastructure projects which are strategically important to Kerala's industrial and economic development. The cumulative investments in these projects are expected to

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be around ` 1, 00,000 crore. Major projects developed by KSIDC are listed in Box 3.15 and the physical and financial performance during 2012-13 is given in [Appendix 3.43](#).

Box 3.15

Major Projects Promoted by KSIDC for Industrial Development

- Electronic Hardware Park at Kochi – a world class manufacturing and R&D facility for Electronic Sector.
- Life sciences park for setting up state-of-the-art manufacturing and R&D facility for Biotechnology, Nano Technology Contract Research etc.
- Titanium Sponge Project at Kollam
- Supplementary Gas Infrastructure Project
- Coconut Industrial Park, Kuttiyadi
- Organic Industrial Park, Kodungallor.

C) Kerala Industrial Infrastructure Development Corporation (KINFRA)

3.105 Kerala Industrial Infrastructure Development Corporation (KINFRA) aims at accelerating the industrial development of the State by providing infrastructure facilities to industries. The Industrial Parks developed by KINFRA have facilities like developed land or built up space, dedicated power, continuous water supply, communication facilities etc.

3.106 KINFRA has completed over the past 19 years, 21 theme based Industrial Parks in Kerala in areas such as garments, infotainment, marine/seafood, rubber, exports, food processing, etc. Some of the notable achievements are the successful completion of India's first International Apparel Park at Trivandrum; India's first Export Promotion Industrial Park at Ernakulam; India's first Infotainment Park, the Film & Video Park at Trivandrum and India's first Food Processing Industrial Park at Malappuram.

3.107 KINFRA has developed Joint Venture Projects like India's first Rubber Park (a JVC with the Rubber Board) at Kochi, India's first Seafood Processing Park (a JVC with MPEDA) at Alappuzha and Western India KINFRA Ltd. (a JVC with Western India Services & Estates) at Palakkad. A Joint Venture Company between KINFRA and ICICI, known as I-KIN, has been set up to identify and facilitate the development of infrastructure projects in the State and another company between KINFRA and NTPC, Electrical Supply Co. Ltd. (KINESCO) for distribution of power to KINFRA Parks in the State.

3.108 Government of Kerala has nominated KINFRA as the Nodal agency for State Food Processing Mission in Kerala. The mission has released assistance of ` 3.08 crore to food processing units in the State of Kerala from 2012-13. KINFRA also act as the Nodal Agency of the State for implementing "Assistance to States for Infrastructure Development of Exports and Allied Activities" (ASIDE) of Department of Commerce, Government of India. Government of Kerala has appointed KINFRA as the Nodal Agency for the National Institute of Fashion Technology (NIFT) at Kannur and land acquisition programme for Kannur Airport. The details of allotments in KINFRA Industrial Parks as on 30-09-2013 are given in [Appendix 3.44](#).

Other Institutions

Centre for Management Development

3.109 The Centre for Management Development (CMD) is a leading, self-supporting autonomous institution intended to provide Research, Consulting and Training Support to the Development Agencies, Corporate and the Government, at the national, state and local levels. During the year 2012-13 also, CMD undertook several research, consulting and training assignments for the Government of India, Government of Kerala, Public Sector Enterprises and Autonomous institutions.

3.110 CMD also prepared the "Review of Public Enterprises in Kerala", which forms part of the budget documents of the state, on behalf of the Bureau of Public Enterprises, Government of Kerala, for the twenty-fifth consecutive year. In the training front, CMD, in collaboration with the Bureau of Public Enterprises, Government of Kerala conducted Management Development programmes for Officers/Managers of the Public enterprises in Kerala during the year 2012-13. Ten programmes were conducted during the year covering 200 managers of various State Level Public Enterprise.

Central Sector Investment

3.111 Central Sector Investment in Kerala is ` 29025.98 crore (2.1%) during 2011-12 against the All India figure of ` 1373526.29 crore (Public Enterprises Survey 2011-12). State-wise analysis shows that Maharashtra ranked first with the highest central investment of ` 241998.57 crores (17.6 per cent) and other southern states have higher investment in

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Central PSEs. Tamilnadu ranked 2nd and Andhra Pradesh 3rd.. As for Kerala it ranked 17th. Though the Central Sector Investment to Kerala has been increasing in absolute terms, the per centage share has decreased from 2.4% in 2007-08 to 2.1% in 2011-12. Details of Central Sector Investment in Kerala from 2008 to 2012 are given in [Appendix 3.45](#) and Central Sector Investment in selected states as on 31/03/2012 are given in [Appendix 3.46](#).

Outlook

- Creation of Enterprise Zones targeting economic revitalisation shall promote backward areas.
- Main streaming of environmental constraints like production techniques and organisation practices should be environment friendly.
- Development of recycling and waste management industry is needed.
- Development of eco-friendly parks shall be promoted.
- 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

Section 2

Labour and Labour Welfare

3.112 Kerala always ensures the protection of labour and safe guards the interest of labour force through enactment of Labour Laws and Labour Welfare Schemes which ensure that human rights and standards are comparable to advanced countries. State has initiated various measures to keep the right to work of one's choice, right against discrimination, prohibition of child labour, social security, protection of wages, redressal of grievances, right to organize and form trade unions, collective bargaining and participation in management. Labour Department has been mandated to perform the task relating to maintenance of industrial peace and labour welfare including enforcement of labour laws, skill up gradation of youth, establishing linkages between the employable and the job market through the mechanism of Employment Exchanges, and taking care of the medical needs of the Insured Persons. Kerala is acclaimed nationally and internationally with respect to the Social Security and Welfare measures it has extended for the past so many years. The Government is of the view that every employee/ worker should be a member in any of the Welfare Board and they must be protected by the State throughout their lives. Almost 45 lakh of labour force in the State of Kerala are protected under any one of the Social Security schemes. There are 19 Labour Welfare Fund Boards under the Department. It is an accepted fact that the Labour laws and Labour welfare schemes implemented by state is much higher than that of other states in India. Even the world as such is viewing the labour force in Kerala in high esteem for its high standards.

Composition of Worker

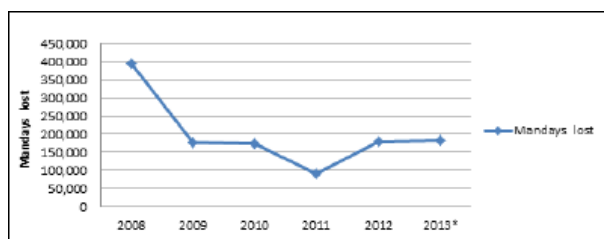
3.113 The labour community in Kerala mainly consists of those who are engaged in the informal sector (loading & unloading, casual work, construction work, brick making self employment etc), traditional industries (coir, cashew, handloom, beedi etc), manufacturing sector (small, medium and large industries), IT industry, units in export promotion zones and those who are seasonally employed.

Industrial Relations

3.114 Creating and maintaining good and healthy industrial relations is one of the major functions of the Labour Department. All the activities of this department are focused on to ensuring fair working and living conditions of the workers in the State and maintaining cordial relationship between the employer and employee to develop a good industrial economy.

Fig 3.8

Number of mandays lost due to strikes



Source: Labour Department, GoK

*Up to September 2013

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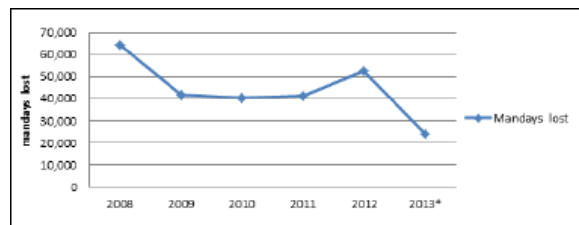
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3.115 Kerala is constantly encouraging labour friendly atmosphere. The state is able to reduce the strikes and lock outs year over year. The total man days lost due to strikes in the state during 2008 was 3.94 lakh now it is reduced to 1.82 lakh. See [Appendix 3.47](#). The man days lost due to lock out was 7.58 lakh in 2008, now it is 2.75 lakh and the man days lost due to lay off was 64316 and 24058 for the corresponding years. See [Appendix 3.48](#) and [3.49](#).

Fig 3.9

Mandays lost due to lay off



Source: Labour Department, GoK

* Up to September 2013

Rashtriya Swasthya Beema Yojana (RSBY)

3.116 Rashtriya Swasthya Beema Yojana (RSBY) is a Health Insurance Scheme for BPL workers and their families in the Un organized sector introduced during 2008-2009 in all the 14 Districts of Kerala. The annual Insurance cover is for a maximum amount of ` 30,000/- for a family of 5 members including the worker, spouse, children and dependent parents (if included in the BPL family list). The annual insurance premium is fixed through tender process. It is estimated that the premium will be around ` 738/- . The State Government provides 25 per cent of the premium (not exceeding ` 125/-) and administrative cost. The Central Government provides 75 per cent of the premium (not exceeding ` 613/-) (including cost of smart card) directly to the implementing agency, CHIAK (Comprehensive Health Insurance Agency, Kerala). An amount of ` 31 crore is provided as 25 per cent state share for continuing the scheme in the budget 2013-14.

Comprehensive Health Insurance Scheme (CHIS)

3.117 Comprehensive Health Insurance Scheme (CHIS) extends to all families other than the BPL families (absolute poor) as per the guide lines of Planning Commission who come under the RSBY. The Non –RSBY population is divided into 2 categories: (a) those belonging to the BPL (Poor) list of the State Government but not to the list as defined by the Planning Commission, i.e. about 10 lakh Households; and (b) APL families that belong neither to the State Government list nor to the list prepared as per the guide lines of Planning Commission. In the case of the 1st category, the beneficiary pays the same contribution as the RSBY beneficiary and the State Government meets all the remaining expenses, including the cost of smart card. In the case of families in the 2nd category, the beneficiary contribution would cover the entire amount of premium and the cost of the smart card. More than 7 lakh people benefitted from the schemes RSBY/CHIS during the period 2012-13.

Aam Admi Bima Yojana

3.118 Government of India has launched a new insurance scheme called Aam Admi Bima Yojana (AABY) covering 48 categories of households in the country and implemented in the state since 2007-08. As per the scheme, the head of rural landless families or one earning member in each such family will be insured. This scheme is implemented through CHIAK. The premium under the scheme will be ` 200/-. Out of which, 50 per cent shall be subsidy from the fund created for this purpose by Central Government and remaining 50 per cent will be contributed by the State Government. As per the scheme, the following benefits shall be given.

- For natural death ` 30,000/-
- For accident death ` 75,000/-
- For permanent total disability due to accident ` 75,000/-
- Disability due to accident (Loss of one eye or one limb) ` 37,500/-
- Scholarship for 2 children @ Rs100/month for a child ` 200/- per month

Number of beneficiaries in this scheme is approximately 7.5 lakh

Industrial Training Department

3.119 Industrial Training Department implements Craftsman Training Scheme through Government and Private Industrial Training Institute and Apprenticeship Training Scheme through the Related Instruction Centres. The aim is to create skilled

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and technically qualified workforce who would contribute to the growth and development of the nation and to provide quality training to all possible people so as to achieve the National goal of 500 million skilled persons by 2020 so as to reduce unemployment.

3.120 There are 76 Government ITIs, one Basic Training Centre, Two Advanced Vocational Training System, and one Staff Training Institute under the Department. Besides this there are 450 ITIs in Private sector and 44 ITIs under Scheduled Caste Department exclusively for SC. Two ITIs which were under Scheduled Tribe Department exclusively for ST candidates which were recently merged with Industrial Training Department are exclusively implementing Craftsman Training Schemes. At present total seating capacity of these ITIs is approximately 97500.

3.121 During the last five years, 43 new ITIs were established in Government sector. Ten ITIs were upgraded and 12 ITIs were up-graded into Centre of Excellence, 22 ITIs were upgraded under PPP (Public Private Partnership) schemes, 128 ITIs were sanctioned in the private sector and the training capacity has increased by 21486. The Department had participated in the Indian International Trade Fair 2012 held at New Delhi and got first place among the Departments of the state.

3.122 During 2012-13, total strength of the ITIs is 16812 and the total enrolment is 15520. Out of total enrolment 3939 are women, 2597 are SCs and 247 are STs. Government of India through Directorate General of Employment & Training (DGET) has introduced a Centrally Sponsored Scheme for Upgradation of ITIs into Centre of Excellence in order to produce world class work force. There are 500 ITIs are targeted to be Centres of Excellence in a phased manner at the rate of 100 ITIs in a year throughout the country. In Kerala it has upgraded 12 ITIs into Centre of Excellence with World Bank assistance and domestic funding and 8 ITIs being set up through PPP.

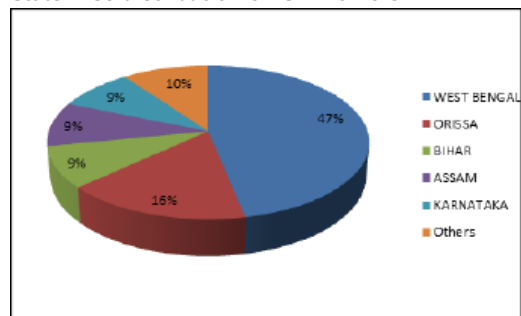
Kerala Institute of Labour and Employment (KILE)

3.123 KILE has been functioning under the Labour and Rehabilitation Department. The principal objective of the institute is to provide education, training, study and research in labour employment and related subject with special reference to Kerala. During 2012-13 (upto November) 11 trainings, 5 workshops, 2 Talks have been conducted, the total beneficiaries under these programmes are 2695.

Migrant Labour

3.124 The migration of workers for employment is a process prevalent from time immemorial. The migration of workers from the state to other states and abroad was a phenomenon existed in the state from very earlier. However the recent trend in the employment sector in the state is the large inflow of migrant workers from other state such as West Bengal, Bihar, Odisha, Uttar Pradesh, Chhattisgarh, Jharkhand etc. besides the neighbouring state. The migrant workers from poorer states are in demand in levels wages demanded by them. Working conditions of the inter-state migrant workmen are dealt with the Inter State Migrant Workmen Regulation of Employment and Conditions of Service Act, 1979. As per the provision of the Act the contractor have to obtain a recruitment license from the state from where the workers are recruited (Original State) and an employment license from the state where they are employed (Recipient State). Accordingly the contractor and the principal employer become liable for ensuring the provisions envisaged in the enactment as an immediate employer and the principal employer respectively. But usually these workers cannot be brought under the purview of the enactment due to lack of statutory ingredients required to attract the ambit of the enactment such as an intermediary third party/contractor between the Principal employer and the workmen. These workers are compelled to live in groups and unhygienic circumstances near to their working place without proper health facilities. There are more than 25 lakh migrant workers are employed in various employment sectors in the state. The percentage distribution of the workers from different states are given below.

Fig 3.10
State wise distribution of ISM workers



Source: Labour Commissionerate, GoK

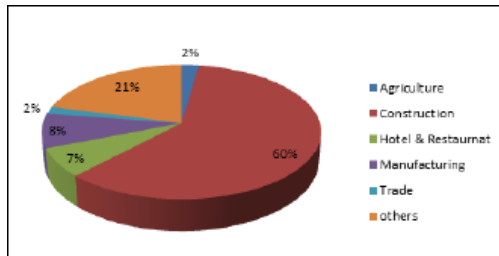
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3.125 Out of the total ISM (Inter State Migrant) workers, West Bengal is the leading state by accomplishing 47 per cent of ISM workers which is followed by Orissa by 16 per cent. See [Appendix 3.50](#). These workers engaged in different areas such as agriculture, construction, Hotel and Restaurant, Manufacturing, trade etc. In some instance these workers exceeds the number of domestic workers employed. The percentage distribution of the workers employed in different employments is given below:

Fig 3.11

ISM workers in various employment in the state



Source : GIFT,GoK.

3.126 The government initiated various welfare measures to ensure the social security of the ISM workers in Kerala and a considerable provision is earmarked in the budget proposals. But majority of the workers who are illiterate or having language problem did not have an opportunity to know about the scheme and enjoy the benefits provided from it. Therefore an awareness programmes, medical camps and UID registration are essential for the rehabilitation of these working groups. Additional details of the Labour sector is given in the [Appendix 3.51, 3.52, 3.53, 3.54, 3.55, 3.56, 3.57, 3.58, 3.59 and 3.60](#).

Outlook

3.127 Given the changing dynamics of the employment landscape of the state, the role of the Labour Department needs to be restructured to ensure the long term employer-employee relationship. The issues confronting the vulnerable sections of the labour are to be addressed through effective implementation of labour laws and focused welfare policies. A realization has dawned upon all the stakeholders that most vulnerable sections of the labour resources viz. migrant labour, women and vast mass of labour working in the unorganized of informal sector need special attention.

Section 3

Unemployment Situation in Kerala

3.128 One of the major problems that exist in Kerala is unemployment. There is an increase in labour supply due to the increase in the number of women work seekers in various sectors from the decade of 1970's, which resulted in rapid rise in unemployment in Kerala. Further the growth of educated manpower has increased the demand for white-collared jobs. As there is a lack of job opportunities in our state, which ensure high wages, many are emigrating especially to Gulf countries. Migration of people to foreign countries results in inflow of remittances into the state, which is one of the important drivers of our economy. However, emigration also has several drawbacks and adverse impacts on the domestic economy.

3.129 The Employment and Unemployment Surveys conducted by the National Sample Survey Office (NSSO) are the prime source of data on labour market in India. These surveys are usually conducted every five years. However, recently NSSO carried out two surveys at two year interval in the years 2009-10 and 2011-12. According to some Economic Analysts, the reason for conducting a survey in 2011-12 in such quick succession was due to the unusual economic conditions in 2009-10, a drought year and some parts of the economy were affected by the worldwide recession, thus making it a bad base year for comparisons.

3.130 As per the ninth Employment and Unemployment Survey conducted by the NSSO during the year 2011-12 as part of 68th round of National Sample Survey, among the larger Indian States, Kerala is the state having the highest Unemployment Rate (UR) under all (four) approaches of measuring unemployment. The survey reveals that only two small States viz; Nagaland and Tripura have a higher unemployment rate than Kerala.

3.131 Unemployment rate in Kerala for persons of age 15-59 years in 2011-12 as per Usual Principal & Subsidiary Status (UPSS) approach was 7.4 per cent behind two small states viz; Nagaland (18.7 per cent) and Tripura (13.6 per cent), as against the national average of 2.3 per cent. This indicates that the rate of unemployment in Kerala was almost three times

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the all India rate. According to the current daily status (CDS) approach, Kerala's unemployment rate for persons of age 15-59 years was 16.5 per cent, behind Nagaland (25.5 per cent) and Tripura (19.7 per cent) as against the national average of 5.8 per cent.

3.132 The lowest unemployment rate of 0.5 per cent is estimated in Gujarat under UPSS approach for persons of age 15-59 years. Female UR under UPSS approach is highest in Tripura State (26.9 per cent), followed by 21.9 per cent in Nagaland, 15.4 per cent per cent in Kerala and 7.4 per cent in Bihar as against the national average of 2.5 per cent. Whereas the male UR under UPSS approach is highest in Nagaland (17.0 per cent) followed by 7.5 per cent in Tripura and 5.0 per cent in Goa. Male UR at the national level is 2.2 per cent under UPSS approach. The unemployment rate of persons of age 15-59 years according to UPSS approach based on 2011-12 survey for each State/UT is given in the [Appendix 3.61](#).

3.133 In Kerala, the unemployment rate is higher in rural areas as compared to urban areas under all approaches of measurement. While comparing the unemployment rate of male and female, it is seen that UR is much higher among females as compared to males. For instance, under the UPSS approach for persons of age 15-59 years, the female UR is estimated to be 15.4 per cent whereas for males, the UR is 3.4 per cent. In rural areas, the female UR is estimated to be 15.6 per cent and male UR is 3.5 per cent; whereas the same in urban area is 14.6 per cent and 2.9 per cent respectively.

3.134 The unemployment rates of persons of age 15-59 years based on four different approaches as estimated by NSSO during 2011-12 is given in Table 3.3. A comparison between different estimates of unemployment indicates that the CDS estimate of unemployment is the highest. This scenario reflected both in rural and urban areas. The higher unemployment rates according to the CDS approach compared to the current weekly status (CWS) and usual status approaches (UPS and UPSS) indicate a high degree of intermittent unemployment in Kerala.

Table 3.3
Unemployment Rate in Kerala under different approaches as per 66th and 68th National Sample Surveys (Per cent)
(Age: 15 years and above)

Approach	Rural			Urban			Rural + Urban		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
NSS 68th Round (July 2011 – June 2012)									
UPS*	4.3	24.4	10.4	3.3	19.7	8.1	4.1	23.2	9.8
UPSS*	3.5	15.6	7.7	2.9	14.6	6.6	3.4	15.4	7.4
CWS*	6.8	22.3	11.8	4.9	18.7	9.1	6.3	21.4	11.0
CDS*	13.0	29.3	18.0	8.9	22.0	12.6	11.9	27.4	16.5
NSS 66th Round (July 2009 – June 2010)									
UPS*	4.1	22.8	9.9	3.7	20.6	8.9	4.0	22.1	9.7
UPSS*	3.6	17.6	8.4	3.2	17.6	7.8	3.5	17.5	8.3
CWS*	5.2	21.4	10.4	5.5	18.8	9.7	5.3	20.9	10.2
CDS*	13.9	29.3	18.5	12.8	22.3	15.7	13.5	27.2	17.9

Source: 1. Key indicators of Employment and Unemployment in India 2009-10, NSSO June 2011

2. Key indicators of Employment and Unemployment in India 2011-12, NSSO June 2013

* Please see glossary

3.135 A comparison of the unemployment rates given in Table 3.1 indicates that the number of unemployed has come down marginally in the State during the two year period 2009-10 and 2011-12, under UPSS approach. For instance, the unemployment rate based on UPSS approach among male in urban area was 3.2 per cent in 2009-10. This rate diminished to 2.9 per cent as per the 2011-12 sample survey. In the rural areas, the UR among males decreased from 3.6 per cent to 3.5 per cent during the two-year period. Among urban females, the UR decreased from 17.6 per cent to 14.6 per cent and among rural female, from 17.6 per cent to 15.6 per cent during the same period. Reduction in unemployment rates under UPSS approach implies that the rate of chronically unemployed persons (or open employment rates) declined marginally in Kerala during the two year period. However, in the case of person-days unemployment as per CDS approach, female UR increased slightly from 27.2 per cent in 2009-10 to 27.4 per cent in 2011-12; when the male UR declined marginally from 13.5 per cent in 2009-10 to 11.9 per cent in 2011-12, thus making it a decline in overall unemployment rates from 17.9 per cent in 2009-10 to 16.5 per cent in 2011-12.

3.136 Estimates on some important indicators reflecting the prevalence of employment/unemployment in Kerala and India for all persons based on the surveys conducted by the NSSO in 2009-10 and 2011-12 are given in [Appendix 3.62](#) and [Appendix 3.63](#) respectively.

Unemployment Rates as per Labour Bureau Survey, 2012-13

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3.137 The third annual Employment & Unemployment Survey conducted by the Labour Bureau, an organisation under the Ministry of Labour & Employment during October 2012 - May 2013 confirmed the findings of NSSO survey (2011-12) that, among the larger Indian States, Kerala has the highest Unemployment Rate under all approaches. For example, Unemployment rate in Kerala for persons of age 15 years and above as per UPSS approach was 9.6 per cent, behind three small States of Sikkim (12.2 per cent), Arunachal Pradesh (10.2 per cent) and Goa (9.9 per cent). According to the CDS approach, Kerala's Unemployment Rate was 10.2 per cent and the four small States which have higher UR than Kerala was Sikkim (12.9 per cent), Tripura (12.7 per cent), Arunachal Pradesh (11.6 per cent) and Goa (11.2 per cent). The unemployment rates based on four different approaches as estimated by Labour Bureau survey during 2012-13 are given in Table 3.4.

Table 3.4
Unemployment Rates in Kerala based on different approaches (per cent)
as estimated by Labour Bureau during 2012-13

Approach	Rural			Urban			Rural + Urban		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
UPS	4.6	24.2	10.2	4.4	27.4	11.0	4.5	25.1	10.4
UPSS	4.3	20.3	9.3	4.2	25.1	10.4	4.3	21.6	9.6
CWS	4.9	18.3	8.9	4.8	24.1	10.4	4.9	19.9	9.3
CDS	5.8	19.2	9.8	6.0	24.9	11.4	5.9	20.7	10.2

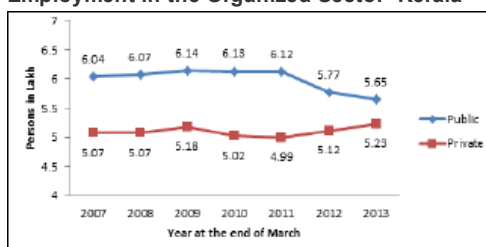
Source: Report on third Annual Employment & Unemployment Survey, Labour Bureau, Ministry of Labour and Employment, Govt. of India, published in September 2013

Employment in the Organised Sector

3.138 In Kerala, employment in the organised sector is coming down. For instance, persons employed in organised sector decreased from 12.26 lakh in 2000 to 11.4 lakh in 2005 and further to 10.88 lakh in 2012, a reduction of 11.3 per cent over a period of 13 years. This is mainly due to the reduction of persons working in the public sector. The share of women in organized-sector employment was 42.0 per cent in 2013 March end and has remained nearly constant in recent years.

3.139 The organised sector comprises of private and public sectors, and in Kerala public sector employment is more when compared to private sector. For instance, in 2013 out of 10.88 lakh persons employed in the organised sector 5.65 lakh (52 per cent) are in public sector and 5.23 lakh (48 per cent) are in the private sector. The share of women in public sector in Kerala is about 32 per cent; where as in the case of private sector it is 53 per cent. Details of employment in organised sector in Kerala are given in Figure 3.12 and [Appendix 3.64](#). All India figures may be seen at [Appendix 3.65](#).

Fig 3.12
Employment in the Organized Sector- Kerala



Source: Directorate of Employment, Govt. of Kerala, 2013

3.140 The branch-wise analysis of employment under public sector shows that persons employed in the Central Government offices in Kerala are decreasing over the years. At the end of March 2000 there were 86,889 central Government employees in Kerala. It declined to 76,789 in 2005 and further declined to 56,978 in 2013 (See [Appendix 3.66](#)). All India figures may be seen in [Appendix 3.67](#).

3.141 The percentage distribution of employment in public sector as on March 31st 2013 shows that 47 per cent of employment is from the State Government when the employment from Central Government is only a 10 per cent. The share of Quasi Governments; Central and State together is 39 per cent of Public Sector employment (See Fig. 3.13).

Fig 3.13
Distribution of Employment in Public Sector- March 2013

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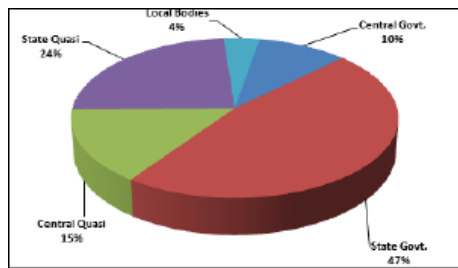
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Source: Directorate of Employment, Govt. of Kerala, 2013

3.142 Data on district-wise employment in organized sector as on March 2013 indicate that the highest employment is in Ernakulam District with 1.88 lakh persons, which accounted for 17.3 per cent of the total employment; followed by Thiruvananthapuram with 1.49 lakh persons (13.7 per cent), and Thrissur with 0.98 lakh persons (9.0 per cent). The lowest number of organized sector employment is in Wayanad district with 25,005 persons, which accounted for a paltry 2.3 per cent of the total employment; preceded by Kasaragod with 45,564 persons (See [Appendix 3.68](#) & [Appendix 3.69](#)).

3.143 Of the total employment of 1.88 lakh persons in Ernakulam District as on March 2013, 1.06 lakh persons (56.4 per cent) are from the private sector. In Wayanad District only 12,319 persons are employed in the private sector. In the case of public sector highest employment is in Thiruvananthapuram District (1.13 lakh) when the lowest employment of 12,686 persons is from Wayanad District.

3.144 The sectoral distribution of workers in organised sector across different years indicates that the dependence on agriculture continues to decline; when service sector continues to rise. In 2012-13, the employment in agriculture (relative to other sectors) declined by approximately 1.3 per cent as compared to that in 2004-05. Share of employment in Mining & Quarrying and the Manufacturing sectors also registered a decline in 2012-13 as compared to that in 2004-05. The sectors Construction and Transport, Storage & Communication also witnessed a decrease in share in 2012-13. However; the Trade, Restaurants & hotels and Community, Social and Personal Services registered a marginal increase in their share in 2012-13. Electricity, Gas, Water & Sanitary Services and Financing, Insurance, Real Estate and Business Services also witnessed an increase in the share of employment (See [Appendix 3.70](#)). The relative share of employment in Community, Social and Personal Services in 2012-13 increased by 1.58 per cent as compared to that in 2004-05.

3.145 Analysis of the sector-wise growth of employment in organized sector in Kerala as on March 2013 given in [Appendix 3.70](#) reveals that the highest employment is in the community, social and personal services (46.3 per cent), followed by Manufacturing 20.8 per cent, financing and business services 9.3 per cent and Transport, Storage & Communication 8.5 per cent. All India figures are given in [Appendix 3.71](#).

Employment in Unorganised Sector

3.146 Unorganised sector constitutes a pivotal part of the Indian economy. More than 90 per cent of workforce and about 50 per cent of the Gross Domestic Product are accounted for by the unorganized economy. A high proportion of socially and economically weaker sections of society are concentrated in the unorganized economic activities in India and Kerala.

3.147 According to the latest employment and unemployment survey carried out by the NSSO as part of the 68th round of NSS during 2011-12 it is estimated, as per UPSS approach, that self employed workers in Kerala constituted 37.7 per cent of the total workers. Comparatively the percentage share of regular wage/salaried employee accounted for 22.5 per cent and that of casual labour accounted for 39.8 per cent.

3.148 Department of Employment in Kerala is planning to intervene in the employment market for the benefit of employment seekers under the unorganised sector; to reduce instances of unfair practices that exist. Employment in the unorganized sector is carried out usually through private agencies, who sometimes exploit both the service seekers and service providers by exhorting huge commissions from them. A web based interface is proposed to be launched soon to bring both the service seekers and service providers together without the intervention of middle men.

Registered Job Seekers at the Employment Exchanges

3.149 At the national level, the registered work seekers at the Employment Exchanges in India have come down during the period 2006-2010. The total number of work seekers in the country as on December 2006 was 414.66 lakh. It declined to 388.18 lakh in December 2010, a reduction of 26.48 lakh over a period of four years. However, as on 31st December 2011 the number shows a marginal increase of 13.53 lakh over the previous year. Of the total of 401.72 lakh work seekers in 2011, 264.77 lakh are men (66.0 per cent) and 136.94 lakh women (34.0 per cent). Year-wise all India registration,

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placement, vacancies notified, submission made and Live Register for the period 2002 to 2011 are given in [Appendix 3.72](#).

3.150 The main feature of live registers of employment exchanges in Kerala till 2012 was that the number of work seekers was increasing year after year mainly because no updation is done regarding those who have found jobs. The Employment Department has recently computerized live registers for making verifications, as a result the number of work seekers in the live registers of the employment exchanges in Kerala decreased significantly.

3.151 According to live registers of employment exchanges in Kerala, the total number of work seekers as on 31st December 2012 was 44.99 lakh, up from 41.44 lakh in 2008 and 36.70 lakh in 2005. But now it has declined to 39.78 lakh, as on 30th September 2013, a reduction of 5.21 lakh persons from the previous year. This has happened due to the removal of lapsed registrations. Job seekers are categorized as either General or Professional & Technical. The peculiarity of this declining trend is that the total number of general work seekers declined from 43.29 lakh in 2012 to 38.19 lakh in 2013. Of the total work seekers of 39.78 lakh as on September 2013, 23.86 lakh (60 per cent) are women. Category-wise registered job seekers in Employment Exchanges are given in Table 3.5. Details of work seekers under the general and professional & technical categories for various years may be seen at [Appendix 3.73](#).

Table 3.5
Registered job seekers in Employment Exchanges - Kerala
(As on 30th September 2013)

No.	Category	Numbers
1	Illiterate	206
2	Below SSLC	4,46,078
3	SSLC	24,76,112
4	Higher Secondary	6,88,946
5	Degree	3,06,747
6	Post Graduates	59,714
Total		39,77,803

Source: Directorate of Employment, Govt. of Kerala, 2013

3.152 The number of work seekers below SSLC is declining year after year since 2006 and it declined from 6.37 lakh in 2006 to 5.98 in 2012 and further to 4.46 lakh as on September 2013. Whereas, the total number of work seekers who possess SSLC & above has shown an increasing trend till 2012 and thereafter the number declined in 2013 due to the removal of lapsed registrations. The trend of work seekers in the categories of 'below SSLC' and 'SSLC & above' since 2005 is shown in Fig.3.14.

Fig 3.14
Trends of work seekers in Kerala



Source: Directorate of Employment, Govt. of Kerala, 2013

3.153 The number of HSC qualified candidates who have registered at the employment exchanges increased from 5.75 lakh in 2005 to 7.49 lakh in 2012. But it has declined to 6.89 lakh in 2013 due to the removal of lapsed registrations. However, the data on registered graduates and post graduates shown a contrary picture. Even though the total registration is declined sharply in 2013 over the previous year, the number of registrations under the categories of graduates and post graduates increased by 0.41 lakh and 0.11 lakh respectively (See [Appendix 3.74](#)).

3.154 Of the total employment seekers as on September 2013, 11.2 per cent is below SSLC, 62.3 per cent SSLC, 17.3 per cent HSC or equivalent, 7.7 per cent graduates and 1.5 per cent post graduates. The percentage share of work seekers in various levels of education from 2008 to 2013 is given in Table 3.6.

Table 3.6
Percentage Share of Employment Seekers according to level of Education—Kerala

Year	Below SSLC	SSLC	HSC or equivalent	Graduates	Post Graduates
2008	11.2	62.3	17.3	7.7	1.5
2009	11.2	62.3	17.3	7.7	1.5
2010	11.2	62.3	17.3	7.7	1.5
2011	11.2	62.3	17.3	7.7	1.5
2012	11.2	62.3	17.3	7.7	1.5
2013	11.2	62.3	17.3	7.7	1.5

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Sl. No	Level of Education	Share (per cent)					
		2008	2009	2010	2011	2012	Up to Sept. 2013
1	Below SSLC	15.0	14.5	13.8	13.5	13.3	11.2
2	SSLC	61.5	62.2	62.4	62.8	63.1	62.3
3	HSC or equivalent	16.5	16.5	16.7	16.6	16.6	17.3
4	Degree	5.7	5.6	6.0	6.0	5.9	7.7
5	Post Graduate	1.3	1.2	1.1	1.1	1.1	1.5
Total Work Seekers		100.0	100.0	100.0	100.0	100.0	100.0

Source: Directorate of Employment, Govt. of Kerala, 2013

3.155 The number of professional & technical work seekers comprising of Medical/ Engineering Graduates, Diploma/ Certificate holders in Engineering, Agricultural/Veterinary graduates as on September 2013 is 1.59 lakh. Data reveal that ITI certificate holders and Diploma holders in Engineering together constitute 80.4 per cent of the total professional & technical work seekers (See Table. 3.7). As on September 2013, the number of registered work seekers having other professional qualifications like LLB/LLM, MCA, MBA, PGDCA, BLisc/MLisc etc. altogether comes to 46,490.

Table 3.7
Percentage Share of Professional and Technical work seekers in Kerala

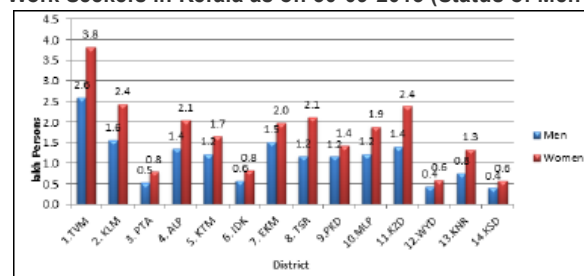
Sl. No	Educational Qualification	Share (per cent)					
		2008	2009	2010	2011	2012	up to 2013
1	Medical Graduates	1.6	1.7	1.4	1.5	1.7	7.7
2	Engineering Graduates	5.5	6.5	5.4	6.7	8.5	11.2
3	Diploma holders in Engineering	22.2	24.8	23.4	23.0	22.9	25.6
4	ITI Certificate holders	69.8	66.2	69.3	68.2	66.2	54.8
5	Agricultural Graduates	0.5	0.4	0.3	0.3	0.3	0.3
6	Veterinary Graduates	0.4	0.4	0.3	0.3	0.4	0.4
Total		100.0	100.0	100.0	100.0	100.0	100.0

Source: Directorate of Employment, Govt. of Kerala, 2013

3.156 As stated earlier due to the removal of lapsed registrations, the total number of work seekers at the employment exchanges in Kerala declined by 5.21 lakh as on September 2013 over the previous year. This has happened due to the reduction of numbers in the categories like below SSLC, SSLC, HSC and ITI certificate holders. Registration under ITI certificate holders is declined by 25,223 persons. However, Medical Graduates, Engineering Graduates and Diploma holders in Engineering have shown an increasing trend, as in the case of General Graduates and Post Graduates, in spite of overall reduction. This gives a clear indication that unemployment is increasing among these categories. The number of registered work seekers under the category of Medical Graduates comprising of Doctors, BSc Nursing, BSc MLT and B.pharm in 2013 increased from 2912 in 2012 to 12,284 in 2013 (See Appendix 3.74 & Appendix 3.75).

3.157 A significant and peculiar feature of Kerala's unemployment situation is that women outnumber men who seek employment through employment exchanges. This position is reflected in all the 14 districts in Kerala. The district-wise unemployment of women and men in 14 districts of Kerala as on 31-09-2013 is shown in the following graph (Fig.3.15).

Fig 3.15
Work Seekers in Kerala as on 30-09-2013 (Status of Men and Women)



Source: Directorate of Employment, Govt. of Kerala, 2013

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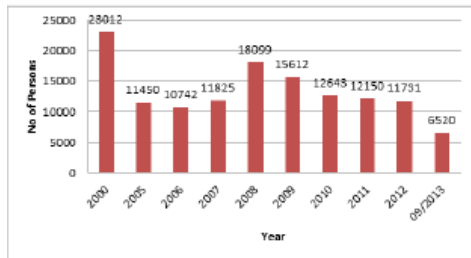
3.158 Thiruvananthapuram District ranks first in the number of work seekers in both general and professional categories as on 30-09-2013. The total number of work seekers in Thiruvananthapuram district is 6.4 lakh of which 3.8 lakh are women and 2.6 lakh men. The second largest number of work seekers is from Kollam district. There are 4.0 lakh job seekers in Kollam District as on September 2013, out of which 2.4 lakh are women and 1.6 lakh men. The lowest number of work seekers is in Kasargod district with 0.98 lakh persons, preceded by Wayanad District with 1.00 lakh persons (See [Appendix 3.76](#)).

Placement through Employment Exchanges in Kerala

3.159 The figures furnished by the Director of Employment & Training reveal that placement through Employment Exchanges in Kerala has been declining since 2000. Total placement is declined from 23,012 in 2000 to 11,731 in 2012. The placement through employment exchanges in Kerala since 2000 is illustrated in the following graph Fig.3.16.

Fig 3.16

Placement through Employment Exchanges –Kerala



Source: Directorate of Employment, Govt. of Kerala, 2013

New Initiative for modernizing Employment Exchanges

3.160 Department of Employment has embarked on an ambitious programme to change the face of employment exchanges by converting them into employability centres (skill development centres). The idea is to make the work force of Kerala globally acceptable by imparting exhaustive training in accordance with the international standards. For this, skill gap analysis is proposed to be done through various processes and gap filling training will be given. After the training, testing and certificate will be done and a Skill Card will be issued to the pass outs. A website of the skilled workforce is also proposed for global access by prospective placements. Training will also be imparted for appearing in various competitive examinations. State's first employability centre has been started functioning at the district employment exchange, Ernakulam.

Outlook for Industry, Labour and Employment

In land scarce and environment conscious Kerala, high value added, non polluting industry should be promoted, where knowledge, skills and work ethics provide a competitive edge. Public sector enterprises should be encouraged to form strategic partnerships with the private sector and to be run on a commercial basis as it would be difficult to sustain them unless they are run on commercial lines. Traditional industries are part of our heritage and preservation of handloom, coir, handicraft and cashew industries through Government support will be required. Nevertheless, they too should introduce innovative and new products, which are likely to create a steady demand. As far as mining is concerned, full coverage of survey and exploration measures including developing GPS data base of mineral resources are needed. Indiscriminate mining should be checked as it causes depletion of natural wealth. Highly skilled and well compensated labour force coupled with adequate and appropriate employment opportunities for labour of all categories- skilled, semi-skilled, unskilled, women, retired people, people from vulnerable communities etc. should be ensured to allow the benefits of industrial development to reach all pockets of society.

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Introduction

Kerala has always upheld social development over mere economic growth. The quality of life of the people, be it in education and awareness or in health and well being, has been the main thrust of Government policy over the years. "Development with care and compassion" is the vision with which the Government is planning and prioritizing schemes in the XIth Plan period. The quality of human capital, though much higher than elsewhere in the country and comparable in many ways to advanced nations, is difficult to sustain, given the limited resources, increasing aspirations and the changing demographic profile of the state. Another major problem is the high inequality that exists in Kerala between communities and regions, which calls for well targeted interventions to ensure that the vulnerable sections of the population also enjoy the benefits of development. This chapter deals with institutions in the education, art and culture, health and social welfare arenas and brings out the recent actions taken by them to achieve developmental goals.

Education

Like other states in the country, the state of Kerala has inherited the education system from the British and has made

significant changes in it in the past 65 years. The educational achievement of the state is the prime factor behind its present well-being and the "Kerala Model of Development", which is highly lauded. It is a fact that the State is far ahead of the national objectives in the Primary and Secondary education and is striving for attaining international standards in Higher education, Technical education and Research.

4.2 The Twelfth Plan document states that the private sector will be encouraged to establish larger and higher quality institutions in the Twelfth Plan. It also states that new models of Public-Private Partnerships (PPP) in higher education will be encouraged in the XIIth Plan, particularly in the establishment of research and innovation institutions. With the successful implementation of SSA and RMSA the Central Government is now introducing the scheme Rashtriya Uchchatar Shiksha Abhiyan (RUSA), in order to achieve the objectives of equity, access and excellence in the Higher Education sector.

4.3 In this platform Kerala is re-orienting its approaches and the institutional arrangements. The State Planning Board has constituted an expert committee on Education for examining the Plan Programmes of the state with a view to maximise access to central schemes and plan resources and prepare an action plan suggesting steps to remove barriers in accessing resources and difficulties in implementation. The committee had submitted two interim reports.

4.4 In the first interim report the committee suggested the following points.

- Establishment of the Kerala State Assessment and Accreditation Council (KSAAC) for assessing the strength and weaknesses of the existing system and for proposing the reforms in a planned manner.
- Establishment of the Kerala State Faculty Training Academy for faculty training including training of Principals of Colleges and Vice-Chancellors of Universities.
- To strengthen and re-structure the Kerala State Higher Education Council by appropriate amendments to the Act so that the process of seeking and distributing central funds are streamlined as per RUSA.

4.5 In the second report the committee has recommended the establishment of an Innovation University. Instead of converting one of the existing universities, the committee suggested an innovative idea of bringing together some of the leading institutes in the state under the umbrella of a Research University.

Box 4.1

Major suggestions on the proposed Innovation University

- The University should adopt a Hub and Spokes Model structure in order to ensure continued autonomy to participating institutes, while providing a common platform for collaboration in research, teaching and other academic pursuits.
- The University should be managed by a Board of Governors, an Executive Council and an Academic Senate like the IITs and IIMs.
- The University should mainly be deal with Post-graduate and Ph.D programmes

Expenditure on Education

4.6 During the first year of the XIIth Plan an amount of `590.24 had been earmarked for Education sector of which 98.78 per cent was expended. In the total outlay 48.6 per cent was earmarked for the school education, 34.2 per cent for higher education and 17.12 per cent for technical education. The average total outlay of XI th Plan was `265.02 crore in which 53.7 per cent was earmarked for the school education, 26 per cent for higher education and 20.23 per cent for technical education. The percentage allocation for general education has increased to 82.87 in 2012-13 and 83.14 in 2013-14 compared to the average allocation for the same during the XIth plan which was 79.76. The percentage allocation for school education in the Annual Plan 2013-14(47.66) and 2012-13 (48.65) has been decreased considerably from that of the average outlay of XIth Plan (53.71). This may be due to the fact that the state had achieved most of the targets in school education. During 2013-14 29.54 per cent of the allocation has expended up to 30.11.2013.

Table 4.1

Average Plan Outlay & Expenditure during XIth Plan & Total Outlay of Annual Plan 2012-13

(₹ in crore)

Stages	XI th Plan Average			2012-13 Annual Plan			2013-14 Annual Plan		
	Outlay	Exp.	per cent of Exp.	Outlay	Exp.	per cent of Exp.	Outlay	Exp. (Up to 30.11.2013)	per cent of Exp

1.School Education	142.36	129.67	91.09	287.15	286.54	99.79	333.15	107.85	32.37
2. Higher Education	69.04	88.58	128.30	202.00	154.15	76.31	247.99	67.36	27.16
General Education	211.4	218.25	103.24	489.15	440.69	90.09	581.14	175.21	30.15
3.Technical Education	53.62	76.79	143.21	101.09	142.33	140.95	117.86	31.28	26.54
Total	265.02	295.04	111.33	590.24	583.02	98.78	699.00	206.49	29.54

Literacy

4.7 Literacy and education are important indicators in a society and play a central role in human development. Higher levels of literacy and education lead to better attainment of health and nutritional status, economic growth, population control, empowerment of the weaker sections and community as a whole. Also, higher literacy rates improve development indicators consistently. It acts as a catalyst for social upliftment enhancing the returns on investment made in almost every aspect of development effort. Literacy is a basic step towards education, which is a process of life learning and an entry point to the world of communication and information.

4.8 As literacy development is concerned; Kerala ranks first in the country with a literacy rate of 93.91 per cent closely followed by Lakshadweep (92 per cent) and Mizoram (91.58 per cent). Kerala's literacy rate is comparable to the most advanced regions of the world. Kerala's literacy rate which was only 47.18 per cent in 1951 has almost doubled by 2011. The male, female literacy gap which was 22 per cent in 1951 has narrowed down to 4.04 per cent in 2011. Kerala holds the first rank in the country in female literacy with 92 per cent and Rajasthan has recorded the lowest female literacy rate.

4.9 The literacy rate of the state from 1951 to 2013 is given in [Appendix 4.1](#).

4.10 District wise analysis of Kerala's literacy rate shows that Pathanamthitta district (96.93 per cent) has the highest literacy rate in the state followed by Kottayam (96.40 per cent) and Alappuzha (96.26 per cent) districts. Palakkad district has the lowest literacy rate in the state (88.49 per cent). The low rate of literacy of the Palakkad district may be due to the prevalence of substantial percentage of SC and ST population whose literacy rates are below the state average. Literacy rate by sex for districts in 2002 and 2013 are given in [Appendix 4.2](#).

4.11 Kerala State Literacy Mission is implementing the literacy and equivalency programmes by appointing 'Preraks' (representatives of centre for continuing education). Details of the number of people benefited from Equivalency programme of Literacy Mission from 2003-04 to 2012-13 are given in [Appendix 4.3](#).

Right to Education Act

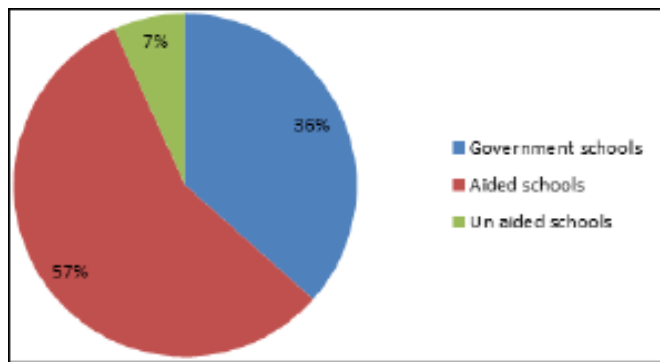
4.12 The Right of Children to Free and Compulsory Education (RTE) Act, 2009, which represents the consequential legislation envisaged under Article 21-A, means that every child has a right to full time elementary education of satisfactory and equitable quality in a formal school which satisfies certain essential norms and standards. Article 21-A and the RTE Act came into effect on 1 April 2010. The title of the RTE Act incorporates the words 'free and compulsory'. 'Free education' means that no child, other than a child who has been admitted by his or her parents to a school which is not supported by the appropriate Government, shall be liable to pay any kind of fee or charges or expenses which may prevent him or her from pursuing and completing elementary education. This Act gives every child the right to a quality elementary education. More details on the subject are available in <http://mhred.gov.in/rte>

Elementary Education

4.13 There were 12627 schools in Kerala during 2012-13. Out of these 4619 (36.58 per cent) were government schools, 7152 (56.64 per cent) aided schools and 856 (6.78 per cent) unaided schools. Compared to government upper primary and high schools more number of Lower Primary schools are functioning under government sector. Aided schools outnumber government schools in all sections.

Fig. 4.1

Management wise share of schools in the State



Source: Source: Directorate of Public Instructions

4.14 Malappuram District has the largest number of schools (1472nos) in the state followed by Kannur (1291nos) and Kozhikode (1237nos). Malappuram District has also the largest number of government (546 nos) and unaided schools (145 nos) in the state. But largest number of aided schools is functioning in Kannur district (959nos). Details of district-wise, management wise and stage-wise number of schools in Kerala during 2012-13 are given in [Appendix 4.4](#)

4.15 994 schools in the state are offering syllabus other than the one prescribed by the state government. These include 842 CBSE schools, 108 ICSE schools, 30 Kendriya Vidhyalaya and 14 Jawahar Navodayas. One Jawahar Navodaya Vidhyalaya schools each is functioning in all the districts. District-wise details of schools with syllabus other than state syllabus in the year 2012-13 are given in [Appendix 4.5](#).

Physical Infrastructure and Facilities in Government Schools

4.16 All the Government Schools in Kerala are functioning in pucca buildings. None of the schools are functioning in thatched sheds. Own buildings have to be constructed for 157 government schools which are now working in rented buildings. District-wise details of government schools having building facilities are given in [Appendix 4.6](#)

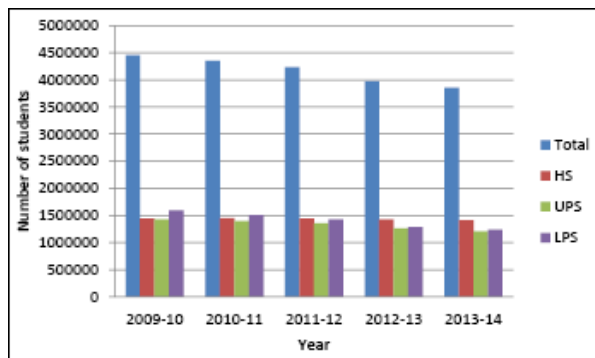
4.17 Local Self Government Institutions and programmes like Sarva Shiksha Abhiyan (SSA) have contributed much to the overall development and improvement of physical infrastructure and common facilities in government schools in the state. Data shows that 98.76 per cent of government schools have access to drinking water and 99.6 per cent have urinals/latrines facilities. District-wise details of government schools having drinking water/latrines/urinal facilities in Kerala in 2013 are given in [Appendix 4.7](#).

Enrolment of Students

4.18 Enrolment of students in the state has been showing a decline in the recent years. Enrolment of students in 2013-14 has 38.52 per cent lakh and has decreased 3.02 per cent over the previous year. Change in demographic pattern of the state due to low birth rate is the main reason attributed for this phenomenon. The decline of students in LP section is 44221 numbers in 2013-14 from 2012-13. While the decline in Upper Primary (UP) section is 57012 numbers in 2013-14, and the High School(HS) section shows a decrease of 18789 students over the previous year. The stage-wise enrolment of students in schools in Kerala from 2009-10 to 2013-14 are given in [Appendix 4.8](#). Details of management-wise and standard wise enrolment of students in schools in Kerala during 2012-13 are given in [Appendix 4.9](#). District-wise stage-wise and sex-wise enrolment of students in schools in the state during 2013-14 is given in [Appendix 4.10](#). The decrease in the enrolment of students is shown in Figure 4.2.

Fig 4.2

Enrollment of Student



Source: Directorate of Public Instructions

Enrolment of Girl students

4.19 Girl students constitute 49.44 per cent of the total student enrolment in schools. Boys outnumbered girl students in all the districts except in Thiruvananthapuram and Pathanamthitta. Generally, in Kerala there is a more or less uniform pattern in the enrolment of girl students across districts.

Strength of SC, ST Students

4.20 As per the figures of 2013-14, SC students constitute 11.28 per cent of total students in the state. The percentage of SC students in government schools, private aided schools and private unaided schools are 14.06 per cent, 11.04 per cent and 3.93 per cent respectively.

4.21 ST students constitute 1.98 per cent of total enrolment in schools in the year 2013-14. The percentage of ST students in government schools, private aided schools and private unaided schools are 3.71 per cent, 1.36 per cent and 0.32 per cent respectively in 2013-14. The standard-wise strength of SC/ST students in the state in 2013-14 is given [Appendix 4.11](#).

Drop-out rate

4.22 Kerala has achieved the distinction of having the lowest dropout rate of school students among the Indian states. In the year 2011-12, dropout ratio among school students in Kerala was 1.05 per cent. The dropout ratio in Lower Primary stage is higher than that of HS/UP stage. The dropout ratio is almost same in UP stage and High school stage.

4.23 Among the Districts, Thiruvananthapuram has the highest dropout ratio in the lower primary section (4.87 per cent), and upper primary section (2.15 per cent). In the case of high school section Wayanad has the highest drop-out ratio (2.51 per cent). All most all other Districts have dropout ratio greater than 0.50 per cent in the three stages. District-wise/stage-wise dropout ratio in schools in 2011-12 is given in [Appendix 4.12](#). Drop-out ratio among SC students in Kerala during 2011-12 was 0.61 per cent and that of ST students was 3.71 per cent. District wise and stage wise details of drop out among SC and ST students in Kerala for the year 2011-12 are given in [Appendices 4.13](#) and [4.14](#).

Number of Teachers

4.24 The number of school teachers in Kerala including Teachers Training Institute (TTI) teachers during 2012-13 was 167776. Out of this 101143(60.28 per cent) teachers are working in aided schools and 13052 (7.78 per cent) teachers are working in private unaided schools. The remaining 31.94 per cent of teachers are working in government schools. 51.61 per cent of total teachers in the state are teaching in high schools, 24.63 per cent in upper primary schools, 23.29 per cent in lower primary schools and the remaining (0.47 per cent) in TTI's. 71.65 per cent of total teachers in the state are women. Stage-wise and management-wise number of teachers in Kerala during 2012-13 is given in [Appendix 4.15](#).

Uneconomic Schools

4.25 Schools with insufficient strength of pupils are termed as uneconomic schools. There are 5137 uneconomic schools in Kerala as per the figures of 2012-13, which registered an increase of 523 schools over previous year. Out of these, 2413 are government schools and 2724 are in the aided sector. District-wise analysis shows that highest number of uneconomic schools is in Pathanamthitta district (502 nos). In government sector, Thiruvananthapuram district has the largest (281nos) number of uneconomic schools followed by Ernakulam district (274 nos). Among the government uneconomic schools, 76 per cent are of lower primary schools. In the aided sector also 82.27 per cent of uneconomic schools are lower primary schools. District wise details of uneconomic schools in the state in 2012-13 are given in [Appendix 4.16](#).

Sarva Shiksha Abhiyan(SSA)

4.26 The Sarva Shiksha Abhiyaan was introduced in 2000-2001 as the flagship programme by the Government of India. This scheme is framed to provide useful and relevant elementary education for all children in the age group of 6 to 14 by 2010 irrespective of any social, regional, economic and gender barriers, with the active participation of the community in the management schools. It encompasses all activities of school education-providing physical infrastructure, free text book for children, encouraging enrolment of girls and teacher training. The fund sharing between the central and the states was 75:25 in the Tenth Plan. The funding pattern for the Eleventh Plan was modified to 65:35. The implementation of the programme to the real essence is extra emphasised in the event of the constitution of the Right to Education Act in the country.

Table- 4.2

Outlay and Expenditure of SSA

Year/Category of Students	Boys	Girls
Gross Enrolment Ratio(GER)		
2010-2011	104.00	103.00
2011-2012	103.00	102.06
2012-2013	102.00	102.00
Net Enrolment Ratio(NER)		
2010-2011	100	100
2011-2012	100	100
2012-2013	99.00	100
Drop Out Rate (Class I to VIII)		
2010-2011	0.27	0.28
2011-2012	0.03	0.03
2012-2013	0.02	0.01
Completion Rate		
2010-2011	100	100
2011-2012	100	100
2012-2013	100	100

Source: Sarva Shiksha Abhiyaan,Kerala

Higher Secondary Education

4.27 Education after the first 10 years was a part of the higher education system for many decades. Higher Secondary courses were introduced in the state during 1990-91 to reorganize the secondary level of education in accordance with National Education Policy. Higher Secondary Course is the turning point in the entire school education in our state. The department serves as a professional institution in formulating and maintaining the standards of Higher Secondary Education and in providing need based timely, scientific, effective and sustainable services to the students and teachers at the Higher Secondary level.

4.28 1825 Higher Secondary schools were there in 2013 in the state. Out of these 776 (42.52 per cent) are Government schools, 674 (36.93 per cent) are Aided schools and the remaining 375(20.55 per cent) are Unaided and technical schools. Among the districts Kozhikkode has the largest number of Higher Secondary schools (225 nos) in the state followed by Thrissur (177 nos) district.

4.29 There are 6264 batches for higher secondary courses in 2013. The total number of enrolment of students in Higher Secondary Schools was 355797 and it registered an increase of 7.92 per cent over the previous year. Kozhikkode district had the largest no of batches (853nos) with an enrolment capacity of 49399 students. District wise/Management-wise number of higher secondary schools and number of batches are given in [Appendix 4.17](#) and District wise enrolments of students in higher secondary schools are given in [Appendix 4.18](#).

4.30 The pass percentage of students in higher secondary courses has decreased to 70.77 per cent in 2012-13 from 79.31 per cent in 2011-12. During 2013, 5342 students secured A+ for all subjects and 262019 students were eligible for higher studies. The details are given in [Appendix 4.19](#) & [4.20](#). The pass percentage of SC and ST students in Higher Secondary schools also decreased in 2012-13 compared to 2011-12. The pass percentage of SC students also decreased from 69.36

per cent to 57.28 per cent and ST students from 62.53 per cent to 51.81 per cent during 2012-13. Details are given in [Appendices 4.21 and 4.22](#).

Vocational Higher Secondary Education

4.31 Vocational Higher Secondary Education was introduced in the state in 1983-84. Vocational Higher Secondary Education in the state impart education at plus two level with the objective to achieve self/wages/direct employment as well as vertical mobility. 389 Vocational Higher Secondary Schools are there in the state with a total of 1097 batches. Out of these Schools 261 are in the Government sector and 128 in the Aided sector. Kollam District (52 nos) has the largest number of Vocational Higher Secondary Schools in the state. District wise details of Vocational Higher Secondary Schools and courses during 2012-13 are given in [Appendix. 4.23](#).

4.32 The percentage of students eligible for higher education in Vocational Higher Secondary examination in 2013 (including SAY result) is 88. The number of students who appeared and those who passed Vocational Higher Secondary examination from the year 2008 to 2013 and the results of school going students are given in [Appendix. 4.24 & 4.25](#).

University and Higher Education

4.33 Higher education is essential to build a workforce capable of underpinning a modern, competitive economy. The XIIth Plan Document states that higher education needs to be viewed as a long-term social investment for the promotion of economic growth, cultural development, social cohesion, equity and justice. It is viewed that there must be a strategic shift from mere expansion to improvement in quality higher education. As a consequence, enrolment in higher education would have to be significantly increased in a demand driven manner.

4.34 Government of India is proposing a new scheme named Rashtriya Uchchatar Shiksha Abhiyan for funding the State Universities and colleges. The scheme is envisaged as a prime vehicle for strategic funding of state institutions so as to ensure that the issues of access, equity and quality are addressed in an equitable manner with the state as a composite unit of planning. The salient features of the proposed scheme are given in box 4.2

Box 4.2

Rashtriya Uchchatar Shiksha Abhiyan

It is an umbrella scheme to be implemented in mission mode project that would subsume other existing schemes in the sector.

- The central funding would flow from MHRD to institutions, through the State budget.
- The funding to states would be made on the basis of critical appraisal of State Plans for Higher Education Plans (SHEPs). The plans would describe each state's strategy to address issues of equity, access and excellence in higher education.
- All funding under the RUSA would be norm based and future grants would be outcome dependent. Commitment to certain academic, administrative and governance reforms will be a precondition for receiving funding under RUSA
- Centre-state funding for the scheme will be in the ratio of 90:10 for North-Eastern States, Sikkim, J&K, Himachal Pradesh and Uttarakhand and 65:35 for other States and UTs. Funding will be available to even private-aided institutions, subject to their duration of existence, for permitted activities (not all) based on certain norms and parameters, in a ratio of 50:50

4.35 There are a total of 11 universities functioning in the state. Out of these, four universities viz. Kerala, Mahatma Gandhi, Calicut and Kannur are general in nature and are offering various courses. Sree Sankaracharya University of Sanskrit, Malayalam University, Cochin University of Science and Technology, Kerala Agricultural University and Kerala Veterinary and Animal Science University offer specialized courses in specified subject areas. Besides these, the National University of Advanced Legal Studies (NUALS) established in 2005 and the Central University established in Kasargod district are also functioning.

4.36 The various programmes that have been included in the state plan have a significant impact in the overall performances of the universities. Programmes such as the Erudite and Aspire (scholarship to researchers and PG students to undertake short term research programmes within research institutions and universities in India) have been implemented in the universities. The presence of Nobel laureates and other eminent academicians as scholars in residence for longer periods (upto 15 days) has a significant impact in the university community. The various scholarships for fostering excellence in studies also have a significant impact among the student community.

4.37 Inter University Centres within the universities in Kerala were established in 2009. These centres provide academic support to the faculties and students of various universities and co-ordinate major projects undertaken in their respective fields. The Inter University Centre has the objective of developing post graduate programmes in the relevant discipline and serving as an Inter University Centre for research in the relevant discipline and strengthening the ongoing Ph.D. programmes and research activity in the concerned areas of advanced study

Grant to Universities

4.38 The State Government provides Plan and Non plan grants to universities which are a major source of their revenue. An amount of `512.5 crore is earmarked as grant to universities in the year 2013-14. Out of this, `398.07 crore (77.67 per cent) is provided under non plan head. Kerala University has received the maximum assistance from state government in the year 2013-14. Details are given in Table.4.3

Table- 4.3

Plan and Non Plan Grant to Universities in Kerala

(` in crore)

Name of University	2011-12 Accounts			2012-13 Revised Estimate			2013-14 Budget Estimate		
	Plan	Non Plan	Total	Plan	Non Plan	Total	Plan	Non Plan	Total
Kerala	12	89.34	101.34	17	110.99	127.99	20	142.65	162.65
Calicut	10	64.9	74.9	17	79.81	96.81	20	95.77	115.77
Mahatma Gandhi	11.44	37.18	48.62	17	45.28	62.28	20	59.85	79.85
Sree Sankaracharya	7.10	17.02	24.12	11	21.80	32.80	12	29.18	41.18
Kannur	10	8.44	20.44	17	13.41	30.41	19	15.62	34.62
Cochin University of Science and Technology (CUSAT)	12.01	29.26	41.27	13	36	49	14	54	68
National University of Advanced Legal Studies	3	0	3	3.5	0	3.50	4.5	0	4.5
Thunchath Ezhuthachan Malayalam University	-	-	-	5	0	5	5	1	6
Total	65.55	246.14	313.69	100.5	307.29	407.79	114.5	398.07	512.5

Source: Detailed Budget Estimates 2013-14, Vol .1 Government of Kerala

Arts and Science Colleges

4.39 There are 191 Arts and Science Colleges in the State comprising of 150 Private Aided Colleges and 41 Government Colleges. Ernakulam district (25nos) has the largest number of Arts and Science colleges in the state followed by Kottayam (22 nos), Thiruvananthapuram (20 nos) and Thrissur (20 nos) districts. Thiruvananthapuram district has the largest number of Government colleges (8 nos) in the state. District-wise number of Arts and Science colleges in the state in 2013 is given in [Appendix 4.26](#).

Enrolment of Students

4.40 Total number of students enrolled in various Arts and Science colleges (excluding unaided colleges) under the four general universities in Kerala during 2012-13 is 2.15 lakh. Of this 1.54 lakh (71.60 per cent) are girls.

4.41 Out of the total 1.88 lakh students enrolled for degree courses, 42.47 per cent are enrolled for BA degree courses, 41.69 per cent enrolled for BSc degree courses and 15.84 per cent enrolled for B.Com degree courses. Girls constitute 71 per cent of total enrolment for degree courses. 27 subjects are offered for BA degree courses. Among the subjects, Economics has the largest number of enrolment of students. 31 subjects are offered for BSc course and Mathematics has the largest number of student enrolment. Details of enrolment of students in Arts and Science colleges for BA, BSc and B.Com are given in Appendices 4.27 to 4.29. 25697 students are admitted to post graduate course in the state in 2012-13. 77.20 per cent of those enrolled in PG courses are girls. Details of enrolment of students in Arts and Science colleges for MA, MSc and M.Com courses are given in [Appendices 4.30 to 4.32](#).

SC, ST Students

4.42 The enrolment of SC students in degree and post graduate courses is 26104 and 3181 respectively. SC students constitute 13.64 per cent of total students in 2012-13. Girls' students constitute 67.82 per cent of total SC students in Arts and Science colleges.

4.43 3428 Scheduled Tribe students were enrolled for courses in arts and science colleges in 2012-13. The enrolment of ST students in degree and post graduate courses are 2867 and 561 respectively. Girls constitute 61.17 per cent of total ST students in Arts and Science colleges. Enrolment of SC and ST students in Arts and Science Colleges in Kerala during 2012-13 is given in Appendix. 4.33.

Scholarships

4.44 Central and state sector scholarships of 16 types are given to students. Various scholarships including merit cum means scholarships (720 nos) and post metric scholarships (95379 nos) are given during 2012-13. The Directorate of Collegiate Education has erected LED display board giving the details of scholarships offered by the Government of Kerala and India. The details of number of scholarships given from 2010-11 to 2012-13 is given in [Appendix 4.34](#)

Teachers

4.45 The number of teachers in Arts and Science colleges in 2012-13 was 9685. Out of this 51.07 per cent are women. University-wise number of teachers in Arts and Science colleges in the year 2010-11, 2011-12 and 2012-13 is given in [Appendix.4.35](#). 3187 (32.91 per cent) teachers in Arts and Science colleges in the state have Ph.D degree. Details are given in [Appendix 4.36](#). A total of 1381 Guest Lecturers were working in Arts and Science colleges of the state in 2013. Details are given in [Appendix. 4.37](#).

Box 4.4

Additional Skill Acquisition Programme

Additional Skill Acquisition Programme (ASAP) which is a part of the State Skill Development Project is fielded as a joint initiative of the Departments of General Education and Higher Education and it aims at enhancing the employability of Higher Secondary and Under Graduate students by providing them with industry needed skill sets during the regular academic period itself. ASAP has two components viz., Foundation and Skill Module. The Foundation consists of Communicative English and IT and delivered by Skill Development Executives of ASAP. The curriculum and content of all the skill modules are developed by Industry or Industry Associations and the training is imparted by Industry Trainers or Industry trained trainers and hence the courses are more job oriented and authentic. The courses are designed with 55 per- cent practical sessions. Internships are also arranged to gain hands on experience. In the year of its inception 2012-13, courses were offered to 102 institutions having 118 batches and 3200 students. About 37 skill courses were identified from various skill sectors such as Finance, Accounting, Health, Rubber Technology, Printing Technology, Media, Electronics, IT & ITES, Telecommunication, Hospitality, Dental Technology, Plumbing, Banking, Agriculture, BPO and Retail.

Implementation of e- governance in Higher Education

4.46 It is felt that an integrated university e-Governance solution can empower the university and its affiliated colleges to administer the progress of the education delivery and services to the stakeholders in a much better manner. Accordingly, the higher education department has come up with a project for Implementation of "e-governance" programme in Kerala/MG/CUSAT/Kannur/Calicut Universities, Directorate of Collegiate Education and Directorate of Technical Education which is under consideration by the Government. This project will transform these institutions working force into a knowledge-based force and improve the delivery of students-centric services by enhancing the efficiency and effectiveness of the university by creating a platform for sharing information across the universities in the State. This project will improve service delivery to the public, empowerment of officials at all levels, creates a platform for sharing information across the State and will provide better communication and automation at the back-end. The successful implementation of the project will benefit students and the employees alike.

Kerala Council for Historical Research (KCHR)

4.47 Kerala Council for Historical Research is an autonomous academic institution, established in 2001, committed to scientific research in archaeology, history and social sciences. It is a recognized research centre of the University of Kerala and has academic affiliations with and has bilateral academic and exchange agreements with leading universities and research institutes in India and abroad. KCHR is to publish a comprehensive volume on the scientific history of Kerala from pre-historic to the present times.

4.48 A sustainable/historical tourism project is conceived in the Kodungallur-Parur zone and KCHR is identified as the nodal agency to provide technical assistance. From 2006-07 onwards KCHR has successfully undertaken the multi disciplinary excavation at Pattanam. The excavation has yielded significant evidences for re-conceptualizing the early history of Kerala.

Technical Education

4.49 The Twelfth Plan document proposes to encourage the private sector to establish larger and higher quality institutions and Public–Private Partnerships (PPP) in higher education.

Box 4.5

Twelfth Plan Document on PPP in Education

New models of Public–Private Partnerships (PPP) in higher education will be encouraged in the Twelfth Plan, particularly in the establishment of research and innovation institutions. Based on the Eleventh Plan experience of setting up Indian Institutes of Information Technology (IIITs) and polytechnics in PPP mode, a framework will be put in place to encourage the spread and growth of PPP models, increase and improve resource utilisation and enhance the quality of education in such institutions. In some cases, public institutions that are failing to meet standards could be assisted by the private partners to transform them through innovative PPP models.

4.50 The state of Kerala has entered into MOUs with some of the leading global industrial enterprises and is going to implement some schemes in the technical education realm where skill development is a matter of concern.

Technical Collaboration of Automation Technologies with BOSCH REXROTH

4.51 The State has entered into an MOU with Bosch Group which is a global company with wide network of operations in Automotive, Industrial and Consumer goods and building service sectors. Bosch Rexroth will setup one Centre of Excellence in Automation Technologies at College of Engineering, Trivandrum and one Centre of Competence in Automation Technologies at Government Polytechnic at Kalamaserry. These centres will work on Dual education system centres that will provide an in depth knowledge on Automation technologies. Centres will depart a clear well-structured course program on skill development to engineering students and Degree holders in Science and technology background with emphasis on hands on approach for mastering skill and competence. Centres being independent in all respects, will act on the concept of a technological Institute in an institute. This centre will increase the employability of students undergoing training. Further this centre will facilitate the training for the industry personnel in the regions. Live industry projects with hands on training facilities at Bosch and their sister concerns will be extended to the students. This collaboration has been designed as a Public Private Partnership Model. Total expenditure in setting up one Centre of Excellence will be `538 lakhs out of which `263 lakhs (48.9 per cent) will be borne by Government of Kerala and Bosch Rexroth will invest `275 lakhs (51.1 per cent); whereas the total expenditure in setting up one Centre of Competence cum skill development centre will be `439 lakhs out of which `213 lakhs (48.52 per cent) will be borne by Government of Kerala and Bosch Rexroth will invest `226 Lakhs (51.48 per cent).

Technical Collaboration of Automotive Mechatronics with MERCEDES BENZ

4.52 Automobile Industry in India is growing rapidly and is also maturing at a faster pace not only in terms of size and model variants but also in terms of technological advancements in new automobiles. But the problem faced by the industry is that the new recruits do not have the right skill sets appropriate to industry needs. In order to address this issue Mercedes Benz (MB) India has come up with the idea of establishing Advanced Diploma in Automotive Mechatronics at premier Govt. Technical Institutions across India. The main advantage for the state would be access to the cutting edge technology, which is being adopted, in MB. The faculty gets hands on training in latest automotive Mechatronics. MB India will also provide latest equipments and engines to set up the laboratory. The same facility can be extended to offer advanced courses such as PG Diploma in Mechatronics. More over this will equip the state and would be able to start PG Degree programme in the field of Mechatronics in the near future. State can also offer short-term training programmes and job-oriented courses for mechanical, electronics and electrical engineering graduates. Automobile industries will be immensely benefited because they will have a large pool of trained engineers and technicians available in the state itself.

4.53 The proposals for the implementation of a few schemes in Public–Private Partnerships (PPP) mode during 2014-15 are the out come of this new vision. Such schemes are:

- a. Advanced Diploma in Automotive Mechatronics (ADAM) and Establishment of Centre of Excellence in Mechatronics at GEC, Barton Hill.
- b. Centre of Excellence in Automation Technologies in College of Engineering Trivandrum.
- c. Centre of Competence in Automation Technologies in Govt. Polytechnic College, Kalamassery.
- d. Two year MS Course in Translational Engineering in Government, Engineering

College, Barton Hill, Thiruvananthapuram .

4.54 Directorate of Technical Education is the nodal department for Technical Education in the state. As envisaged in the 12th plan, the basic objective is to achieve faster, sustainable and more inclusive growth. The details of technical institutions under the administrative and financial control of Directorate of Technical Education is given in Table 4.4

Table 4.4

Technical Institutions under Directorate of Technical Education-2013

Sl. No.	Institutions	Nos
1	Government Engineering Colleges	9
2	Private Aided Engineering Colleges	3
3	Government Polytechnic Colleges	36
4	Government Women's Polytechnic Colleges	7
5	Private Aided Polytechnics	8
6	Fine Arts Colleges	3
7	Government Technical High Schools	39
8	Government Commercial Institutes	17
9	Government Institute of Fashion Technology (Tailoring and Garment making training centres)	42
10	Vocational Training Centres	4
Total		168

Source: Directorate of Technical Education

Engineering Colleges

4.55 There are 164 engineering colleges in the state with a total sanctioned intake of 52802 in 2013. Out of these engineering colleges 152(92.68 per cent) are self financing colleges (unaided), 9 (5.49 per cent) are government colleges and 3(1.83 per cent) are private aided colleges. Major chunk of the unaided engineering colleges are functioning in Ernakulum District (32nos) followed by Thiruvananthapuram (26 nos). There are no Government colleges in Kollam, Pathanamthitta, Alappuzha, Eranakulam, Malappuram and Kasargod Districts. During 2013, 11unaided engineering colleges were newly started in the state. The District wise and management wise details of colleges and sanctioned intake are given in [Appendix- 4.38](#)

4.56 The sanctioned intake of Govt. colleges during 2013 was 3178 (6.01 per cent), aided colleges 1613 (3.05 per cent) and unaided colleges 48011(90.93 per cent). The sanctioned intake of unaided colleges has increased by 8.66 per cent during 2013 compared to the previous year.

4.57 Of the engineering colleges in Kerala, the largest number of branch wise seats was in Electronics and Communication (11443) followed by Computer Science (8938) and Electrical and Electronics (8278). Branch-wise distribution of seats in engineering colleges in 2012-13 is given in [Appendix.4.39](#). 4763 students were enrolled in government and aided engineering colleges for graduate courses in the year 2012-13 and 4793 students were newly admitted in 2013-14. Out of these 39.65 per cent are girls. 814 students were admitted in government and aided engineering colleges for post graduate courses in the year 2012-13 and 1531 students in 2013-14. Girl students constitute 46.74 per cent of total students in government and aided engineering colleges studying for post graduate courses. Details are given in [Appendix 4.40 & 4.41](#).

4.58 The visiting faculty programme enables the teachers and students of the institution to share the experience and expertise of the eminent faculty from premier engineering institutions like IIT's, IISC's etc, research organizations like ISRO,DRDO etc. More than 200 lectures were arranged in 9 Govt. Engineering colleges as part of this programme during 2012-13. It is expected that this will ultimately lead to greater scope for technology incubation. The number of visiting faculty programmes in various engineering colleges during 2011-12 is shown in the table 4.5

Table – 4.5

Visiting Faculty Programmes in Various Engineering Colleges

Sl no	Name of College	No of programmes
1	College of Engineering, Thiruvananthapuram	59
2	College of Engineering, Barton hill	24
3	College of Engineering, Kottayam	43

4	College of Engineering, Idukki	5
5	College of Engineering, Thrissur	20
6	College of Engineering, Palakkad	12
7	College of Engineering, Kozhikkodu	11
8	College of Engineering, Wayanadu	14
9	College of Engineering, Kannur	30

Source: Directorate of Technical Education

Academic Excellence in Engineering Colleges

4.59 The academic excellence in various institutions is high and appreciable and this was due to the high pass per centage and increasing placement of students in reputed firms. The pass percentage of Govt. engineering colleges during 2012 shows that the pass percentage of Govt Engineering college Thiruvananthapuram is more than 75 per cent.

4.60 The placement record of the students in various institutions is also relatively high. A large no of students are also being qualified for higher studies through competitive examinations like GATE, CAT etc. Most of the students get placement in multinational firms like WIPRO, MAHENDRA, TCS, and BOSCH etc. Placement details of students of various Govt. Engineering colleges during 2012 is given in the table 4.6

Table – 4.6

Placement Details of Students of Various Government Engineering Colleges during 2012

Sl. No.	Name of College	No.of offers
1	College of Engineering,Thiruvananthapuram	881
2	GEC,Barton hill	106
3	Rajiv Gandhi institute of Technology, Kottayam	129
4	College of Engineering, Idukki	0
5	College of Engineering, Thrissur	497
6	College of Engineering, Palakkad	22
7	College of Engineering, Kozhikkodu	26
8	College of Engineering, Wayanadu	46
9	College of Engineering, Kannur	53
TOTAL		1760

Source: Directorate of Technical Education

Polytechnics and Technical High Schools

4.61 Forty three Government polytechnics and 6 private aided polytechnics were functioning in Kerala. The annual intake of students in government polytechnics and private aided polytechnics are 10047 and 1542 respectively. The total number of students in government polytechnics during the year 2013 was 27953 and that of private aided polytechnics 4119. The student's strength shows an increasing trend during the past few years. This may be due to the emerging situation of the State by creating skilled manpower, enhancing industrial productivity and improving the quality of life of its people. Details of annual intake and student's strength in polytechnics for the year 2011-12 and 2012-13 are given in [Appendix 4.42 & 4.43](#). Details of trade-wise annual intake of students in polytechnics of the state in 2012-13 are given in [Appendix 4.44](#).

4.62 Total number of teachers working in polytechnics of the state is 2002. Women teachers constitute 27.77 per cent of the total teachers in polytechnics. Details of number of students and teachers in polytechnics are given in [Appendix 4.45](#).Number of SC/ST students and SC/ST teachers in polytechnics in the report year are given in [Appendix 4.46](#).

4.63 Thirty nine Government technical high schools are functioning in the state. Total number of students in technical high schools in the year 2012-13 was 8828, and 801 teachers were working in technical high schools of the state in the corresponding period. Women teachers constitute 21.22 per cent of teachers in technical high schools. Number of students and teachers in technical high schools in 2011-12 and 2013-14 are given in [Appendix 4.47](#). SC students and ST students in technical high schools accounted for 13.4 per cent and 0.82 per cent of total students respectively. Details are given in [Appendix 4.48](#) and [Appendix 4.49](#).

4.64 The increased demand for higher education driven by the private sector opportunities in the emerging world is not currently being met. For augmenting the present facilities the state is thinking of starting various industry based courses on PPP mode, Govt. Autonomous Colleges, Deemed Universities and Off- Campus Centers of well known Universities. This

will not only provide the chance of availing advanced education at cheaper cost but also inculcate a healthy competition among Universities/institutions within the state. The State is also striving for expanding and diversifying education to the most modern areas so as to utilise the emerging avenues of employment and development.

4.65 While evaluating the education system in the state as a whole, it is seen that the Vocational Higher Secondary Education introduced in the state for imparting education with stress on labour skills at plus two for achieving self/direct employment as well as vertical mobility has not been able to deliver its objective. This has to be rectified by re-visiting the curriculum of the Vocational Higher Secondary Education in the State. Another major issue confronting the educational system of Kerala is the mismatch between the courses available and the courses required. There exists lack of interaction between educational institutions and industry. Collaboration of our leading technical institutions with leading industrial concerns may reduce the intensity of this grim situation. A missing link in the higher education sphere is the absence of any IITs or All India level research institutions in the State except an IIM or the recently started Central University at Kasargod. The establishment of more such institutes could have acted as role models to the state's higher education and research. In other states, such institutions have developed strong linkages with the local economies and educational institutions. The materialisation of the Innovation University in the State proposed in the interim report of the expert committee on education constituted by the State Planning Board may solve this lacuna to some extent.

SECTION 2 Art & Culture

4.66 Kerala has a rich heritage of art and culture. The Directorate of Archives, the Archaeology Department, the Directorate of Culture, the Cultural Affairs Department, Directorate of Museum and Zoo, the Kerala State Film Development Corporation, State Institute of Encyclopaedic Publication etc. are some of the leading institutions of this sector. There are various other institutions working in the State for promoting our cultural heritage.

Table 4.7

Outlay for Art and Culture in various years

Sector	11th FYP (2007-12)	2012-13	2013-14
Art and Culture	137.96	65	70

4.67 The sector has been getting more plan allocation in recent years, with the annual allocations showing a steep increase. The Annual Plan allocations for 2012-13 and 2013-14 alone sum up to almost the total allocation during the 11th FYP period. Department of Archaeology, Museums and Zoos, Kerala Kalamandalam etc. are the major departments for which significant amount has been earmarked.

Following are the major events during 2013 under Art & Culture Sector:-

- The Government of India approved the status of Malayalam as a Classical language.
- International Bookfair 2013 conducted by Kerala State Institute of Languages was held at VJT Hall, TVPM to commemorate its 45th year. A collection of about 2000 titles were displayed at the bookfair.
- Thunchath Ezhuthachan Malayalam University was inaugurated at Tirur on 20th December 2013
- The 18th International Film festival was held at Thiruvananthapuram from 6 to 13 December. It was organised by Kerala State Chalachithra Academy.
- Malayalam Mission, an autonomous institution under the administrative control of the Cultural Affairs Department conducted various activities to spread Kerala Culture and Malayalam Language among Non Resident Keralites.

SECTION 3 Medical and Public health

4.68 Kerala has made remarkable strides in terms of Health indices like Infant Mortality rate, birth rate, death rate, expectancy of life at birth etc. It is a difficult task to further improve upon these achievements and to even sustain the already gained achievements. Further, the State is facing an uphill task of non-communicable diseases like diabetes, coronary heart disease, renal disease, cancer and geriatric problems. Emerging new public health problems like chikungunya fever, dengue fever, leptospirosis, swine flu (H1N1) etc. also are a major concern. Other than these there are newer threats to the health scenario of the state, to mention a few mental health problems, suicide, substance abuse and alcoholism, adolescent health issues and rising number of road traffic accidents. Another concern is the re-emergence of some diseases like Malaria and Cholera. To tackle these concerted and committed efforts with proper inter sectoral co-ordination is essential.

4.69 The State Planning Board has constituted an Expert Committee on Health with a view to maximise access to central Schemes and prepare an action plan for the Twelfth Plan. The Committee held a series of 6 meetings to identify priority areas in Health Sector beginning from May 2013. The Committee deliberated on the various challenges faced by the State's Health System and the strategies to be adopted during Twelfth Five Year Plan and Committee had submitted one interim Report. The major suggestions of the Interim report are following.

- Strategies aimed at reducing out-of-pocket expenditure and providing comprehensive financial risk protection to the population is the utmost priority during the 12th plan.
- Strategies should focus on broad basing the preparedness for Communicable and non-communicable diseases and also bringing convergence between various departments like Local Self Government, Water Supply and Sanitation etc.
- In order to address the public health challenges across the various levels of the health system, the establishment of public health cadre is also another aspect that needs attention in human resource planning.
- Strategies should focus on assuring quality of health services in public hospitals especially at the secondary level.
- To establish an inter-disciplinary centre for the study of ageing with focus on both basic and translational research and an inter disciplinary approach to mental health.

Box 4.6

Major Initiatives of the XIIth Five Year Plan of Government of India-Relevance to Kerala

1. Access to Medicines, Vaccines and Technology:

- 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 to nurture the country's ability to produce essential drugs should be protected. MoHFW should be empowered to strengthen the drug regulatory system.

2. 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.

3. Health Service Norms:

- 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.

5. Management and Institutional Reforms:

- 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.

6. 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).

The state can make use of many of the programmes of Government of India and resources tapped accordingly.

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Major Initiatives of the XIIth Five Year Plan of Government of India-Relevance to Kerala

- **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.

• **Prevention and management of lifestyle related diseases:**

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.

• **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.

• **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 many medical complications may be traced to mental health problems.

• **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.

• **Governance of the sector**

Kerala has to focus on developing and improving systems to ensure good governance of the health system.

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Health Sector Financing during Twelfth Plan

4.70 During the first year of Twelfth Plan an amount of ` 47000 lakh had been earmarked for Health Sector, of which 82 per cent was expended. Out of the total outlay 43 per cent was earmarked for the Directorate of Health Services, 43 per cent for the Directorate of Medical Education, 4 per cent for Indian Systems of Medicine, 4 per cent for Directorate of Ayurveda Medical Education, 4 per cent for Directorate of Homoeopathy, 2 per cent for Homoeo Medical Education .The allocation for Directorate of Health Services during 2012-13 was greater (` 205.64 lakh) compared to the average allocation for the same during the XI th plan (` 72.13 lakh).

4.71 During the second year of the Twelfth Plan (2013-14) an amount of ` 54100 lakh has been earmarked for Health Sector, which was 15 per cent increase over 2012-13 outlay. During 2013-14, only 18 per cent has been expended so far. Department wise Average plan outlay and Expenditure during Eleventh plan and total outlay and expenditure during 2012-13 Annual Plan is given in the Table 4.8

Table 4.8

Average Plan Outlay & Expenditure during XI th plan & Outlay of Annual Plan 2012-13

(₹. in lakh)

Department	Eleventh Plan Average		per cent of Exp	Annual Plan 2012-13		per cent of Exp
	Outlay	Exp		Outlay	Exp	
Directorate of Health Services	7214	8078	111	20564	18539	90

Directorate of Medical Education	7162	11610	162	20220	16409	81
Indian Systems of Medicine	907	763	84	1665	1687	101
Directorate of Ayurveda Medical Education	944	795	84	1760	1041	59
Directorate of Homoeopathy	1002	426	42	1721	700	41
Homoeo Medical Education	754	251	33	1070	343	32
Total	17983	21923	122	47000	38719	82

Major Health Problems

Communicable Diseases

4.72 Kerala is witnessing an increasing burden of diseases, both communicable and non communicable. Although the state has been successful in controlling communicable diseases such as Dengue, Aids, Malaria, Leptospirosis, Hepatitis, Chikungunya, H1N1 in the past. In recent years there is a resurgence of these diseases leading to considerable morbidity and mortality. Dengue has become endemic to Thiruvananthapuram which accounts for two thirds of cases in the state.

Dengue Fever

4.73 Dengue was reported for the first time in Kerala in 1997. Subsequently, it has spread far and wide. During 2013, Kerala has reported 7349 dengue cases and 23 numbers of deaths up to September 2013. 4316 more cases were reported and 11 more deaths took place in 2013 than 2012. The increasing number of cases reported is due to water supply mismanagement, gaps in public health infrastructure, increased mobility of population and poor infrastructure in the state to monitor mosquito breeding. District wise patients treated and death reported due to dengue fever in Kerala during 2013 is given in [Appendix 4.50](#).

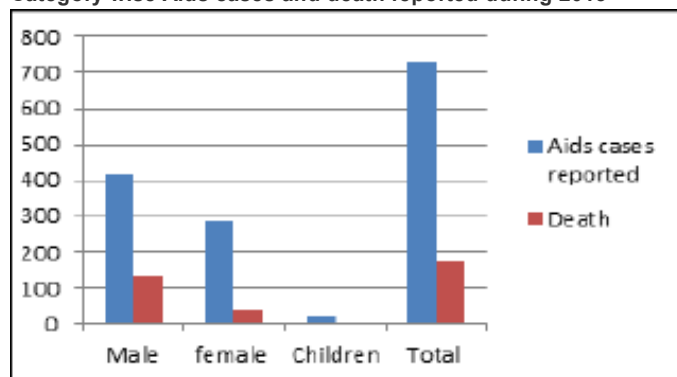
HIV/AIDS

4.74 It is estimated that around 2.4 million people in India are currently living with HIV and come from diverse cultures and backgrounds. Kerala State Aids Control Society is the pioneer organization in the State working with the objective of controlling the spread of HIV as well as strengthening the State's capacity to respond HIV/AIDS. It was formed to implement the National Aids Control Programme in the state.

4.75 Current data shows that the HIV epidemic in the state is largely confined to individuals with high risk behavior including injecting drug users, Female sex workers and men who have sex with men. Truck drivers and migrant workers are also high risk category. During 2013, Kerala has reported 727 Aids cases and 174 number of deaths up to September 2013. The category wise Aids cases reported during 2013 and death cases are given in the Fig 4.3 .

Table 4.3

Category wise Aids cases and death reported during 2013



Source: Source: Kerala State Aids Control Society

Chikungunya

4.76 During 2006, Chikungunya emerged as a major ever known epidemic in India affecting 151 districts in 8 States including Kerala. During 2011, 58 chikungunya cases were reported in Kerala, while during 2013 it has increased to 169 cases. Out of this most cases (149) were reported in Thiruvananthapuram and 11 cases were reported in Idukki. The details of district wise patients treated for Chikungunya and Viral fever during 2013 is given in the [Appendix 4.51](#).

Leptospirosis

4.77 Leptospirosis is causing the highest number of deaths consistently for the last few years in the State. It caused more than 100 deaths every year during the past few years. In Kerala, out of the total 510 Leptospirosis cases reported 11 deaths were reported during 2012 and it increased to 613 cases and 15 death cases during 2013. The details of district wise patients treated for leptospirosis during 2013 is given in the [Appendix 4.52](#).

Leprosy

4.78 The prevalence rate of leprosy in Kerala is 0.25per 10000 during 2013. There are three leprosy sanatoriums in Kerala with a bed strength of 1653 and the details of leprosy case during 2013 is given in the Table 4.9.

Table 4.3

District wise distribution of Leprosy Units in Kerala-2013

Sl. No.	District	Institutions	Sanctioned Bed Strength	IP as on 31st Oct.2013
1	Alappuzha-Nooranadu	Leprosy Sanatorium, Nooranadu	767	224
2	Thrissur-Koratty	Koratty Gandhi Gram Govt. Dermatology Hospital	660	210
3	Kozhikode-Chevayoor	Govt. Leprosy Hospital, Chevayoor	226	130
	Total		1653	564

Non Communicable Diseases(NCD)

4.79 Common Non-communicable diseases causing great threat to life are cancer, diabetes, cardio vascular diseases and lung diseases. Unless interventions are made to prevent and control non-communicable diseases, their burden is likely to increase substantially in future, due to ageing population and change in life style .Considering the high cost of medicines and longer duration of treatment, this constitutes a greater financial burden to low income groups.

Cancer

4.80 Cancer is a major disease that affects all sections of human population. Statistics show that every year, 35000 new cases of cancer are getting detected in Kerala .Nearly 1 lakh people are under treatment for this disease annually. Apart from Medical Colleges, RCC, and Malabar Cancer Centre are the hospitals in Government sector which offer treatment for cancer patients. Delay in early detection, huge treatment cost, minimal treatment centres and lack of awareness contribute to high mortality of the disease.

Malabar Cancer Centre

4.81 Malabar Cancer Centre, 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 bed strength of 110 and many latest facilities for the treatment of cancer patients. During 2013, up to September 4360 new cases were treated in Malabar Cancer Centre alone and 733 major operations and 304 minor operations conducted.

Prevalence of other Public Health Diseases during 2012 and 2013

4.82 A comparative analysis of the prevalence of public health diseases during 2012 and 2013 is given in Table 4.10

Table 4.10

Prevalence of Public Health Diseases during 2012&2013

Sl.No.	Diseases	2012		2013 upto September	
		Attack	Death	Attack	Death
1	Diarrheal Diseases	3118	11	2187	14
2	Pneumonia	2035	136	1169	Nil
3	Enteric fever	561	1	327	3
4	Measles	166	0	215	0
5	Acute Respiratory Infection	3170	38	1331	19
6	Chickenpox	619	16	360	17
7	Tuberculosis	2811	103	1625	101

Source: Directorate of Health Services

4.83 Table-4.10 shows an increase in the death cases during the first nine months of 2013 over the whole year 2012 due to diarrheal disease, enteric fever and chicken pox.

Draft Health Policy

4.84 The Kerala Government has recently released a Draft Health Policy 2013. Its objective is to position good health as the product of development agenda including water supply, nutrition, sanitation, prevention of ecological degradation, respect for citizens rights and gender sensitivity. Kerala has achieved good health indicators compared to other Indian States. The prime reason for this has been the stewardship role that successive Governments, before and after independence, have played. This has become even more important at a time when the State is facing the emergence and re-emergence of some of the communicable diseases along with problems resulting from the epidemiological and demographic transition.

Mental Health

4.85 Less importance is given in the field of health for mental health in comparison to physical health. A performance audit by the Comptroller and Auditor General of India in 2011 has concluded that Kerala, where 5.86 per cent of the population suffers from mental illness, compared with the national average of 2 per cent, is precariously perched in the mental health care sector (news –Times of India).

4.86 A policy made in this direction was approved by the State Government on May 2013. The policy suggests that the treatment for mental illness should start from the primary health centres making the mental hospitals and the Department of Psychiatric Medicines referral centres by upgrading them and that Research should be encouraged for prevention and cure of mental illness. An awareness programme among the general public about the mental illness has also been suggested in the policy. Proper training programmes to the doctors should be imparted free of cost whether they come from public or private sector if they show their willingness to undergo the training.

4.87 In Kerala three mental health centres are functioning with bed strength of 1342. District Mental Health Programme is functioning in eight districts. Rehabilitation facilities are offered through centres. Lack of awareness, attitude of general public, neglect of family members, lack of proper follow up etc are the major problems of mental patients.

Modern Medicine-Allopathy

4.88 Out of the total 1281 health care institutions, 681 are Primary Health Centres (PHCs), 233 are Community Health Centres (CHCs), 77 are Taluk Head Quarter Hospitals, 16 are District hospitals, 15 are General hospitals, 19 are specialty hospitals, 17 are TB clinics and 49 are other hospitals. Category wise major medical institutions and beds in Kerala, details of IP, OP cases and Medical and Para medical personnel under DHS during 2013 are given in [Appendix 4.53](#), [4.54](#) & [4.55](#)

Health Care Institutions under DHS

4.89 At present there are 1281 health institutions with 37415 beds under Health Services Department consisting of Primary Health Centres, Community Health Centres, Taluk Head Quarters hospital, District hospital, General hospital and specialty hospital for mental illness, Leprosy and Tuberculosis. Primary health centres are institutions providing comprehensive primary care services including preventive cure and curative care. CHCs and Taluk level institutions form the basic secondary care institutions. District hospitals, General Hospitals and Maternity Hospitals provide specialty services and some super specialty services. In 12 th Five Year Plan focus will be for the implementation of the specialty cadre in all health care institutions up to the community health centre level. Modernisation of the functioning of the institution by computerising and better methods of human resource development is to be carried forward.

Para Medical Services

4.90 Medical and paramedical professionals are essential for better diagnostic facilities. Different types of laboratories functioning for the paramedical services in the state are Public Health Laboratory, Government Analyst Laboratory, Chemical examiners Laboratory, Food Safety Commissionerate and Drugs Control Department.

Box 4.6

Major achievements of Paramedical Services during 2013

- Modernisation of three laboratories including purchase of modern analytical instruments
- Civil Works of the Regional Drug Testing laboratory, Ernakulam was completed and installation of equipments are in progress.
- Setting up of microbiology lab at Drug testing laboratory, Thiruvananthapuram is almost completed.

- With the implementation of software for the licensing of sales unit in the state, the entire procedure has become transparent and data processing and storage has become very effective. As a part of this software system SMS alert pertaining to details of “not of standard quality drugs” and banned drugs will be transmitted to all the stake holders in the state like doctors, pharmacists, nurses, retailers and wholesalers.

National Rural Health Mission (NRHM)

4.91 National Rural Health Mission aims to provide accessible, affordable and accountable quality health services to the poorest households in the remote rural regions. Under NRHM, the focus is on a functional health system at all levels, from the village to the district. NRHM is functioning in the State for the development of health institutions 25 per cent of the total Central Government fund has to be given to the NRHM by the State Government as State share. NRHM is supporting the Health & Family Welfare Department including Directorate of Medical Education and AYUSH.

Medical education

4.92 In Kerala, medical education is imparted through six medical colleges at Thiruvananthapuram, Kottayam, Alappuzha, Kozhikode, Thrissur and Manjeri. Nursing education is imparted through nursing colleges in Thiruvananthapuram, Kozhikode, Kottayam, Alappuzha and Thrissur districts. Dental Colleges are functioning in Thiruvananthapuram, Kozhikode and Kottayam districts. Medical and Para medical courses conducted in Govt. Medical Colleges with annual intake of students, details of clinical and non clinical personnel in Medical Colleges under DME, during 2013 are given in Appendix 4.56 & 4.57. A comparative analysis of the status of medical college hospitals and attached institutions during 2012 and 2013 is given in Table 4.11.

Table 4.11

Status of Medical College Hospitals and attached institutions during 2012 & 13

Medical College Hospitals	Beds		Inpatients		Outpatients		Major Operations conducted	
	2012	2013	2012	2013	2012	2013	2012	2013
Thiruvananthapuram	3160	3160	170765	118545	1353060	1195012	32575	13937
Alappuzha	1035	1035	50975	53734	710179	53734	3821	1184
Kottayam	1604	1604	76898	79676	857648	993374	6571	6954
Thrissur	1155	1155	61444	55406	680123	427379	6275	13987
Kozhikkode	3325	3325	122820	116325	1734932	560772	15743	9870
Total	10279	10279	482902	423686	5335942	3230271	64985	45932

Source: Directorate of Medical Education

4.93 There is no change in bed strength in 2013. The number of inpatients and outpatients shows a decline in 2013. Major operations conducted in Kottayam and Thrissur Medical Colleges has increased during 2013, although the total number of operations in all Government hospitals has reduced. Private hospitals seem to be in greater demand for patients.

Major achievements of Medical Education Department during 2013 include

1. Started New Medical College at Manjeri and admission given to 100 students.
2. Started Diploma Course in Dialysis in Government Medical College, Alappuzha
3. Construction of labs, academic block, Sewage treatment plant, hostel, mortuary etc.

Kerala University of Health and Allied Sciences

4.94 Kerala University of Health Sciences was established by Kerala University of Health Science Act 2010 with objectives to ensure proper and systematic instructions, teaching, training and research in Modern Medicine, Homoeopathy and Indian Systems of Medicine and Allied Health Sciences in Kerala. The university has affiliated professional colleges which includes all systems of medicines such as Allopathy, Ayurveda, Homoeopathy, Sidha, Unani, Yoga, Naturopathy, Nursing, Pharmaceutical Science and Paramedical courses.

Indian Systems of Medicine

4.95 Ayurveda is a science dealing not only with treatment of some diseases but also a complete way of life. Indian

Systems of Medicine department renders medical aid to the people through the network of Ayurveda hospitals and dispensaries, grant-in-aid Ayurveda institutions, Sidha- Vaidya, Unani, Visha , Netra and Naturopathy. Special hospitals such as Mental Hospital, Panchakarma, Nature cure and Marma are functioning under this department. At present there are 120 hospitals and 794 dispensaries under ISM department. The State Medicinal Plants Board also co-ordinate matters relating to the cultivation, conservation, research and development and promotion of medicinal plants in the State. List of major institutions and district wise distribution of institutions, beds and patients under ISM department during 2013 is given in [Appendix 4.58](#)

Ayurveda Medicine Manufacturing- OUSHADI

4.96 OUSHADI is the largest manufacturer of Ayurvedic medicines all over India in Government sector functioning especially as a profit making public sector undertaking. Oushadhi is the exclusive supplier of Ayurvedic medicine to Government hospitals and dispensaries of ISM department. In Kerala, Oushadhi supplies ` 18-20 crores of medicines each year to State ISM department at 30 per cent less than market price and ISM department supplies this medicine to the poor patients in the State free of cost. The company also caters to the demand of the public through a network of 468 exclusive agencies spread all over the State. Total sales have shown 103 per cent increase during 2012-13 when compared to the sales during the year 2008-09. Similarly profit after tax shows 417 per cent of increase during the same period. Similarly the dividend paid to State Government also shows an increasing trend. The details of turnover for the period from 2008-09 to 2012-13 are given in [Appendix.4.59](#).

Ayurveda Medical Colleges

4.97 There are 3 Government Ayurveda Medical Colleges situated at Thiruvananthapuram, Thrissur and Kannur districts having a bed strength of 1259. Panchakarma hospital and Women & Children hospital are also functioning under the Government Ayurveda Medical College Thiruvananthapuram. There are two aided colleges, 11 self financing colleges and a self financing siddha college for imparting Ayurveda medical education.

HOMOEOPATHY

4.98 There are 661 homeopathic dispensaries and 31 hospitals with total bed strength of 955 under Homoeopathy department in the State. In addition, Kerala State Homoeopathic Co-operative pharmacy (HOMCO) Alappuzha, a medicine manufacturing unit is also functioning under the Directorate of Homeopathy. District wise distribution of institutions, beds and patients treated under Homoeopathic department during 2012 & 2013 is given in [Appendix 4.60](#). Homoeo Medical Education is imparted through two Govt. Homoeopathic Medical Colleges, at Thiruvananthapuram and Kozhikode. Annual intake of students and courses in Homoeo Medical Colleges are given in [Appendix 4.61](#).

Box 4.8

Major achievements of Homoeopathy Department during 2013

- 60 new homoeo dispensaries started
- Established "Seethalayam" (women Health Care Centres) in all 14 districts, more than treatment, it is committed to be a part and parcel of multi dimensional support imparted by the Social Welfare Department, State Women's Commission, home department etc.
- Regional Communicable Disease Prevention programme was implemented in the Kainakari panchayath in Alappuzha district
- Started adolescent health care and conducted school health programme in all districts.
- Started a specialty mobile clinic in endosulphan affected areas in Kasarkode
- A geriatric centre started in Alappuzha with a geriatric specialist and physiotherapist.
- Specialty clinic started for endocrine disorders in Idukki
- By integrating Homoeopathy, Ayurveda, Yoga and Naturopathy, Ayush Holistic Centres were started to prevent and treat life style disorders.
- Started a ten bedded Chittara ,a pain and palliative Care Unit in Malappuram district

Source: Directorate of Homoeopathy

Immunization Coverage

4.99 Immunization is one of the most successful and cost –effective health intervention and prevents debilitating illness, disability and death from vaccine –preventable diseases such as diphtheria, hepatitis A and B, measles, mumps,

pneumococcal disease ,polio,dotavirus diarrhoea, tetanus and yellow fever. Starting from 21 April 2012, WHO is uniting countries across the globe for a week of vaccination campaigns, public education and information sharing under the umbrella of World Immunisation week. Kerala has achieved 94 per cent of target in immunisation during 2013. One of the major achievements in immunisation during 2013 is that the per cent coverage of immunisation for BCG has increased from 104 to 106 and Measles has increased from 99 to 113. The coverage of immunisation programmes in Kerala during 2012-13 is given in [Appendix 4.62](#).

SECTION 4

Social Security and Welfare

4.100 Social security provides protection to people living in economic and social distress. The various welfare schemes in Kerala are implemented through Government Departments, Statutory Boards and Non-statutory Boards and now by Local Bodies. Kerala Social Security Mission under the Department of Social Justice is also implementing social security programmes for the senior citizens, children and differently abled. The departments and agencies stands for social security measures and their major activities are given in [Appendix 4.63](#)

Outlay and Expenditure

4.101 In 2012-13, the first year of the 12th Five Year Plan, the outlay of social welfare including child development increased to 29 per cent from 2011-12. It further increased by 17 per cent in 2013-14. The expenditure on the sector increased to 56 per cent in 2012-13 from 2011-12.

4.102 The social security programmes in Kerala can be grouped into two: - A. Institutional Care and B. Social Assistance Programmes.

A. Institutional Care

4.103 Kerala has organized a wide security net through a variety of institutions for providing institutional care and protection for the children, senior citizens, persons with disabilities, mentally ill/challenged persons, women and girls who are victims of domestic violence and sexual abuse. About 2484 persons benefited in 2012 through a network of 78 welfare institutions. Apart from this, the registered old age homes, founding homes, orphanages and beggar homes run by N.G.Os and other voluntary organizations benefited 14879 old people, 461 abandoned children, 48617 orphaned children and 731 beggars respectively. Major Government departments and agencies stands for social security measures and their major services are given in [Appendix 4.64](#) The district wise coverage of beneficiaries in major welfare institutions run by the Department of Social Justice is given in [Appendix 4.65](#) and that of registered welfare institutions in [Appendix 4.66](#).

B. Social Assistance Programmes

4.104 Social assistance programmes comprises of a series of social security pension schemes and welfare schemes. The major programmes in this area are listed below.

Major Pension Schemes

4.105 The major pension schemes implemented in the state are: Agriculture labour pension, Indira Gandhi National Old Age pension, pension for disabled, pension for unmarried women above 50 years of old and widow pension. In 2012, the total no. of pensioners except agriculture labour pensioners were about 16 lakh which is an increase of nearly 1 per cent from 2011. The highest category is of widow pensioners. The eligibility criteria fixed for GOI pension schemes is now confined to BPL families. The other criteria such as percentage of disability, age limit etc is more stringent in Central schemes than that of the corresponding state schemes, as a result, the State Government is finding difficulty to get more eligible beneficiaries for Central schemes. The district wise coverage of major pension schemes is presented in [Appendix 4.67](#)

Social Security and Welfare to Unorganized Sectors

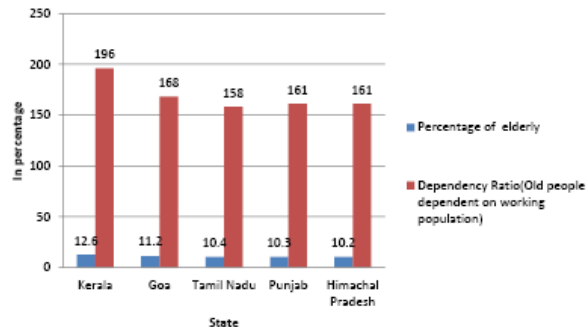
4.106 The major landmark in social security in Kerala is the introduction of welfare fund/ pension schemes for the unorganized sectors given through the Welfare Fund Boards (WFBs). Of the 28 welfare fund boards in 2012, twelve are under the direct control of the Labour department. In 2012, the total members enrolled in these boards were about 53 lakh of which 53 per cent from agriculture sector including fisheries and dairy. Details of workers enrolled in the WFBs are shown in [Appendix 4.68](#)

Welfare of Senior Citizens

4.107 Compared to other states the percentage of elderly (60 years and more) to total population is higher in Kerala. In 2001 census it was 9.79 per cent and in 2011 it increased to 12.6 per cent. Also the dependency ratio of elderly in Kerala in 2011 is 196 and is high among the states in India. It becomes a major challenge to the state and society to share the responsibility of taking care of the elderly people.

Fig 4.4

Highest Dependency Ratio and percentage of Elderly (60 years and above) to the total population of five states in India



Source: Census, 2011

4.108 As the aging population is rapidly increasing in the state, to address the social, economical and health care aspects of the aged community, the state has visualized the State Policy for Older persons, 2013. The tribunal functioning in Kerala under Maintenance and Welfare of Parents and Senior Citizens Act, 2007 is one way of checking abuse of the elderly. Effective implementation of these policies and Acts will help improve the situation.

Vayomithram Programme

4.109 This is a programme implemented in 5 Corporations and 20 Municipalities by Kerala Social Security Mission give welfare services such as free medicine, palliative home care and help desk facilities to persons above 65 years. The programme benefited nearly one lakh aged people in 2012.

Welfare of Differently Able

4.110 Though the differently abled group is small in number, these members of our society deserve special attention. Nearly 21 per cent of the total outlay in the social welfare sector has been provided to the disability area in 2012-13. The schemes for the welfare of this group had been implemented through Social Justice, Health and Education departments. It is necessary to conduct a disability survey in the state covering all types of disabilities as there is no such data is available at present for effectively intervening to facilitate this group.

Issuing Disability Certificate to Differently Able

4.111 According to the Persons with Disability Act, 1995 it is mandatory to provide disability certificate to all disabled. In view of this, Government has started this scheme in 2009-10 through Kerala Social Security Mission and has so far issued about 2.51 lakh identity cards and certificates.

State Commissionerate for Persons with Disabilities

4.112 The State Commissionerate was set up under the Act of Persons with Disabilities Act, 1995 to monitor the implementation of the Act and to redress the complaints of differently abled. The other functions of the Commissionerate are conducting awareness camps, redressal of the complaints of disabled persons, inspection of institutions for disabled, etc.

Box 4.9

Assisted Living for Adults with Disabilities

Kerala State Planning Board had organised a National workshop on Assisted Living for Adults with Disabilities to work out a model programme for the support and rehabilitation of adults with disabilities. The workshop discussed 6 eminent models - the Vidya Sagar Youth Model in Chennai for the young people with disability, Group home model, a community based rehabilitation programme in Hyderabad for intellectually challenged individuals, Support Living model run by the Rural

Development Trust (RDT) in Ananthapur, Andhrapradesh, Camp hill Model, Bangalore for persons with multiple disabilities, Foster Care model (Kollam model) for handling multiple disabilities and the Karonda model of National Trust for intellectual disabilities. For the preparation of the detailed project report, the SPB has constituted an expert committee with experts for developing effective model/ models. The identified core areas are: the infrastructure required for the programme, identifying the type of disability and the target group to be included, role of the government etc. Kerala Social Security Mission will be the implementing agency of the programme.

National Institute of Speech and Hearing (NISH)

4.113 NISH was established for the rehabilitation and welfare of the deaf and hard of hearing persons in the state with facilities for detection, evaluation of hearing loss and rehabilitation. During 2012-13, Nish conducted 5297 audio logical evaluations, 270 psychological evaluations and 1647 speech evaluations. Under ADIP scheme of GOI, for distribution of hearing aids, 20 camps were conducted and benefited 802 individuals.

State Initiative Programmes on Disabilities

4.114 This is a state initiative programme to provide special care to the differently abled in the area of prevention, detection and early intervention of disabilities, education, employment and rehabilitation. The state already had some work going on in this area to cover the entire population with disabilities through a comprehensive package. Even though 13 per cent of the outlay of social welfare sector had been earmarked for this programme during 2012-13, the expenditure reported is nil. Hence necessary steps should be taken to improve the involvement and co-ordination of the line departments for achieving the desired objectives.

Kerala State Handicapped Persons Welfare Corporation

4.115 The Corporation is established for promoting and implementing the welfare schemes for differently abled persons. It is also the nodal agency for the implementation of the NPRPD scheme of Government of India being implemented in Kasaragod, Palakkad and Kollam districts. Provision of aids and appliances, self-employment scheme, financial assistance to self-help groups, vocational training to SC/ST disabled persons etc are the major activities of the Corporation. In 2012-13, the Corporation assisted 49533 differently abled persons.

District Disability Rehabilitation Centres (DDRCs)

4.116 Three District Disability Rehabilitation Centres (DDRCs) are functioning in Kasargod, Palakkad and Kollam districts as a joint venture of the State and Central Government 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 for reducing the effects of disabilities and promoting their physical, social and psychological rehabilitation.

Ex-Servicemen & War Widows Welfare

4.117 The Department of Sainik Welfare is looking after the welfare and rehabilitation of Ex-servicemen and their dependents. As on 30th March 2013, there were 214646 ex-service men and 50687 widows. The department runs three computer training centers at Thiruvananthapuram, Kozhikode and Thrissur for re-employment and self-employment of this group. In 2012, the department provided rehabilitation training to 256 ex-service men and widows.

Prisoners Welfare

4.118 There are 52 different types of jails in Kerala. Modernization of Prisons and Welfare of Prisoners are the two major schemes implemented by the Prison department. 13th Finance Commission has recommended an amount of ` 154 crore for the development of prisons and welfare of the prisoners. Solar energy system and energy saving measures in all 52 jails is one of the new initiatives taken under this on a pilot basis has been commissioned on 3rd October, 2012 at Central prison, Thiruvananthapuram. Kerala stands 3rd in jail income in the country while Delhi stands first. It is expected that ` 22 Cr. will be achieved by the Jail Department during this year. As on March 2013, there were about 6929 prisoners, of which 217 are women. Each inmate in the jail earns nearly ` 117 per day from various activities and thus saving ` 3500 per month. Details of prisoners in jails are given in [Appendix 4.69](#)

Welfare of Women

4.119 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 the PWDV Act. The present status of women in Kerala is given in the chapter of gender development.

Rajiv Gandhi Scheme for Empowerment of Adolescent Girls

4.120 As a centrally sponsored scheme, launched in Kollam, Idukki, Malappuram and Palakkad districts, it aims at empowering the nutritional and health status of the adolescent girls in the age group of 11-18 years through 84 ICDS projects of the districts. This scheme should be extended to the districts covering coastal and tribal areas of the state by giving more importance to vocational training and skill development focusing self help groups. During 2012 the scheme assisted around 2 lakh beneficiaries which shows a decrease of 33 per cent compared to 2011..

Indira Gandhi Matritva Sahyog Yojana

4.121 This centrally sponsored scheme aims to provide financial assistance covering pregnant women of 19 years and above for the first two live births in Palakkad district. This scheme should be extended to the coastal and tribal districts as there is more concentration of needy beneficiaries in these districts. The scheme assisted 31161 beneficiaries in 2012 which is an increase of 22 per cent compared to 2011.

Snehasparsham

4.122 The scheme aims to address the problem of unwed mothers particularly from tribal communities in Wayanad district. Monthly assistance of ` 1000/- is given to all unwed mothers and the scheme has benefited 1314 women in 2012-13

Kerala Women's Commission

4.123 The commission has taken steps to enhance the status of women and to enquire into unfair practices affecting women by conducting seminars and adalaths. The commission had conducted 53 seminars/legal workshops and 65 adalaths during 2012-13. In 2012, the commission received 3335 complaints of which Thiruvananthapuram is on top and Wayanad is the least. The nature of complaints shows that domestic violence and family problems is on the increase. The category wise and district wise details of complaints received as on March,2013 are given in [Appendix 4.70](#).

Kerala State Women's Development Corporation

4.124 Self employment schemes for women, flagship programme on gender awareness and construction of She- toilets are the major programs of the Corporation. During 2012-13, the Corporation benefitted nearly 10000 women in self employment directly or indirectly through National Corporations and constructed 23 automatic and unmanned cost effective and environment friendly She-toilets.

Welfare of Children

4.125 The percentage of child population in our state below the age of 6 years in 2011 census comes down to 9 per cent from 11.91 per cent in 2001. While the overall sex ratio in Kerala improved from 1058 in 2001 to 1084 in 2011, the child sex ratio (0-6 years) decreased from 960 in 2001 to 959 in 2011. It is quite alarming that in all the districts in Kerala, the child sex ratio is less than 1000. As per the report published by the National Crime Records Bureau, the crime against children in the state has increased by 263 per cent from 2008 to 2012. Though Kerala has achieved marked improvement in the area of immunization, elimination of polio, reducing infant mortality etc, about 50 per cent of students are suffering from lifestyle diseases as per the latest report of Health Department. More over there are nearly 8 lakh students facing learning disabilities. Bringing children with learning disabilities into the mainstream is a major challenge.

Box 4.10

National Policy for Children, 2013

To affirm the Government's commitment to the rights based approach in addressing the continuing and emerging challenges in the situation of children, the Government of India introduced the National Policy for Children, 2013. The key priorities of the Policy: - Survival, health, nutrition, development, education, protection and participation are the undeniable rights of every child. The Ministry of Women and Child Development (MWCD) will be the nodal Ministry for overseeing and coordinating the implementation of this Policy. A National Coordination and Action Group (NCAG) for Children will monitor the progress. Similar Coordination and Actions Groups will be formed at the State and District level. The Central government commits to allocate the required financial, material and human resources, and their efficient and effective use, with transparency and accountability, to implement this Policy. Child budgeting will track allocation and utilization of resources. A comprehensive review of this Policy will be taken up once in five years in consultation with all stakeholders

including children.

Source: Planning commission of India & Directorate of Health Services

Adoption Services

4.126 The Kerala State Council for Child Welfare started this programme in 1979 as the best non institutional form of child care to discarded children or children without parent or children without a family set up and now 3 adoption centers and 17 registered placement agencies are functioning. A gradual decrease is noted in the adopted children from 2010-11 to 2012-13. Details of adopted children are given in [Appendix 4.71](#).

Child Participation Programmes

4.127 Kerala's model of Bala Sabha and Bala Panchayat is a neighborhood network of children in LSGIs under Kudumbasree for the holistic development of children. Protection of child rights, cultivating creative potential in children, identifying and nurturing their inmates talent are the prime objectives of the programme. In the state 37426 Bala Sabhas has been constituted up to September, 2013

Box 4.11

Kerala State Commission for Protection of Child Rights

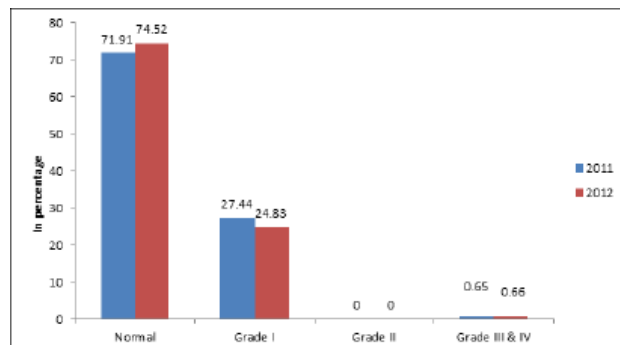
Kerala State Commission for Protection of Child Rights started functioning from 3.6.2013 based on the provisions of the Commission for the Protection of Child Rights Act, 2005. The Commission has the mandate to examine and review the existing laws for the protection of child rights to assess compliance with convention on the rights of child, inquire into cases of violation of child rights, look into factors inhibiting the enjoyment of those rights and suggest remedial measures etc. For monitoring and implementation of the Protection of Children from Sexual Offences Act, 2012(POCSO Act, 2012), it has been decided to constitute a POCSO division in the State Commissionerate as it has been established by the National Commission (NCPCR) and State Commissions in other states.

Nutrition

4.128 In Kerala about 25 per cent of the children are underweight and 0.66 per cent are severely underweight. According to the latest survey report of State Nutrition Research Centre; high degree nutritional deficiency is noted among the children in Palakkad and Wayanad districts and 42 to 48 per cent of students studying in 6th to 8th standards do not get sufficient nutritional food. A UNICEF investigation report on the recent infant deaths at Attappady says that "Anaemia in pregnant mothers and inadequate nutrition" are the main causes for the tragedy.

Fig 4.5

Classification of Nutritional Status of Children under ICDS Scheme as on March 2012 & 2013 (in %)



Note: - Grade I & II – Moderately malnourished children

Grade III & IV– Severely malnourished children

Source: Ministry of Women & Child Development, Govt. of India

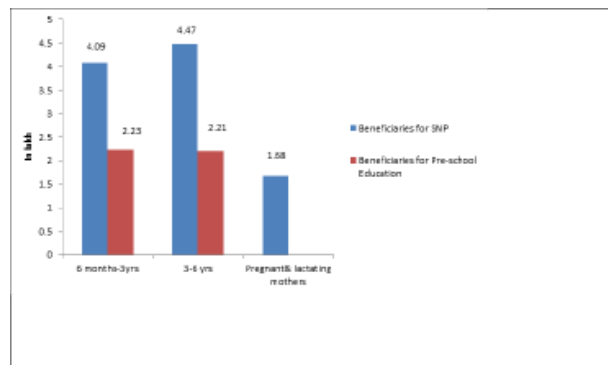
Integrated Child Development Services (ICDS)

4.129 It is one of the largest early child care programmes for improving the nutritional status of women and children by providing an integrated package of services to the beneficiaries. This programme in Kerala is implemented through 33115 operational Anganwadis in 258 ICDS projects. In 2012, the SNP programme under ICDS benefited nearly 8.55 lakh children

in the age group of 0 to 6 years and 1.68 lakh pregnant and lactating women. Nearly 4.4 lakh children in the age group of 3 to 6 years were benefited for pre-school education in 2012. District wise coverage of SNP beneficiaries under ICDS is given in [Appendix 4.72](#).

Fig 4.6

Number of Beneficiaries under ICDS scheme as on March, 2013 (no's in lakh)



Source: Ministry of Women and Child Development, Govt. of India

4.130 As per the data table of Ministry of Women and Child Development, there is no significant improvement in the nutritional status of children under ICDS in 2012 compared to 2011. The recent report of the Comptroller and Auditor General of India revealed that delay in release of funds, failure to cover the targeted population and failure in fortifying the take-home food delivered to children with micronutrients has led to the collapse of the ICDS programme in Kerala. GOI have now decided to restructure the ICDS programme and implement it in Mission mode as the programme is not fully achieving its core objectives over the years of implementation. The state should give top priority to strengthen and restructure the ICDS programme by assessing the existing gaps in programme implementation at various levels.

Outlook

4.131 The weaker sections that are unable to cope with the rapid changes of social transformation in Kerala need special attention. For this, focused intervention is necessary by extending the reach of social security network to the neglected groups, socio-economic empowerment of women and differently abled, the aged and vulnerable children. Also a seamless integration and synergistic partnership between Government and civil societies is needed for managing the welfare institutions as the Government system has its inherent limitations for rendering services in this area. In the mean time there is a need to bring about a measure of uniformity in the social assistance programmes to confirm certain minimum standards by ensuring social audit of social security schemes, effective IEC campaign and grievance redressal mechanism.

SECTION 4

Gender Development

4.132 The differences in opportunities between men and women are socially produced and hence changeable. There is a general perception that women are less capable than men and are more of a burden. Although this may not be true, historically, socially and culturally, women have been regarded as less important than men especially as an economic agent. Social and economic institutions may unduly favour one particular sex and hence the other should be given greater opportunity. Gender Development may be regarded as the development of the oppressed gender by bringing them into the mainstream. Gender Inequality is a matter of serious concern in the country and also in the state. Periodic measurement of Gender Inequality may throw light on the situation. So Gender Inequality Index for each district and state may be prepared periodically.

Box 4.12

Gender Inequality Index

Gender Inequality Index (GII) is a composite index prepared by the United Nations Development Programme, showing inequality between men and women. The composite index is prepared by taking three dimensions and five indicators. Reproductive health, Empowerment and Labour market are the three dimensions and Adolescent fertility, Maternal mortality (measure Reproductive health), Educational attainment (secondary level and above), Parliamentary representation (measures Empowerment) and Labour force participation (measures Labour market) are the five indicators. The value of GII ranges between 0 to 1 and 0 indicates that women and men are treated equally and 1 indicates that women are considered as poorly as possible in all measured indicators.

4.133 Gender discrimination is an issue in almost all societies and Kerala is no exception. The state is known for several women favourable developmental indicators. It performs well in all other GII indicators except two: Labour Force Participation and Parliamentary Representation. The first three indicators of the GII; Adolescent fertility, Maternal mortality and Educational attainment can be considered as the pre-conditions for the take off and the other two can be considered as the measures of take off..

Equal Democratic Citizenship: A must for Gender Development

4.134 The Gender equality is envisaged in the Indian constitution in its Preamble, Fundamental Rights, Fundamental Duties and Directive principles. Even after 64 years of the enactment of the constitution, India fails to attain a comfortable position in Gender equality. The state provides equal opportunities for its people in several aspects of human development and hence Kerala accomplished a good result in several gender indicators. The Literacy Rate, Gender gap in the Literacy, Life Expectancy of Women, Sex Ratio, Gross Enrolment Ratio of Girls, Maternal Mortality Rate, Adolescent Fertility etc. are some of them. All these helped to empower the women of Kerala and enabled them to take part in the practices of democracy. It is an essential condition for Equal Democratic Citizenship but not a sufficient one. Equal Democratic Citizenship will be complete only when the gender gets equal participation in direct decision making too. It is in this regard the Parliamentary Representation of the gender becomes important. The accomplishment of the state in this respect is gloomy. A comparison with societies having similar HDI achievements is provided the tables below:-

Table 4.12

Seats in National Parliament (Female %)

Sl No.	Country	%
1	Norway	39.6
2	Sweden	44.7
3	Iceland	39.7
4	Denmark	39.1
5	Belgium	38.9
6	Finland	42.5
7	Seychelles	43.8
8	Cuba	45.2

Source: Human Development Report :2013

Table 4.13

Female Representation in Legislature - Kerala

Sl No.	Name of Legislature	Number of Elected Members	%
1	Rajya Sabha	1	11.11
2	Lok Sabha	0	0
3	Kerala Legislative Assembly	7	5

Source: Worked out from data available at the Website of the Chief Electoral Officer, Kerala

4.135 The female participation in the direct decision making process is too low. Adequate representation of women in direct decision making bodies is a must. Women of the state can be empowered through their direct participation in policy making. A fitting example is the system of Kerala Local Self Government, where 50% of the seats are reserved for the women.

4.136 The women of Kerala should be empowered economically and socially. Economic empowerment and social empowerment are complementary to each other. The economic empowerment of the women is attained only when they become an integral part of labour force and ultimately be gainfully employed.

Female Labour force Participation:

Need of an International Benchmark for Kerala

4.137 A comparison of the Labour force Participation Rates (LPR) of 10 countries having highest Human Development Index and those of Kerala, brings out some interesting facts. The Female LPR in these countries is around 60 and the Male LPR is around 70. As per the data from NSSO 68TH Round (July 2011- June 2012), in Kerala, the Male LPR is comparatively higher at 82.4. However the Female LPR, in Kerala is 35.4, which is very low. Consequently the difference between Male and Female LPR in Kerala is very high.

4.138 It is surprising to note that the percentage of Female LPR is very high in some other countries, for which HDI is low, like Tanzania (88.2), Equatorial Guinea (80.6), Rwanda (86.4), Zimbabwe (83) etc.(Source: HDI Report 2013). It may not be possible to increase the LPR of a country beyond a particular point due to various educational and family commitments of persons. So a very high FLPR of this kind may not be feasible. Still the state position should be compared with international positions. Hence there is the need for an international benchmark towards which the societies can work.

Female Workforce Participation Rate (FWPR) – An Interstate Comparison

4.139 The women of Kerala outperform their counterparts in many developmental indicators. But in the case of economically active persons, the statistics is not favourable to the women. As per the data of the Ministry of Statistics and Programme Implementation based on Census India 2011, while the average female workforce participation rate is 25.51 in India, that of Kerala is only 18.23. The FWPR of Kerala is one of the lowest in the country, and far below the national level. Kerala stands first in human development among the Indian states. But the wide gender gap in the WPR pulls down our gender equality in human development.

Himachal Pradesh with a female workforce participation rate of 44.82 is the best performer. It is surprising that the North-eastern states like Nagaland, Sikkim, Manipur, Mizoram, Arunachal Pradesh and Meghalaya have higher FWPR than Kerala. Hence it is high time to have a relook at our strategies in this direction and perhaps learn from experiences elsewhere.

Female Workforce Participation Rate - An intra state comparison

4.140 As per Census 2011, the FWPR of the state has increased by 2.8 points in the last decade. Four districts of the state namely: Kannur, Kozhikode, Malappuram and Pathanamthitta have FWPR which is lower than that of the state as a whole. Moreover, the performance of Kozhikode and Malappuram is too poor. Two districts, namely Wayanad and Idukki have FWPR which is higher than the all-India rate. Idukki has the highest FWPR in the state as the women in the rural sector of the agrarian district are more economically active. The district-wise comparison is provided in table 4.14.

Table 4.14

Female Representation in Legislature - Kerala

Sl No	State / District	Male		Female	
		2011	2001	2011	2011
1	Kasargode	49.1	51.7	21	20.3
2	Kannur	49.9	51.6	15.3	16
3	Wayanad	55.8	56.9	23.2	26.8
4	Kozhikode	48.7	51.1	8.2	12.2
5	Malappuram	42.8	45.8	6.6	7.6
6	Palakkad	52	54.9	21.2	20.4
7	Thrissur	50.6	53.3	15.2	18.7
8	Ernakulam	55.1	56.4	17.2	20.2
9	Idukki	58.1	60	28.1	33.2
10	Kottayam	52.2	54.8	14	20.4
11	Alappuzha	49.4	53	20.3	24
12	Pathanamthitta	47.5	50.2	13.4	17.5
13	Kollam	48.4	51.7	16.8	19.3
14	Thiruvananthapuram	51.4	54.6	14.5	21.4
15	Kerala	50.2	52.7	15.4	18.2

Source: Census of India 2011

Self employment for Better FWPR: Lessons from Other States

4.141 The strength of the labour force and workforce determine the extent of economically active population. These are

decided by various socio economic factors. In the case of Kerala, both Female Labour force Participation Rate and Female Workforce Participation Rate are low and the economic policies must aim to scale up both. The women should be promoted to enter labour force first and into workforce subsequently. The social and economic outlook should be moulded accordingly. When the employment opportunities of the state favour manual labourers, venturing into self employment opportunities seems more feasible to educated women of Kerala. Fighting the odds thrust upon them by circumstances, women of other states, especially the North-eastern states, have taken up self-employment on a massive scale. Their markets are flooded with small or household ventures led by women of the locality. The percentage of self-employed in total workforce is higher in these states, especially in rural areas. It increases their FWPR. A comparison is given in table 4.15.

Table 4.15

Percentage of Female Self-employed Workers/FWPR

Sl No.	States	%		FWPR
		Rural	Urban	
1	Arunachal Pradesh	89.5	49.1	35.44
2	Himachal Pradesh	87.9	36	44.82
3	Meghalaya	75.6	43.3	32.67
4	Mizoram	81.3	72.3	36.16
5	Nagaland	94.9	64.5	44.74
6	Sikkim	90.2	46.3	39.57
7	Manipur	50.3	84.6	38.56
8	Kerala	36.4	36.3	18.23

Source: (1) NSSO, 68th Round, July 2011-June 2012 for % of self-employed
(2) Census of India 2011 for FWPR

Box 4.13

SHE TAXI: An Innovative Initiative

The Gender Park of the Department of Social Justice, Government of Kerala, is a platform created to unify various initiatives towards gender equity. The Park brings together state, academia, and civil society in a common platform on the issues of gender. She Taxi, a 24x7 taxi service for women, driven and owned by women, is a project initiated by Gender Park. It not only ensures the 'safety and security' of women travellers, but also promotes a unique model of entrepreneurship among women. Kerala State Women's Development Corporation (KSWDC) facilitates finance to the women entrepreneurs at a nominal rate of interest.

The She Taxi envisages an unconventional revenue model of ensuring at least Rs. 20,000/ per month to an owner without any departmental investment. The programme was launched on 19th November 2013 at Trivandrum on a pilot basis. After the successful pilot implementation of the project, it will be rolled out to Cochin and Calicut in a phased manner. It is also planned to create a bay for She Taxis at all the three Airports, as well as IT parks in the state

Gender Budgeting

4.142 As policies and programmes have a differential impact on women and men, it is necessary to strengthen Gender Responsive Budgeting. The Gender Budget Statement is an important tool for bringing together all information regarding allocations for women. It is now considered as an instrument to address gender inequality and reallocate the resources in favour of women. It serves as a reporting mechanism and provides an indication of funds flowing to women. It is a major step in strengthening inclusive growth.

4.143 To institutionalize the process of Gender Budgeting, the Gender Budget Statement had been introduced in the Union Budget 2005-06. In Kerala Budget, conscious efforts have been taken to make the budget Gender Responsive. In Kerala the Budget had been made Gender Responsive at the Local Government level from 1998 onwards by making a provision of mandatory allotment of 10% of the Plan fund as women Component.

4.144 The Women Component identified in Annual Plan 2012-13 & 2013-14 are provided in the table below. Agriculture & allied activities, Industries, Labour & Labour Welfare, Social Security & Social Welfare etc are the some sectors with major allocations under the Women Component. Though it is generally accepted that the women component in planning and economic activity is increasing, data capturing is a major hurdle.

Table 4.16
Women Component in Annual Plan

Sl No	Sector/Sub sector	2012-13	2013-14
1	Agriculture and allied	2915	3400
2	Rural Development	3298	*
3	Industries	2759.6	8752
4	Transport and communication	1000	*
5	S&T	800	1000
6	General Economic Services	680	500
7	General Education	587.9	500
8	Technical Education	250	120
9	Sports	15	*
10	Medical and Public Health	620	800
11	Water supply & Sanitation	550	*
12	Labour and Labour Welfare including welfare of SC, ST, OBC, Minority	11196	2925
13	Social Security and Welfare	2433	3625
	Total	27104.5	21622

* while all the sectors are covered for 12-13, figures for 13-14 does not capture the full picture as there are data gaps.

Crime against Women

4.145 As per the figures brought out by the State Crime Records Bureau, the total reported cases of crime against women for the year 2013 (upto August) is 9347. There has been only a marginal decline in the reported cases of crime against women in 2012 (Total 13002) as compared to 2011 (Total 13279). It is surprising that 'cruelty by husband/relatives' still constitutes a major component in crime against women. Greater efforts are required in this direction, to enable women to take up meaningful economic activities outside the purview of their families.

Box 4.14

Some Women Centred Programmes

- Self Employment Scheme for the Registered Unemployed Widows, Deserted/Divorced/Unmarried Woman and Unwedded Mother (SHARANYA):

The scheme is to support the unemployed widows, deserted/legally divorced/unmarried women and unwed mothers by providing financial assistance for self employment. 50% of the project cost is subsidized and remaining 50% is disbursed by way of interest free loan. The application for this purpose is collected by the District Employment Officer.

- Women Health Care Centre (Seethalayam)

The Scheme provides Homeopathic aid for suffering women. It provides Out Patient services, IEC activities etc. to the needy. It is a comprehensive approach for women development. Besides treatment it combines the activities of other supporting departments for women development like Social Welfare Department, State Women Commission, Home Department etc. It provides infertility clinic services and de- addiction treatment facilities.

- Medical Care for Victims of Violence/Social Abuse.

The scheme provides counselling support to the victims besides medical treatment for physical injury, if any. This scheme functions at General Hospitals and in almost all district hospitals.

Women in Kerala are a valuable, healthy and educated resource; and can contribute effectively in all aspects of development of the state. An attitudinal change can be brought about by highlighting successful endeavours of women and by providing support systems for the multiple tasks they take up.

SECTION 5

Welfare of Scheduled Castes, Scheduled Tribes Other Backward Classes and Minorities

4.146 Scheduled Caste and Scheduled Tribes have special status under Constitution with the objective of promoting their educational, economic, social and political interests. Other disadvantaged groups needing special support are other backward classes, minorities and vulnerable groups. Over the years several steps have been taken to bridge the gap between these groups and rest of the population. But the gap still persists and further efforts are needed. Most of the Scheduled Caste and Scheduled Tribe people are still striving to attain basic needs of food, clothing and shelter. They also require better opportunities to live with dignity and self respect.

4.147 Through various Five Year Plans, the government had undertaken several welfare schemes and programmes for the upliftment of the weaker sections. Effective monitoring mechanism is highly needed for eliminating resource diversion and achieving targeted objectives of these schemes. The educational and social backwardness of Scheduled Caste, Scheduled Tribe and other weaker sections have deprived them from getting benefits of schemes announced in various Plans. This eventually resulted in the introduction of Special Component Plan and Tribal Sub Plan for channelizing the flow of outlays and benefits from general development sectors to these sub plans at least in proportion to the SC/ST population. Scheduled Caste and Scheduled Tribes of Kerala state are comparatively better off than their counterparts in other states socially and educationally. Due to successful implementation of Decentralised Planning Process in Kerala, to a great extent their isolation and backwardness has been minimised and opportunities have been provided to come forward in the main stream of the society.

Approach of 12th Five Year Plan for Weaker Sections

4.148 The economic and social status of the marginalised sections like SC, ST, OBC, minorities and other weaker sections will be improved with more focused State spending and effective interventions is the important objectives of 12th five year plan. These objectives can be achieved with full participation in the benefits of development on the part of all these groups. This calls for an inclusive growth process which provides opportunities for all to participate in the growth process combined with schemes that would either deliver benefits directly or more importantly help these groups to benefit from the opportunities thrown up by the general development process.

Population

4.149 According to 2011 Population Census, Scheduled Caste and Scheduled Tribes put together constitutes a quarter (25.24 per cent) of the total population in India. Scheduled Caste constitutes 16.63 per cent and Scheduled Tribes 8.61 per cent of population. Decadal growth rate (2001-2011) of Scheduled Caste is 20.85 per cent and Scheduled Tribes is 23.66 per cent. The highest Scheduled Caste population is in Punjab, that is, 31.9 per cent of the State's total population. Lakshadweep has the highest proportion of Scheduled Tribe population, that is, 94.8 per cent.

4.150 The Scheduled Caste population of Kerala is 3039573 persons as per 2011 Population Census constituting 9.10 per cent of the total population of the state. There has been a decrease in proportion of 0.7 per cent as compared to 2001 Population Census. One of the reasons for the decline is that some communities in Scheduled Caste have been included in the Scheduled Tribe classification during the period. Sex ratio of Scheduled Caste population in Kerala is 1057.

4.151 The Scheduled Tribe population of Kerala is 484839 persons as per 2011 Population Census constituting 1.45 per cent of the total population of the State. There has been an increase of 0.63 per cent as compared to 2001 population census. Sex ratio of Scheduled Tribe population in Kerala is 1035. A comparative picture regarding literacy and sex ratio of Scheduled Caste and Scheduled Tribe population in Kerala with national level is furnished in [Appendix 4.73](#).

4.152 In Kerala there are 53 communities which belong to Scheduled Caste as per the Amendment Act of 2006 to the Constitution of India. The settlement pattern in Kerala is entirely different from that of other States and a major portion of the Schedule Caste population lives in scattered households with other people and only a small portion live in concentrated colonies, in which very limited number are isolated. According to 2011 Population Census, the highest distribution of Scheduled Caste population is in Palakkad District (13.29 per cent) followed by Thiruvananthapuram (12.27 per cent), Kollam (10.80 per cent), Thrissur (10.60 per cent) and Malappuram (10.14 per cent). More than half of SC population (57.17 per cent) of the State is distributed in the above five districts. The Scheduled Tribes in Kerala are not only geographically concentrated, but are overwhelmingly rural. Highest concentration of Scheduled Tribes is seen in Wayanad district (31.24 per cent) followed by Idukki (11.51 per cent), Palakkad (10.10 per cent) and Kasargod (10.08 per cent). These four districts together accounts for 62.93 per cent of Scheduled Tribes in the State. The coastal district of Alappuzha has the lowest percentage (1.36 per cent). District wise Scheduled Caste/Scheduled Tribe population details are given in [Appendix 4.74](#) and [4.75](#).

Fig 4.7

Scheduled Caste Population in Kerala (District-wise & total) as per 2011 Population Census

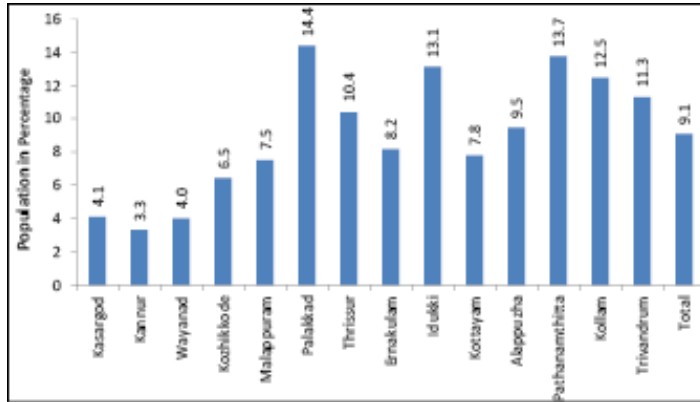
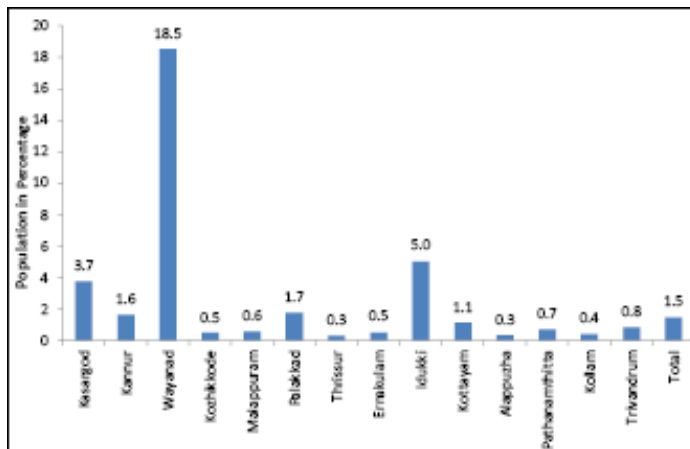


Fig 4.8

Scheduled Tribe Population in Kerala (District-wise & total) as per 2011 Population Census



4.153 As per census on India 2011 (Appendix 4.76) Scheduled Caste Households in Kerala have much greater access to banking services, landline phones, computers with internet and car than an average Scheduled Caste household in India. Compared to other southern states of Tamil Nadu, Karnataka, and Andhra Pradesh, only SC households in Tamil Nadu has greater access to Televisions than those in Kerala. SC households in Kerala do not seem to have as much access to two wheelers as other SC households in India. While more than 22 per cent of SC households in India did not have access to any of these assets, Kerala performed better with only around 11 per cent of SC households being deprived of these assets.

4.154 Similarly in the case of Scheduled Tribes, households in Kerala have much greater access to banking services, television, computer with internet, land line and car than an average Scheduled Tribe household in India (Appendix 4.77). Compared to other southern states only Scheduled Tribe households in Tamil Nadu has greater access to televisions, computer with internet, landline phones and car than Kerala. Scheduled Tribe households in Kerala do not seem to have as much access to two wheelers as other Scheduled Tribe households in India. While more than 37 per cent of Scheduled Tribe households in India did not have access to any of these assets, Kerala performed better with only around 24 per cent of Scheduled Tribe household being deprived of these assets.

Scheduled Caste and Scheduled Tribe households in Kerala have a better standard of living than their counterparts in the rest of the country in general. However Tamil Nadu has shown an even better standard of living for Scheduled Tribe households than Kerala.

Occupational Pattern

4.155 Decadal growth rate of Kerala's population 2011 Population Census was all time low of 4.9 per cent. The work participation rate shows an increasing trend during the decade (2001-11). The proportion of main workers is more than that of marginal workers in all cases. Especially the female main workers have considerably increased from 19.90 per cent in 2001 to 22.71 per cent in 2011 in the case of ST population. In respect of SCs same has increased from 18.51 per cent to 19.59 per cent during this period. The percentage of main workers engaged in household industry shows a decreasing trend. The category of main workers shows that 29.90 per cent of SCs and 59.49 per cent of STs are doing agricultural labour where as in the case of general population it is only 14.18 per cent. Details of occupational pattern is shown

in [Appendix 4.78](#)

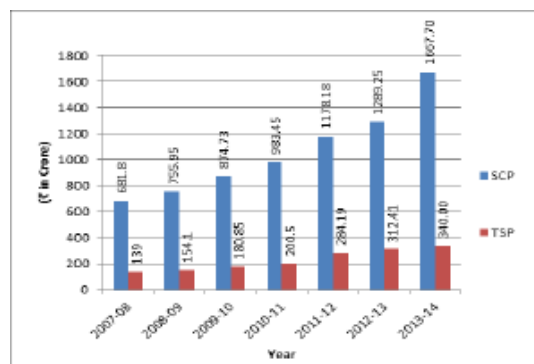
4.156 In Kerala, as per Rule 14(a) of the Kerala State and Subordinate Service Rules 1958, 8 per cent reservation in Public service is provided to SCs and 2 per cent to STs. It shows that SC/ST had already achieved more than 10 per cent reservation in all the three categories. But ST candidates alone had not achieved 2 per cent reservation in State service. Details of representation of SC/ST employees in Government service is given in [Appendix 4.79](#).

Development Programmes for Scheduled Caste and Scheduled Tribes

4.157 Kerala Government earmarks fund for SCP from State Plan outlay in proportion to the percentage population of Scheduled Caste and allocate fund for TSP more than that of ST population percentage. A two pronged strategy is followed for the development of SC/ST in the State. One is that the assistance provided through the LSGs and the other through SC/ST Development Department. Out of the total SCP/TSP Plan outlay, a certain percentage of funds are allocated to Local Self Government Institutions for implementation of schemes under Decentralized Planning and the remaining to the SC/ST Development Department. A portion of the fund was considered as Notional Flow to other departments till 2008-09. This was meant for implementing schemes exclusively for SC/ST population in the respective sectors. As this experiment was not found successful, the concept of Notional Flow was dispensed with from the Annual Plan 2009-10. A system of earmarking certain amount of SCP/TSP as pooled fund under SCP and TSP for taking up schemes adopting a project approach was introduced. This gives scope to get wide range of schemes with varied objectives and physical targets, which put together, will help the all round development of the targeted groups. The total plan provision set apart for the development of Scheduled Caste and Scheduled Tribes during 2013-14 is ` 1667.70 crore and ` 340.00 crore respectively. Year-wise details from 2007-08 onwards are given in [Appendix 4.80](#).

Fig 4.9

SCP/TSP-Yearwise Outlay



Programmes of Scheduled Caste Development Department

4.158 Centrally Sponsored Schemes and schemes/projects included in the state plans for the development of the Scheduled Caste population are implemented by the Scheduled Caste Development Department. During 2013-14 the total State Plan provision set apart for the development of Scheduled Castes is ` 1667.70 crore. Out of this, ` 839.50 crore was earmarked Scheduled Caste Development Department and ` 828.20 crore was provided as Development fund to Local Bodies. Besides, ` 154.56 crores as 100 per cent CSS and ` 22.38 crore as 50 per cent CSS also included under SCP during 2013-14. In addition to this, ` 20 crore was included in the budget as Special Central Assistance to SCP.

4.159 The programmes under SCP cover a wide area comprising education, economic and social welfare activities for the development of Scheduled Castes. Some of these programmes are given below and scheme-wise outlay and expenditure of welfare of Scheduled Caste for 2012-13 & 2013-14 (as on 31-10-2013) and the physical targets and achievement are given in [Appendix 4.81](#) and [4.82](#) respectively.

Box 4.15

Major Schemes of SC Development

Name of Schemes	Objectives	Achievements
	Provide educational assistance to <ul style="list-style-type: none"> • Pre-matric studies 	During 2012-13 pre-matric educational concessions were given to 4.01

Educational Schemes	<ul style="list-style-type: none"> • Post-matric studies • Running of Model Residential Schools • Students studying in self financing colleges. • Adhar linked bank account system. 	lakh students and post-matric concessions were given to more than 1.22 lakh students. An amount of ` 95.39 crore has been spent towards stipend and lump sum grant and an amount of ` 143.52 crore has been spent for providing scholarship for post-matric students. Online distribution of educational assistance through e-Grantz and introduced SBleZ-pay card (Appendix 4.83).
Housing Scheme	<ul style="list-style-type: none"> • Financial assistance for • Construction of new houses for the houseless SC families • Online system of granting financial aid through e-housing 	During 2012-13, 5000 houses were sanctioned and constructed 1161 houses. 4000 houses were sanctioned during 2013-14 (as on 31.10.2013) and construction activities are progressing. Online system of granting financial assistance for house construction through e-Housing (Appendix 4.84).
Land to Landless	<ul style="list-style-type: none"> • Purchase of land to the poor and eligible landless SC families for house construction 	During 2012-13 an amount of `16969 lakh was provided and the expenditure incurred was ` 16937.87 lakh benefitting 11047 persons. An amount of `10000 lakh is provided during 2013-14 and expenditure incurred as on 31.10.2013 is `62 lakh benefitting 51 persons(Appendix 4.85).
Health Scheme- Financial assistance to Seriously ill People	<ul style="list-style-type: none"> • Illness assistance to • Serious diseases like Cancer, Heart/kidney/brain ailments to SC families below poverty line as per the recommendation of the doctor 	During 2012-13, financial assistance was given to 18560 persons.
Development programmes for the vulnerable communities Among Scheduled Castes	<ul style="list-style-type: none"> • Rehabilitation of landless and homeless SCs belonging to vulnerable communities by providing assistance for purchase of five cents of land and assistance for house construction. • Providing infrastructure, connectivity, communication facilities, education, treatment, drinking water, electricity, road etc. 	An amount of ` 1500 lakh is provided during 2013-14 and the expenditure incurred as on 31.10.2013 is ` 390.90 lakh
Self employment scheme	<ul style="list-style-type: none"> • Financial assistance for • promoting new ventures among Scheduled Caste in the ratio 1: 2 as subsidy and loan 	During 2012-13, `322.23 lakh was provided and expenditure incurred was ` 322.23 lakh benefitting 534 persons. (Appendix 4.86).
Assistance for marriage of SC girls	<ul style="list-style-type: none"> • Financial assistance to • Daughters of SC parents to reduce the burden of marriage expenses 	During 2012-13 an amount of `1297.19 lakh was provided and the expenditure incurred was `1297.04 lakh benefitting 5454 persons. An amount of ` 2000 lakh has been provided during 2013-14 and expenditure incurred as on 31.10.2013 is `1998.60 lakh benefitting 4000 persons.

Protection of Civil Rights and Enforcement of Prevention of Atrocities Act

4.160 The activities proposed under this scheme are:

- Conducting awareness camps at Grama Panchayat level highlighting the need for protection of civil rights of Scheduled Caste and enforcement of Prevention of Atrocities Act.
- Producing documentaries highlighting the evils of untouchability against Scheduled Caste.

- Providing assistance to inter-caste married couples for starting economic and income generation activities. During 2009-10 inter-caste marriage assistance was enhanced to `50000/- from `10000/-. During 2012-13 the expenditure incurred was `10.92 crore benefitting 2169 persons.
- Celebrating Temple Entry Proclamation day.
- Enforcement of Prevention of Atrocities Act, 1989.
- Conducting exhibition and procession in connection with Social Solidarity Fortnight
- The main causes and nature of these harassment/atrocities are social harassment, sexual exploitation, insult, intimidation and humiliation, outraging the modesty of woman causing injury and insult or annoyance, giving false evidence, etc.
- Three Special Mobile Squads are functioning at Palakkad, Wayanad and Kasaragod to deal with atrocities towards Scheduled Caste more effectively.
- Two Special Courts function at Kalpatta and Manjery.
- Atrocity Prone areas are Wayanad, Kasaragod and Attappady in Palakkad.

4.161 According to the National Crime Records Bureau, in 2012, 443 cases were registered and an amount of `59.67 lakh has been disbursed as compensation. During the year 2013, 382 cases were reported and an amount of `54.78 lakh disbursed as compensation to the victims. Details are given in [Appendix 4.87](#).

Box 4.16

New Initiatives in SC Development Department during 2012-13

I Self Sufficient Village Scheme

The scheme 'self Sufficient Village' is intended to give thrust to overall development of scheduled caste colonies having 50 or more SC families. According to the survey conducted by KILA there are 436 colonies with 50 or more SC families. The Self sufficient Village Scheme is implemented in a phased manner. 120 colonies were selected during 2012-13 under the scheme. The maximum amount that can be spent in a colony for infrastructure development is `1 crore and the amount is given in instalments. The colonies are selected from various assembly and parliamentary constituencies by respective MPs and MLAs.

II Assistance for construction of Toilets

During 2012-13 financial assistance sanctioned for 25000 SC beneficiaries for construction of toilet @ `25000

III Medical college

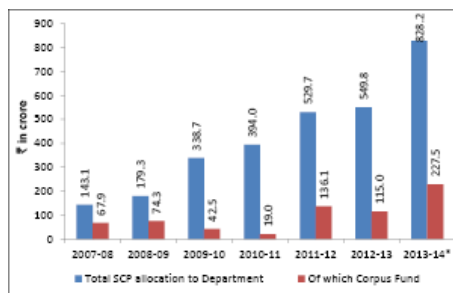
Govt have accorded administrative sanction to start a medical college at Palakkad in the academic year 2014-15 under SC Development Department. Classes will start during the academic year 2014-15

Critical Gap Filling (Corpus Fund)

4.162 This Scheme intends 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. One third of the outlay will be allocated to districts on population proportion basis. Schemes /projects up to `25 lakh will be cleared by the District Level Committee for SC/ST. Project above `25 lakh will be cleared by State Level Working Groups/ Special working Groups. Outlay and expenditure under the scheme during 11th plan and first two years of 12th plan period (as on 31.10.2013) is given in [Appendix 4.88](#) and [Appendix 4.89](#).

Fig 4.10

Corpus Fund Allocation (2007-08 to 2013-14)



* Up to 31.10.2013

Pooled Fund

4.163 A system of earmarking certain amount of SCP/TSP as pooled fund under SCP and TSP for taking up schemes adopting a project approach was introduced. This gives scope to get wide range of schemes with varied objectives and

physical targets which put together will help the all round development of the targeted groups.

4.164 Various development departments and agencies should submit projects to State Planning Board for consideration. After vetting by State Planning Board, it will be forwarded to Scheduled Caste/Scheduled Tribe Development Department. Outlay and Expenditure under the scheme are given [Appendix 4.90](#).

Special Central Assistance to Special Component Plan (SCA to SCP)

4.165 The Special Central Assistance to Special Component Plan for Scheduled Caste is provided by Government of India to States for undertaking mainly economic development programmes for Scheduled Castes. It is not on a schematic pattern. It will help to fill the gaps which the flows from the Central, State and Local body plans are not in a position to fill. Out of the total funds received under SCA to SCP, 75 per cent of the fund will be distributed to the District Collectors on the basis of Scheduled Caste population in the districts. The balance 25 per cent will be kept with the Director, Scheduled Caste Development. Activities that can be taken up under SCA are to assist Scheduled Caste families for taking up viable income generating activities, through a mix of institutional finance and subsidy. The families may be provided assistance under SCA in a manner similar to those admissible under Swarnjayanthi Gram Swarozgar Yojana. The Outlay and Expenditure details of SCA to SCP from 2007-08 to 2013-14 (as on 31.10.2013) are given in [Appendix 4.91](#).

Scheduled Tribes Development

4.166 Tribal Sub Plan was introduced during the Fifth Five Year Plan. This strategy has undergone several changes since 1974-75 and now it reached a stage in which it has proper linkages with the present Local Government administration. Socio-economic development and protection of STs from all kinds of exploitation are the twin objectives of Tribal Sub Plan. As per the TSP strategy the State used to allocate an amount which is more than that of the percentage to ST population in the State.

Programmes of Scheduled Tribes Development Department

4.167 The expenditure of the Scheduled Tribes Development Department during 2012-13 was ` 180.11 crore. The total State plan provision set apart for the development of Scheduled Tribes during 2013-14 was ` 340 crore. Out of this, an amount of ` 215.70 crore was earmarked to the ST Development Department and an amount of ` 124.30 crore was provided as grant-in-aid to local bodies. For the 50 per cent and 100 per cent CSS Schemes Central Share allocation was ` 32.52 crore and ` 25.52 crore respectively. In addition to this, ` 6.75 crore was included as Special Central Assistance to TSP with State budget. Details of Financial achievements are given in [Appendix 4.92](#) and [Appendix 4.93](#) and Physical achievements of schemes implemented by the Department during 2012-13 and 2013-14 (as on 31.10.2013) are given in [Appendix 4.94](#) and [Appendix 4.95](#) respectively.

4.168 The major schemes implemented by Scheduled Tribes Development Department can be broadly classified as Educational programmes, Housing, Health, Assistance for Marriage of ST Girls and Resettlement of Landless Tribes. Major objectives and achievements during 2012-13 and 2013-14 (up to 31.10.2013) of the schemes are given below.

Box 4.17

Major Schemes of ST Development

Name of Schemes	Objectives	Achievements
Educational Programmes	Provide educational assistance to <ul style="list-style-type: none"> • Pre-matric studies • Post-matric studies • Running of Model Residential Schools • Students studying in self financing colleges 	During 2012-13, an amount of ` 8071 lakh has been expended and benefitting 77195 students and in 2013-14 (up to 31.10.2013) an amount of ` 9798.7 lakh has been disbursed as educational assistance benefitting 77544 students. (Appendix 4.96 , 4.97 and 4.98).

Housing Scheme	Financial assistance for • Construction of new houses for houseless ST families	During 2012-13, an amount of ` 25 crore was provided for housing by Scheduled Tribes Development Department and ` 6 crore as 25 % State share of IAY. In addition to this, 22 houses under Corpus Fund, 2002 houses under Basic needs to Primitive Tribes and 15 houses under Pooled Fund for Special Projects were sanctioned for construction. The rate of assistance has been raised from ` 1.25 lakh to ` 2.50 lakh for STs and ` 3.50 lakh to Particularly Vulnerable Groups. During 2012-13, 804 houses were sanctioned and constructed 271 houses. 1072 houses were sanctioned during 2013-14 (as on 31.10.2013) and 78 houses are constructed (Appendix 4.99 and 4.100).
Health Scheme	Illness assistance to • Serious diseases such as TB, Leprosy, Scabies, Sickle Cell Anaemia, Waterborne diseases, etc.	During 2012-13, an amount of ` 180 lakh was provided under the plan and financial assistance was given to 15750 persons. During 2013-14 (up to 31.10.2013) 1500 person are given assistance. Medical College, Kozhikode has set up a Sickle Cell Anaemia unit with Electrophoresis machine (Appendix 4.101).
Assistance for marriage of ST girls	Financial assistance to • Daughters of ST parents to reduce the burden of marriage expenses	During 2012-13, an amount ` 75 lakh was provided and expenditure incurred was ` 75 lakh benefiting 80 ST parents. An amount of ` 150 lakh is earmarked during 2013-14 and expenditure incurred as on 31.10.2013 is ` 61.50 lakh benefiting 100 families.
Resettlement of Landless Tribes	• To provide at least one acre of land per family to landless ST people subject to ceiling of 5 acres based on a master plan. • Resettlement will be done on project basis with emphasis on planning and implementation through Oorukottoms.	As on 01.11.2013, 6887 landless ST families have been allotted an extent of 9044.94 acres of land. District-wise details of land distribution are shown in Appendix 4.102 .

Fig 4.11

Outlay and Expenditure of Education Sector (Plan)

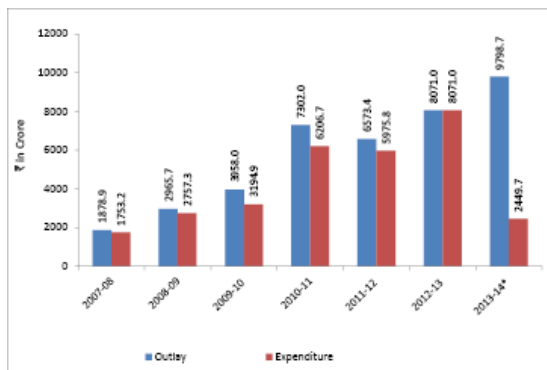
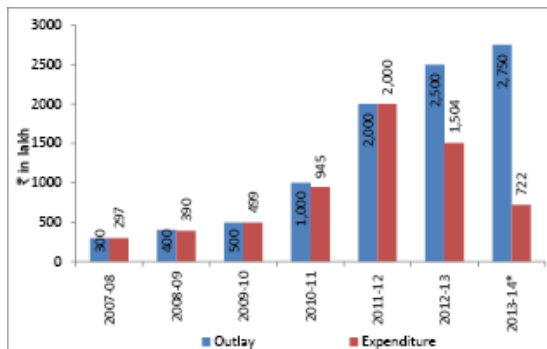


Fig 4.12
Housing Programmes undertaken by ST Development Department

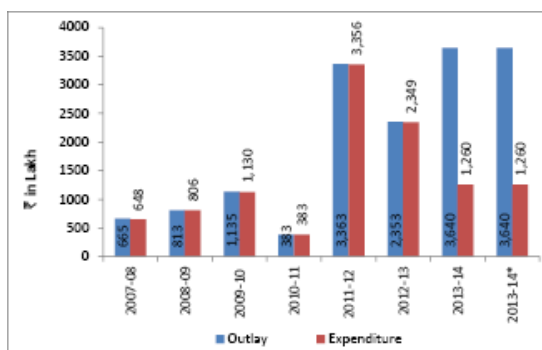


* Up to 31.10.2013

Corpus Fund

4.169 An amount of ` 2353 lakh was provided during 2012-13 for undertaking various development activities under the scheme and the amount expended during the period was ` 2349 lakh. The components of the Corpus fund includes self employments, skill development, water supply & sanitation, communication facilities, foot bridges, technology transfer, improvement of education, health etc. Statement showing the outlay and expenditure under Corpus fund from 2007-08 to 2013-14 (up to 31.10.2013) is given in [Appendix 4.103](#) and the details of schemes taken during 2012-13 and 2013-14 (up to 31.10.2013) are given in [Appendix 4.104](#) and [Appendix 4.105](#).

Fig 4.13
Outlay and Expenditure under Corpus Fund



* Up to 31.10.2013

Pooled Fund for Special Projects Proposed by Other Departments under TSP

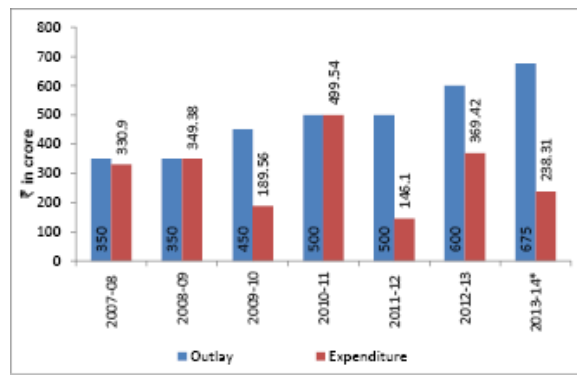
4.170 During 2012-13, an amount of ` 1250 lakh was provided under the scheme Pooled Fund for special projects proposed by other departments. The expenditure during the period is ` 1247.54 lakh. An amount of ` 1300 lakh is earmarked during 2013-14 and the expenditure incurred as on 31.10.2013 is ` 854.74 lakh.

Special Central Assistance to Tribal Sub Plan (SCA to TSP)

4.171 The Special Central Assistance to Tribal Sub Plan released by Government of India as an additive to State Plan Funds is meant for undertaking employment cum income generation activities and the infrastructure incidental to activities based on family and Self Help Groups. 70 per cent of the fund has been utilized for implementing primary schemes supporting family/SHG/Community based income generation activities and 30 per cent used for critical infrastructure in the sectors of drinking water, watershed management etc. Under the scheme 30 per cent beneficiaries are women. The outlay and expenditure under SCA to TSP during 2007-08 to 2013-14 (up to 31.10.2013) is shown in [Appendix 4.106](#).

Fig 4.14

Outlay and Expenditure under SCA to TSP during 2007-08 to 2013-14 (up to 31.10.2013)



* Up to 31.10.2013

Co-operation

4.172 The SC/ST cooperatives were formed aiming the overall improvement of the socio-economic conditions of SC and STs. Through these societies loans are being released and other activities are done. Minor forest produce procurement, sales, other activities like Ayurdhara and Petrol pump are being undertaken by the Kerala State Federation of SC/ST Development Cooperative Limited. An amount of ` 200 lakh is provided to SC/ST federation during 2013-14.

Kerala Institute for Research Training and Development Studies for SC/ST

4.173 The Institute conducts research and intensive study on Scheduled Caste and Scheduled Tribe population of the State.

4.174 Anthropological investigation on doubtful community cases as requested by Scheduled Tribes Development Department, Scheduled Caste Development Department, Revenue Divisional Officers, Tahsildars and District Collectors has also been undertaken by the wing.

4.175 The training wing of KIRTADS co-ordinates and conducts a large number of programmes to promote Tribal Development. This wing also conducted many orientation programmes, capacity building programmes, empowerment programmes and educational programmes. An amount of ` 65 lakh is provided as 50 per cent State share during 2013-14 and expenditure incurred up to 31.10.2013 is ` 11.65 lakh.

Box 4.18

Attapady

A High Level Committee was constituted by the Government vide G.O (Rt) No.371/2013/Plg on 26.09.2013 to monitor and co-ordinate the execution of all development and welfare programmes in Attapady under the Chairmanship of Hon'ble Minister for Welfare of Scheduled Tribes. The terms of reference are

- To co-ordinate the preparation of hamlet-wise integrated sustainable development plan for ST communities in Attapady as a medium term (3 to 5 years) measure with a focus on livelihood security, societal equity and educational advancement.
- To create an effective organizational structure for better service delivery to ensure balanced development of ST communities and hamlets.
- To co-ordinate and monitor effective implementation of year-wise action plans of various departments and local bodies involved, and to ensure adequate resource mobilization for the balanced development of all STs of Attapady.
- To suggest recommendation on policy matters including changes in existing norms where ever necessary for Government to consider.
- To develop an effective organizational structure at the sub panchayat level to ensure empower people and for better service delivery.

- To review the tribe-forest interface

Welfare of Other Backward Classes

4.176 Government of Kerala created a separate department in November 2011 to look after the welfare of socially and economically backward communities of the society. Though the Directorate of this Department was created at the end of the financial year 2011-12, it implemented two major educational schemes, Pre-Matric and Post-Matric Scholarships with the help of Scheduled Caste Development Department.

4.177 During 2011-12, Pre-Matric educational concession to the students of Backward Communities was a pilot scheme of the Department. During 2012-13, the total amount for the welfare of Backward Communities Development Department is ` 131.18 crores. Of this, ` 36.84 crores was earmarked as State share for Development Programmes of Backward Communities Development Department. The Department has implemented various educational schemes such as Pre-Matric (50 per cent CSS) and Post-Matric Scholarship (100 per cent CSS) for OBC students, OEC Pre-Matric and Post-Matric Scholarship during 2012-13. Backward Communities Development Department has introduced e-grantz for distribution of educational concession to students belonging to Backward Communities. An amount of ` 60 crores was earmarked by the State government during 2013-14, of this ` 21.50 crores is State share for CSS. An amounts of ` 113.5 crore is anticipated as 100 per cent CSS during 2013-14 and expenditure incurred as on 31.10.2013 is ` 1159.11 lakh.

Kerala State Development Corporation for Scheduled Caste and Scheduled Tribes

4.178 The Corporation, with its registered office at Thrissur, functions through 14 Regional Offices covering all the districts, is implementing various schemes to enable the SC/ST people to become self-reliant in all respects. The sources of finance for implementing various schemes are Corporation's own share capital and assistance from other national refinancing agencies like NSFDC, NSTFDC, NSKFDC and HUDCO. The Corporation is now concentrating more on self employment schemes to enable the target people to engage in some innovative and viable income generating activities and earn their livelihood and thereby improve their socio-economic status in the society. The major schemes implemented by the Corporation include agricultural land purchase, micro-credit finance, mini-venture loans, small enterprise loans, housing, educational loan, marriage assistance etc.

The scheme-wise details of physical and financial achievements of the Corporation are given in [Appendix 4.107](#).

Kerala State Backward Classes Development Corporation

4.179 The Corporation aims at the socio-economic upliftment of the backward classes and minorities in the State. The Corporation mobilizes funds from the National Backward Classes Finance & Development Corporation (NBCFDC) and National Minorities Development & Finance Corporation (NMDFC) in addition to State Government support. The source-wise expenditure and the physical achievements of the Corporation during 2012-13 and 2013-14 (up to 31.10.2013) are given in the [Appendix 4.108](#).

Kerala State Development Corporation for Christian Converts from Scheduled Caste and the recommended Communities

4.180 The main objective of this Corporation is to promote social, educational, cultural and economic upliftment and other living conditions of the converted Christians from Scheduled Castes and other recommended communities. The main schemes under implementation by the Corporation are agricultural land purchase, foreign employment, housing, cash incentive to students, marriage loan, agriculture and allied sector assistance, small business, educational loan etc. The Corporation implements these schemes with the financial assistance received from state government and the loan assistance from NBCFDC. Details of year wise disbursement of State Government assisted loan schemes from 2007-08 to 2013-14 (as on 31.10.2013) are given in [Appendix 4.109](#).

4.181 The scheme-wise details of physical and financial achievements of the corporation are given in [Appendix 4.110](#).

Welfare of Minorities

4.182 The Minority Welfare Department was constituted for addressing the social economic and educational backwardness of Minority Communities in the State. An amount of ` 4000 lakh was earmarked to Minority Welfare Department during the year 2013-14 for various programmes. The major schemes are (i) Multi Sectoral Development Programme (MSDP) (25 per cent state share). (ii) Empowerment of women through Women Self Help Group. Expenditure incurred as on 31.10.2013

is ` 915 lakh.

Kerala State Minority Development Finance Corporation

4.183 The State Government constituted the State Minority Development Finance Corporation to provide financial assistance to income generating projects, housing finance, educational loans, vocational training etc to minority community. An amount of ` 840 lakh has been provided as share capital contribution to Corporation during 2013-14 and expenditure incurred up to 31.10.2013 is

` 100 lakh.

Outlook for Social Sector

Kerala has always been known for the great strides it has made in providing health, education and social welfare to the people. It will become increasingly difficult to sustain these achievements as new challenges have emerged, which require better planning and implementation and more funds. Higher and Technical education should be provided to students in an affordable and accessible manner. The knowledge imparted and the skill training given should be linked to global employment opportunities so that the educated people are gainfully employed. New and emerging diseases due to changing lifestyles will need to be dealt with. Wherever possible, people should be made aware of how to prevent health related problems as prevention is better than cure. Better waste management, less stressful lifestyles, periodic check-ups etc. will need to be widespread. Affordable and high quality health care for all will require considerable finance from both the public and the private sector. Carefully targeted welfare activities which reduce the burden on the vulnerable and marginalized communities will continue to be the mainstay of Government policy.

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State Planning Board Thiruvananthapuram, Kerala, India.

Chapter 5

INFRASTRUCTURE



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Introduction

Infrastructure is often referred to as the building blocks for growth and development of an economy. Unless there are adequate and affordable transport facilities, mobility of people as well as that of goods and services is severely constrained. Poor logistics increases costs within the State and results in unequal economic and social benefits to hilly and remote areas. Availability of affordable energy is a pre-requisite for well being of people as well as for the economy to function seamlessly. Rapid and smooth communication through effective use of telecommunication and Information Technology is essential to ensure that Kerala's advantages as a globally connected State are fully tapped. This chapter brings out the constraints faced by Kerala in developing world class infrastructure and also brings out the efforts made by various agencies of Government in improving transport related infrastructure such as roads, railways, inland waterways and coastal shipping. Other critical infrastructure viz. Energy, Communication Infrastructure, Other Urban Infrastructure etc. are also dealt with in detail. The Government's thrust to development of IT and related Sports infrastructure has also been brought out in this Chapter.

Transport

Presence of quality infrastructure is vital for social, economic and industrial development of the country. The Transport infrastructure in Kerala largely consists of roads, railways, air and inland water. Roads occupy a prime position because even for using other modes of transport, roads are needed.

5.2 Transport infrastructure of the State consists of 2.43 lakh Km of road, 1148 Kms of Railways, 1687 Kms of Inland

Waterways and 111 statute miles of Airways and 18 Ports.

5.3 The most important challenge in the road sector involves building all weather roads connecting each and every village. Even though Kerala is comparatively better placed than most other States, as regards road length, the condition of many of these roads is very poor. Therefore, the main emphasis under road development in Kerala has been on improvement and upgradation of existing roads rather than construction of new roads. The investment need in the road sector is of high magnitude that are beyond the resources available with the Government. Therefore, there is an imperative need to motivate private and other non-governmental agencies/corporate sectors to participate in road construction and upgradation of selected highways.

State Road Network

5.4 The outlay and expenditure in the Transport sector during 2011-12, 2012-13 and 2013-14 is given in the Table. 5. 1

Table 5.1
Outlay and Expenditure in Transport Sector during 2011-12 to 2013-14(lakhs)

Sl. No.	Sub Sectors	Annual Plan 2011-12		Annual Plan 2012-13		Annual Plan 2013-14	
		Outlay	Expenditure	Outlay	Expenditure	Outlay	Expenditure 09.2013
1	Port Dept	23081.00	21919.72 (114.8%)	27759.00	26831.6 (96.6%)	7869.00	388.69 (4.9%)
2	Roads and Bridges	62596.00	166196.19 (265%)	54058.00	173039.91 (332.4%)	85515.00	81545.60 (95.41%)
3	Road Transport	5319.00	4811.90 (90.5%)	7425.00	5812.28 (78.28%)	7485.00	4651.78 (78.93%)
4	Inland Waterways	1163.00	2384.26 (21%)	13339.00	3225.71 (24.2%)	13643.00	257.26 (1.9%)

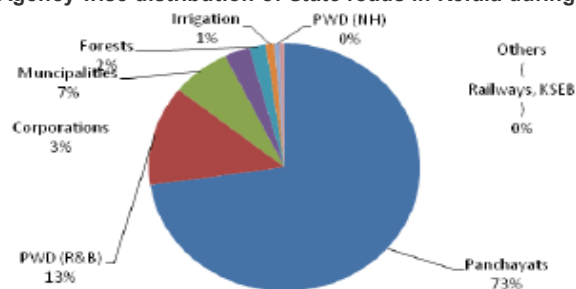
5.5 The major development indicators of transport and communication sector in the State since 2008 are given in [Appendix 5.1](#). On the road front, traffic has been growing at a rate of 10 to 11 percent every year, resulting in excessive pressure on the roads of the State. Total road length in Kerala during 2012-13 increased to 243373.398 Kms. Road density in the State is 390 Km/100 sq.km and it is ahead of the national average of 131 km/100 sq.km. The length of road per lakh population is 728 km. The roads maintained by different Panchayats has also increased by 72.92 percent in 2012-13. Roads maintained by different agencies are given in Table 5.2 and category of road network in Kerala is shown in Fig 5. 1.

Table 5.2
Agency wise distribution of State roads in Kerala during 2012-13

Sl.No	Name of Department	Length (Km)	Percentage
1	Panchayats	177466.257	72.92
2	PWD (R&B)	31811.601	13.07
3	Municipalities	18411.870	7.57
4	Corporations	6644.000	2.73
5	Forests	4575.770	1.88
6	Irrigation	2611.900	1.07
7	PWD (NH)	1524.00	0.63
8	Others (Railways, KSEB)	328.000	0.13
	Total	243373.398	100.00

Source : Various Departments

Fig 5.1
Agency wise distribution of State roads in Kerala during 2012-13



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5.6 Out of the total road length of 177466.257 Km held by Panchayats, 52636.277 Km (29.66%) are black topped and 77223 Km (43.5%) are gravelled. Out of the total roads maintained by PWD 31811.601 Km, Kottayam District has the major share with a length of 3449.301 Km (10.8%). Wayanad District has the lowest share 1029.305 Km (3%). Details of district wise length of roads maintained by PWD (R&B) as on 31.03.2013 is given in [Appendix 5.2](#).

5.7 As on 31.03.2013 there were 2240 bridges and 51360 culverts on the PWD roads. Of them 85 Nos of bridges need reconstruction/renovation and 1591 culverts are not in good condition. More details are available in the [Appendix 5.3](#), [Appendix 5.4](#), [Appendix 5.5](#) and [Appendix 5.6](#).

Major Activities of PWD (R&B) during 2012-13 is given in the Box 5.1

Box 5.1

Major Activities of PWD (R&B) during 2012-13

Length of Roads Completed/ Constructed

• Resurfacing of State Highways	308.60 KM
• Resurfacing of MDR	1721.36 KM
• Resurfacing of Rural Roads	147.56 KM
• Resurfacing of BM & BC completed	960.82 KM
Total	3138.34 KM

Bridges Completed

• State Highways	3
• Major District Roads	40
• NABARD Assisted	15
• Anti-recession Stimulus Package	25
Total	83

5.8 Government of Kerala vide G.O. (P) No. 13/2012/PWD dated 1st February 2012, has made it mandatory to follow Indian Road Congress (IRC) standards and Ministry of Road Transport & Highways (MoRTH) specification for road works in Kerala. Kerala Public Works Department Manual has also been revised and the revised Edition 2012 has been brought effective with effect from 01.04.2012.

State Planning Board has published a Report of the Technical Committee on Road and Road Safety under the Chairmanship of Sri. E. Sreedharan, Member, State Planning Board and former Managing Director, Delhi Metro Rail Corporation. The major recommendations of the Report are given in the Box 5.2

Box 5.2

Major Recommendations of the Technical Committee on Road and Road Safety

- Technical Standards and Specifications – Use of rubberised bitumen and waste plastic in pavement laying will have advantages – technical and financial – and should unreservedly be encouraged.
- Formation of a Highway Department – Three independent wings in the proposed Highway Department, (1) for repairs and maintenance of the existing road network plus for minor capital works costing up to `5 crore. (2) exclusively for the National Highways and (3) for all development works more than `5 crore.
- Work Culture – A technical department like Roads & Bridges should not have a huge strength of non-technical staff. There is need for down-sizing the non technical strength and increasing the proportion of Engineering staff.
- Resource Crunch – With a view to upgrade the road infrastructure, it is necessary to set a target of `2000 crore for capital works and `1000 crore for road repairs and maintenance every year for the next five years. Hence a progressive and workable model concession agreement should be created to suit the state.
- Highway Development Fund – To meet the expenditure on road development and to reduce dependence on borrowings, a non lapsable and non fungible 'Highway Development fund' is essential. The State Government has recently taken a decision to levy 5% cess on the Diesel and Petrol sold in the State to fund transportation projects. Through this cess, the State can mop up `1000 crore per annum. 50% of this levy should go to the Highway Development Fund and the remaining 50% for Urban Transport Projects.
- Road Safety – For the Transport Commissioner to be effective as Road Safety Commissioner the Government should ensure that a very competent and dynamic police officer with impeccable integrity and track record is selected to the post and allowed to remain in the post at least for a period of 5 years.

Kerala State Transport Project (KSTP)

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5.9 The KSTP is implementing the Kerala State Transport Project –Phase II. During the period, project preparation of the following five roads has been completed.

- Kasaragod – Kanganthangad Road 27.70 Km
- Pithara – Pappinisserry Road 20.90 Km
- Thalassery – Valavupara Road 53.20 Km
- Chengannur – Ettumanoor – Muvattupuzha Road 88.00 Km
- Punalur – Ponkunnam Road 50.20 Km

5.10 World Bank's approval for loan assistance of US \$216 million was obtained. The bidding process for five road sections in the project was completed and three major road improvement works in the North Zone has been already started during the period. In addition to the KSTP work, as per the direction of the State Government, road upgradation works, heavy maintenance works and surface renewal works to the old RMC roads under the state budget are also taken under the project.

Kerala Road Fund Board

5.11 The Thiruvananthapuram City Road Improvement Project implemented by Kerala Road Fund Board involves development of more than 42 Kms of roads in the capital city and its maintenance for 15 years after construction. By developing well designed roads of better quality and aesthetic appearance the project has given a face lift to the capital city. The concessionaire was responsible for all investments and they are paid a fixed amount as annuity, the pay out of which is spread over a period of 15 years. Hence it is proposed to give more thrust for implementing infrastructure development projects with Public Private Partnership on BOT –Annuity mode. A few such projects in pipe line are given below.

- SPEEID KERALA- The Government have formulated the project of constructing flyovers, bridges and roads at selected areas in the State in order to reduce the increasing traffic congestion. The project named as 'SPEEID KERALA' comprises of 23 projects at the estimated cost of Rs 10,000 Crore.
- Kottayam – Cherthala Tourist Highway – The project aims at the development of the interior areas of Kuttanad as well as promotion of tourism.
- Thiruvananthapuram City Road Improvement Project Phase II- It is proposed to take up the second phase of Thiruvananthapuram City Road Improvement Project aiming at the development of some more roads on BOT- Annuity mode
- Kozhikode City Road Improvement Project – The land acquisition for developing seven roads coming under phase I of KCRIP is nearing completion. Action is in progress to bid out the works of development of 6 roads under PPP mode as in the case of Thiruvananthapuram City Road Improvement Project.
- Detailed Project Reports have been prepared for implementing City Road Improvement Projects in Kottayam, Thrissur, Malappuram and Kannur and action is also in progress for preparing DPR for Kochi and Kollam city road improvement projects.

State Road Improvement Project (SRIP)

5.12 Road Infrastructure Company Kerala Limited is a special purpose vehicle incorporated under Indian Companies Act, 1956 by Kerala Road Fund Board. As per G.O. (MS) 91/2012/PWD dated 06.12.2012 GoK has accorded Administrative Sanction to State Road Improvement Project (SRIP) under two packages ie, the Rehabilitation Package under Annuity mode and the Upgradation Package with funding from multilateral funding agencies. The Rehabilitation package is intended to improve 551 Kms of roads on Public Private Partnership Annuity mode and the Upgradation Package is designed to improve 600 Kms of road by including land acquisition wherever needed for geometrical corrections and junction improvements.

Research and Development in Road Sector

5.13 Research and Development activities have an important role to play in meeting the challenges of modernising the road system, technology upgradation and finding cost effective solutions to infrastructure problems in general. Design, Research, Investigations and Quality Control Board (DRIQ Board), Kerala Highway Research Institute (KHRI) and National Transportation Planning and Research Centre (NATPAC) are engaged in research and Development of the road sector.

(a) DRIQ Board

5.14 In 2012-13 the design wing of DRIQ Board has completed 25 numbers of structural design. The Bridges Design Wing has completed structural design of 53 numbers of bridges and 50 numbers of general design and 19 numbers of detailed

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design. The research and project preparation unit of DRIQ Board has completed 11 project preparation works during 2012-13.

(b) Kerala Highway Research Institute

5.15 Kerala Highway Research Institute is the South Zone Regional Office of quality control wing for quality control assurance of all works undertaken by PWD. KHRI conducts training programmes for technical and non technical staffs of PWD. The functioning of the Institute is under four divisions. The activities of KHRI during 2012-13 is given Box 5.3

Box 5.3

Major Activities of KHRI during 2012-13

- DPR preparation of Ernakulum – Sabarimala Road
- Research Work – Study on periodically distressed road stretches in Thiruvananthapuram
- Study on locally available steel reinforcing bars
- Development of NH 47 – Conversion of existing two lane road to four/six lane from Karamana to Kaliyikkavila, total station survey at Kaimanam to Balaramapuram.

(c) National Transportation Planning and Research Centre (NATPAC)

5.16 The objective of NATPAC is to conduct Research and Development and extension activities in the field of transportation and allied areas. The broad areas of activities of NATPAC includes transportation, planning and road safety, regional transportation, highway planning and development, traffic management, water transport and providing consultancy services to various user agencies in the domain area.

5.17 During the year 2012-13, NATPAC has carried out 20 plan programmes, 25 externally funded projects and road safety programmes sponsored by Kerala Road Safety Authority (KRSA) and brought out several road safety training materials. The plan programmes are mostly R&D projects addressing the traffic and transportation issues of the State. The externally funded projects are need based studies entrusted to NATPAC by government agencies like PWD, Transport, Tourism, Water Resources, Town Planning Departments and other Organisations like Kochi Metro Rail Company, National Highway Authority of India (NHAI), Roads and Bridges Development Corporation Kerala (RBDCK) etc. Research studies undertaken by NATPAC have led to the formation of design standards and guidelines for constructing better quality roads by using modern construction techniques.

Road Transport Services

5.18 Road Transport is the dominant mode of transport for moving goods and passenger traffic. Road transport acts as the feeder service to the rail traffic, air traffic and ports and harbours. The vehicle density of the State during 2012-13 is very high compared to many other States in India. Road transport industry is dominated by private service providers. The road freight services are wholly owned and operated by the private sector.

5.19 Kerala State Road Transport Corporation (KSRTC) is the largest single public sector undertaking, which carries out transport operations in the State. The passenger transport operation in Kerala is mainly carried out by private operators. Inter-State analysis shows that in respect of load factor, passenger lead and passenger per bus per day, performance of KSRTC is above average.

5.20 Out of 5812 buses of KSRTC 1373 (24 %) buses are ten or more years old. The age wise details of KSRTC buses are given in [Appendix 5.13](#). The number of schedules operated as on 31.03.2013 has increased from 5333 to 5567 in 2012-13. The Corporation operated its bus service to distance of 6158.39 lakh Kms during 2012-13. About 12187.53 lakh passengers travelled in KSRTC buses during this period. The major indicators showing operational efficiency of KSRTC is given in [Appendix 5.14](#).

5.21 The service operations of KSRTC rose from 15.06 lakh Kms per day in the previous year to 15.21 lakh. The average monthly collection of the Corporation increased from 119.73 crore in 2011-12 to 131.08 crore in 2012-13. During the period, 488 new buses were put on the road.

5.22 The fares charged by KSRTC ranged from 58 paise per Km in ordinary and city buses during 2012-13. KSRTC enhanced its fares 65 paise per Km for super fast, 80 paise to super deluxe service , 100 paise for A/C Air Bus and 120 paise for High Tech Volvo Buses. The fare structure of KSRTC is given in [Appendix 5.16](#).

5.23 Inter Unit analysis of KSRTC reveals that about 30% of the units of the State exhibit poor performance. The unit wise details of operational statistics are given in [Appendix 5.17](#).

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5.24 Financial performance of KSRTC is not in tune with its physical achievements due to increase in operating expenditure, hike in pension commitments, increase in interest payments, operation in uneconomic routes and granting concessional travel add loss to the Corporation.

5.25 Though the occupancy ratio in KSRTC has increased from 67.14% in 2009-10 to 76.4% in 2011-12, it is not appreciable considering the higher occupancy in private carriages and inadequate road infrastructure in Kerala that result for lesser use of private mode of transport. Though there are only 172 buses per 10 lakh population in Kerala, the fleet utilisation is only 82.7 percent and more than 12 percent of the buses are under repair ; and 28.8 percent of the vehicles were over aged. Staff per bus ratio is as high as 6.95. The number of breakdowns per lakh kilometres in KSRTC is around 6 while that of neighbouring Karnataka RTC (KnRTC) and BMTC are less than one. Other internal indicators of KSRTC is given in Box 5.4. More details are available in the [Appendix 5.15](#) and [5.18](#).

Box 5.4

Internal Indicators of KSRTC during 2012-13

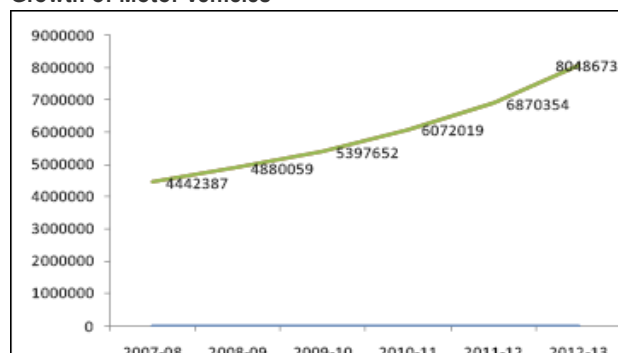
• Staff productivity (Kms/staff/day)	37.64
• Vehicle productivity (Kms/bus/day)	261.63
• Fuel Efficiency (Km/litre of HSD)	4.19
• Passengers carried/bus/day (nos)	598.6
• Loss per kilometre (₹)	6.3151
• Loss per bus per day (₹)	1864.76
• Staff cost as % of total cost	46.50
• Fuel & lubricant cost as % of total cost	33.21
• Interest cost as % of the total cost	7.40
• Tax cost as % of total cost	4.39

Motor Vehicle Population

5.26 The growth of vehicle population in Kerala is 17 percent over the previous year. The growth of Motor Vehicles since last six years is shown in Fig 5.2.

Fig 5.2

Growth of Motor Vehicles



5.27 The number of motor vehicles having valid registrations as on 31.03.2013 is 80,48,673 as against 68,65,539 in the previous year. The newly registered vehicles comes to 11,57,416 during 2012-13. In the case of personal vehicles a faster growth rate has been recorded over the previous year. The percentage of category wise motor vehicles registered during 2012-13 is shown in Fig 5.3.

Fig 5.3

Category wise Motor Vehicles Registered during 2012-13

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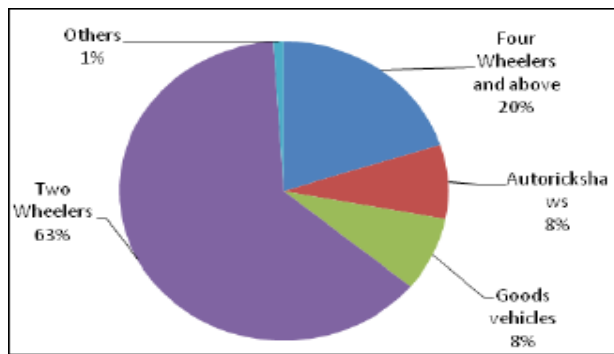
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5.28 The district wise details of vehicles newly registered, vehicles with valid registration and growth of vehicles in Kerala are given in [Appendix 5.7](#) and [5.8](#) respectively. An analysis of growth of Motor vehicles and its impact on local development in the State during the last eight years reveals that vehicle population has increased from 31,22,082 lakh in 2005 to 80,48,673 lakh in 2013, (157.8%) while only marginal increase has been achieved in the augmentation of road length.

5.29 About 3171 vehicles are newly added to vehicle population every day. Of this 1794 are two wheelers. The details of category wise growth of motor vehicles in Kerala since 2008 are given in [Appendix 5.9](#). The highest vehicle population was recorded in the Ernakulam district with 12,38,040 vehicles (15.4 %) followed by Thiruvananthapuram with 9,71,104 (12%). Idukki district has the lowest number of 1,41,497 (1.75 %) vehicles. The tremendous increase in the volume of road traffic in recent years has caused increase of total accidents. More details are available in the [Appendix 5.10](#).

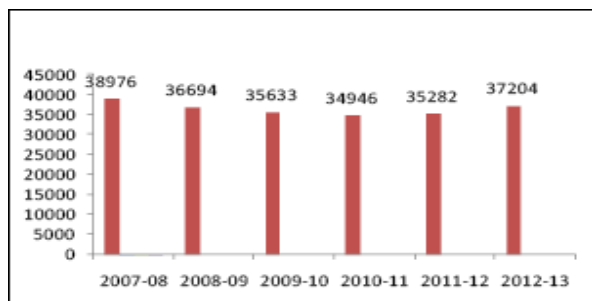
Road Accidents

5.30 Even though several initiatives have been taken by the police to enforce road discipline and enforcement of rules by Motor Vehicles Department, road accidents are increasing. The increasing trend of traffic accidents is a matter of great concern. The accident rate of Kerala is increasing with 15 accidents per 1000 vehicles during 2012-13. Even bigger states like Uttar Pradesh, Gujarat and Rajasthan reports far less number of accidents compared to Kerala.

5.31 During 2012-13, Kerala registered 37204 accidents (102 per day). Accidents due to KSRTC buses were 1282 (3 per day) and private buses were 3751 (10 per day) . The number of two wheelers has increased from 41.27 lakh in 2012 to 50.41 lakh in 2013, recording average annual growth rate of 22 percent. Similarly the number of traffic crashes involving two wheelers have grown to 17870 (49 per day) in 2013. Bike accidents account for nearly 40.05 percent of the total accidents reported in the State. Trend of Motor Vehicle Accidents in Kerala is in the Fig 5.4

Fig 5.4

Trend of Motor Vehicle Accidents in Kerala



5.32 According to records, almost 95% of accidents occurred due to the fault of drivers of the motor vehicles. The rest of the accidents are caused due to various other reasons like traffic, bad weather, poor road condition, fault of pedestrians etc. Road accidents are caused due to one or more of the following reasons.

- Rash driving and unhealthy completion of vehicles
- Defective eye sight of drivers
- Poor surface condition and badly maintained side shoulders of roads
- Uncontrolled access streets and unmanned junctions
- Least care regard to traffic rule
- Haphazard parking on road side
- Location of bus stops close to junctions
- Lack of pedestrian crossing, walkway facilities etc

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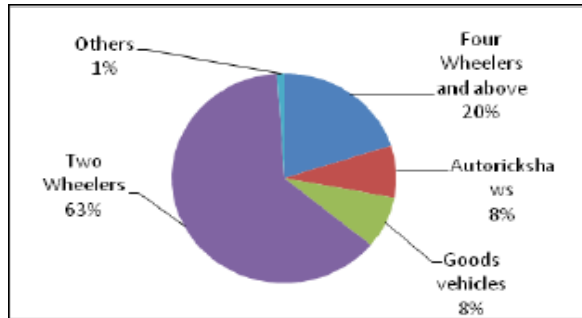
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- Encroachment/dumping of materials on the road

The percentage of category wise and vehicle wise accidents in Kerala during 2012-13 is shown in the Fig 5.5. More details are available in the [Appendices 5.11](#) and [5.12](#).

Fig 5.5
Category wise and Vehicle wise Accidents in Kerala during 2012-13



Railways

5.33 The Indian Railway system is the second largest network in the World under a single management. It provides one of the cheapest means of transport in India. The State total railway route has a length of 1257 km and covers 13 railway routes. The Railway Divisions at Thiruvananthapuram, Palakkad and Maduari jointly carry out Railway operations in Kerala. Total route Km of 623.76 Km of Thiruvananthapuram division comprises of 494.76 Km in Kerala State and 129 Km in Tamil Nadu State. Thiruvananthapuram Division is the largest coaching division of Southern Railway with coach holding of 1572 (bars) coaches. The Division maintains 40 Express trains and 53 passenger trains.

Kochi Metro

5.34 Kochi Metro Rail Project (KMRP) is the flagship project of the Government of Kerala designed to cure the transportation woes of Kochi City. The Project is implemented through the Kochi Metro Rail Ltd (KMRL) which is a Special Purpose Vehicle having joint ownership of Government of Kerala and Government of India with equity participation. The Union Government gave sanction for the project in July 2012 at a total cost of ` 5181.79 Crore. The Kochi metro connecting Aluva-Pettah will be completed in three stages, and each stage will be approximately 8 Kms and the stations proposed are 22 numbers.

5.35 The first phase of the Metro Rail Project is 25.612 Kms from Aluva to Petta. An agreement was signed between KMRL and DMRC on 23rd May 2013 delineating the roles, responsibilities and obligations of KMRL and DMRC in the implementation of the project. A tripartite agreement has also been linked by Government of Kerala, Government of India and Kochi Metro Rail Ltd. DMRC is entrusted with the implementation of this project. The Hon'ble Chief Minister of Kerala, inaugurated the civil works of the Metro Rail project on 7th June 2013. The civil work of the Project has been started and expected to be completed within 3-4 years.

Thiruvananthapuram and Calicut Monorail Corporation

5.36 Thiruvananthapuram and Calicut Monorail Corporation intended to set up a Mass Rapid Transit System in both the cities and M/s Wilbur Smith Associates and M/s NATPAC have been engaged for conducting the feasibility study of the project. M/s Delhi Metro Rail Corporation (DMRC) has prepared the detailed project reports for Kozhikode Monorail Project from Medical College Junction to Meenchantha touching Kozhikode Railway Station and the proposed length extends to 14.2 Kms with 15 stations. The Government has accorded Administrative Sanction for an amount of ` 1991 Crore for the phase I of Kozhikode Monorail and incorporating a special purpose vehicle viz, Kerala Monorail Corporation Limited and M/s DMRC as the General consultant for Kozhikode and Thiruvananthapuram Monorail Projects.

5.37 The alignment of the monorail will be along the middle of the PWD road and will be fully elevated and the Stations and Platforms will be above the road. All Stations will have elevated and stations at Medical College, Mananchira and Railway Station will have escalators. The trains will consist of 3 cars with the carrying capacity of 525 passengers. The trains will be driverless but may also be operated with drivers. The phase I of Thiruvananthapuram Monorail Project covering a distance of 22.537 Kms with 19 stations from Technocity to Karamana at an estimated cost of ` 3178 crore including taxes and duties based on April 2012 price level.

Air Transport

5.38 Kerala has three airports at Thiruvananthapuram, Kozhikode and Kochi. Kannur International Airport (KIAL) is set up

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Government of Kerala to build and operate Kannur International airport. The Ministry of Environment & Forest has granted necessary environmental clearance for the project. The Board of Directors has approved RFQ for EPC – 1 covering entire Airfields works like runway, taxiway, apron, ancillary buildings required for housing CNS facilities, substations, CCR building, fire station, operational and other boundary wall, drain, retaining structure, main approach road to airport from existing state road, car park etc.

5.39 Air Transport plays a major role in the development of tourism both domestic and international. During 2012-13, 66122 flights (26524 domestic and 39598 international) were operated from all the three airports together. From the three airports, a total number of 83,74,104 passengers (24,64,712 domestic and 59,09,392 international) were carried during 2012-13. Details of flights operated during 2012-13 by three Airports are shown in [Appendix 5. 19 \(A\), \(B\) and \(C\)](#) .

Water Transport Sector

Port Sector

5.40 The Kerala state lies in the south west corner of the Indian peninsula. It has a coastal length of 585 km and the state has an average width of about 60 km with one major port at Cochin and 17 non major ports. Government of Kerala intends to provide a boost to coastal shipping with the development of ports. The forest area in the east and coastal area in the west are environmentally very sensitive areas. The geographical location of Kerala is very close to international shipping route. Out of seventeen minor ports in Kerala 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.

5.41 The Government of Kerala has already decided to develop five non major ports through PPP mode. These Ports are Azheekal, Bepore, Ponnani, Alappuzha and Kollam . Apart from this a major port , Vizhinjam Deepwater International Container Transshipment Terminal is coming up. An amount of Rs. 23081 lakh , Rs. 27759 lakh, Rs.7869 lakh are earmarked for this sector during 2011-12 and 2012-13 ,2013-14 respectively.

Non Major Ports

5.42 The Government agencies involved in the development of ports in the State are Port Department, Harbour Engineering Department, and Hydrographic Survey Wing.

Port Department

5.43 The Minor and Intermediate Ports are under the Administration of Government of Kerala. The Ports are administered directly by the Director of Ports who is headquartered at Thiruvananthapuram. There are three regional officers at Neendakara, Alappuzha and Kozhikkode. Besides the Port of Kochi (a Major Port governed by Major Port Trusts Act, 1963), there are 3 Intermediate and 14 Minor Ports in Kerala. They are Neendakara, Alappuzha, Vizhinjam, Valiyathura, Thankasserry, Kayamkulam, Manakkodam, Munambam, Ponnani, Bepore, Vadakara, Thalasserry, Manjeswaram, Neeleswaram, Kannur, Azhikkal and Kasaragode (Minor Ports). Most of the minor and intermediate ports in the State are seasonal in nature with insufficient infrastructure to handle even medium and small sized vessels throughout the year .Government of Kerala allowed private investment in Intermediate and Minor Ports from 1994.

5.44 Commodity – wise cargo handled in the non – major ports during the year 2012-13 are shown in [Appendix 5.20](#). Cargo handling during 2012-13 was confined mainly to Kozhikkode, Kollam, Vizhinjam and Azhikkal ports. During 2012-13, 512 steamers and sailing vessels with registered tonnage of 308438 are called at non- major ports against 583 steamers and sailing vessels with 332459 tonnages in the previous year. This shows decrease in number of steamers and tonnages . The details are shown in [Appendix 5.21](#). Statement showing the revenue collection at the non-major ports during 2012-13 is shown in [Appendix 5.22](#).

Box. 5.5

Major Achievements of the Port Department during 2012-13

1. A systematic process of developing the master plans of 10 non-major ports has been initiated, five for cargo shipping and five for passenger shipping.
2. Establishing the Kerala Maritime Board as the implementation agency for coastal shipping is in the process
3. For the promotion of coastal shipping, an incentive of Rs.1/- per Ton per Km and Rs.1/- per passenger Km has been announced , which is the first in India.
4. Coastal Shipping Project was flagged off at Kollam Port on 9th November 2013. Vessel of M/s Transworld group MV OEL victory with stuffed containers (Tiles arrived and unloaded at Kollam Port on that day).The cargo assured by the KSMDC from Mundra port , Gujarat and the chartered vessel M V Suryamukhi has moved to Mudra Port to load container .

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5. The construction work of the Maritime Institute at Neendakara and Kodungallur is in progress under the financial assistance of NABARD .
6. A safe boat list of 350 houseboats and other vessels was published in the official website of Port Department and Tourism Department so as to enable tourists to select a right boat for their pleasure journey in the lakes and reservoirs of Kerala.
7. A cutter suction dredger was ordered to deepen selected ports to 10 M draft, channel marking buoys were installed at Azheekal, Bepore, Kollam ports and the Vembanad lake, four new container wharfs are under design and container crane purchase has been initiated as part of infrastructure development.
8. Most of the services in the Port Department have been brought under E-Governance mode such as Certificate of Competency under Kerala Inland Vessel Rules, Shipping and landing services in the ports, issue of vehicle pass for the removal of the dredged materials.
9. The establishment two maritime museums at Thalassery and Valiyathura are under process.
10. A comprehensive maritime policy for the State is drafted and is under consideration of Government.

Harbour Engineering Department

5.45 Harbour Engineering Department was formed in 1982 as a separate specialized department as a service department for Fisheries and Ports. Government of India has empanelled Harbour Engineering Department of Kerala as a consultant in the Coastal Engineering field for the nation as a whole. This department is the only such State Department in India. The major functions of the department are investigation, planning, design, evaluation, execution, operation, maintenance, and management and related maritime engineering and technical works for the development schemes of the Fisheries and Port department.

Hydrographic Survey Wing

5.46 The Hydrographic Survey Wing was constituted in 1968 as a component of the Kerala State Port Department with a view to cater to the requirements of Hydrographic Investigation for the development of the non major ports of Maritime State of Kerala. This wing has been conducting pre-dredging and post-dredging, pre-monsoon and post-monsoon surveys to ascertain various aspects such as requirement of dredging, data required for the construction of Fishing Harbours, Fish Landing Centers, Small ports etc. In addition to the routine pre-monsoon and post-monsoon survey at 16 non-major ports they also undertakes survey work for other departments like Irrigation, Inland Navigation, Fisheries, Tourism, PWD and Research Institutions like Kerala Engineering Research Institute etc.

Achievements for 2012-13

5.47 Digitization survey in Alappuzha, Ernakulam and Malappuram has been completed. Established Hydrographic Survey Institute in Kochi and Hydrographic Survey course has been started. Established one Hydrographic Data Centre at Vizhinjam. Survey work from Thottappally to Aranmula has been completed. Purchased one echo sounder, One Differential Global Positioning System, Side Scan Sonar, Sub-bottom Profiler and two vehicles for Hydrographic Survey Wing during the financial year. Construction of survey vessel MV Nirdeshak has been completed. Work order issued for construction of new Survey Launch, renovation of MV Surveyor, ML Hydrographer and purchase of FRP Survey boat. Construction of new office building at Bepore has been completed.

Vizhinjam Deep Water International Container Transshipment Terminal

5.48 Vizhinjam International Deep Water multipurpose Seaport is a flagship project of Government of Kerala being developed on a landlord port model. Vizhinjam International Deep Water Multipurpose Seaport limited (VISL) is a special purpose government company (fully owned by government of Kerala) that would act as a implementing agency for the development of a Greenfield port.

5.49. Vizhinjam is a natural port, which is located close to the international ship route. So it is expected that at least 50% of the (nearly 20,000) ships that pass through the Suez Canal (per annum) will anchor at Vizhinjam Port. It is expected that with the functioning of Vizhinjam port in its full swing, the ports of Colombo, Singapore and Dubai might face serious competition from India. This will boost the trade and commercial activities not only in Kerala but also to entire India. It is estimated that India could save more than a 100 million U.S. dollars per year in terms of foreign exchange.

5.50 Vizhinjam Deep Water International Container Transshipment Terminal is located on Southern tip of Indian Peninsula .Only 10 nautical miles from the major international sea route and East-West shipping axis. This port has natural water depth of more than 20 m within a nautical mile from coast and negligible maintenance dredging . Also this port has Proximity to rail (10 Km), road (3Km) network & airport and no acquisition of land needed for the Port itself.

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5.51 The port terminal will be developed under Public Private Partnership (PPP) model wherein the construction and operation of the port terminal would be on Build, Operate and Transfer (BOT) basis. The port development along with the external infrastructure work is envisaged to be carried out in phases with the cumulative cost estimated to be around Rs. 6595 crore. The port is envisaged to provide in total 2000m of quay length in three phases and is designed to cater primarily for containers transshipment, besides providing for other type of cargo such as Multi-Purpose, Break Bulk.

Box 5.6

Latest Status of Vizhinjam Deep Water International Container Transshipment Terminal

- The project got environmental clearance with 17 conditions.
- Tenders floated
- The first stage of the Vizhinjam International Seaport will have berthing facilities not only for big container ships, but for the Indian Navy and the Coastguard, besides a cruise terminal.

Cochin Port

5.52 Cochin Port is the only major port in Kerala. It is spread over 827 hectares. It has a water frontage of 7.5 Km. The port has connectivity to hinterland through NH 47, NH 17 and NH 49. Rail links to the Konkan and Southern Railway also give key rail access to its hinterland. An Inland Waterway connecting Kollam and Kottappuram on either side is being developed by the Inland Waterways Authority of India. During 2012-13, foreign cargo traffic decreased by 1.51% to 132.28 lakh tonnes from 134.31 lakh tonnes in the preceding year. During the year 2012-13, 1368 vessels called at the Port as against 1386 vessels in the preceding year registering a decrease of 1.30% in the shipping activity. The total traffic handled by the Port during the year recorded a decrease of 1.22% to 198.45 lakh tonnes as against 200.91 lakh tonnes handled in the preceding year. Total number of passengers arrived at and sailed from Cochin Port during the year was 128775 and 121274 respectively as against 145892 and 117705 in the preceding year.

5.53 Coastal cargo traffic have also decreased by 0.65% to 66.17 lakh tonnes from 66.60 lakh tonnes. Total import traffic handled during the year recorded an increase by 1.46% to 160.11 lakh tonnes from 157.80 lakh tonnes in the preceding year. The details are shown in [Appendix 5.23](#)

5.54 Total export traffic handled during the year showed a decrease of 11% to 38.34 lakh tonnes from 43.11 lakh tonnes in the preceding year. The details are shown in [Appendix 5.24](#). During the year the tonnage of container cargo (excluding tare weight of containers) handled increased by 3.9% to 38.79 lakh tonnes from 37.33 lakh tonnes in the preceding year. Total number of containers handled showed a decrease to 334925 TEUs during the year from 337053 TEUs handled in the preceding year indicating a decrease by 0.63%

Vallarpadam International Container Transshipment Terminal

5.55 The Prime Minister of India laid the foundation stone for Vallarpadam International Container Transshipment Terminal in 1995. Completion of this prestigious project would make the Cochin port a major hub port in the Indian Ocean region.

5.56 Regarding the construction of ICTT at Vallarpadam, Soil stabilization work with stone columns and band drains commenced and is in progress. Supporting infrastructure project namely stage-II capital dredging for providing 14.5 m draft at ICTT, National High Way connectivity at a route length of 17.2 kms and Rail connectivity with route length of 8.86 Km are at various stages of execution. Capital dredging was completed on 1st November 2012 and clearing the area is in progress. The progress achieved upto 31/03/2013 with respect to four lane connectivity is 84%. National Highways Authority of India is expected to complete the work by May 2014.

Inland Water Transport

5.57 Inland Water Transport is a fuel efficient and environment friendly mode of transportation. India is richly endowed with navigable waterways, comprising rivers, canals, backwaters, creeks, etc. The Inland Waterways Authority of India has been established for the development and regulation of Inland waterways for shipping and navigation and for related matter. The Inland Waterways Authority of India Act, 1985, empowers the Government to declare waterways with potential for development of shipping and navigation as National Waterways. Currently, three waterways have been declared as National Waterways of which National Waterway 3(Kollam – Kottapuram stretch of West Coast Canal along with Champakara and Udyogmandal Canals (205 km)) is in Kerala.

5.58 Also, in order to provide an impetus to the development of Inland water transport modes, an Inland Water Transport Policy has been announced. It includes several fiscal concessions and guidelines for encouraging private sector participation in development of infrastructure and ownership and operation of Inland vessels. IWAI is also authorized for joint ventures and equity participation in BOT projects.

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5.59 State of Kerala is endowed with numerous backwaters and it is one of the State in India, where waterways are successfully used for commercial Inland Water Transport. The transportation is mainly done with country craft and passenger vessels. There are 41 navigable rivers in Kerala. The total length of the Inland Waterways in the State is 1687 Kms. The main arterial waterway in the state is West Coast Canal. The West Coast Canal connects the Hosdurg in the north to Thiruvananthapuram – Poovar in the South and is about 590 Km including 47 Km. uncut portion from Badakara to Azheekal.

5.60 The Inland Canals play an important role in the economy of the state as they interconnect the rivers, on the banks on which are situated places of commercial and industrial importance and also give a connection from interior places to the West Coast Canal System which can be broadly divided in to three sections as below,

1. Neeleswaram to Kottappuram 348 Km
2. Kottappuram to Kollam (NW III) 168 Km
3. Kollam to Kovalam 74 Km

5.61 The canal portion from Thiruvananthapuram to Ponnani and then along Bharathappuzha River upto Shornur is known as Thiruvananthapuram – Shornur Canal (TS Canal). As part of a programme for developing Waterways by the central Government, length of 168 Km of Waterway from Kollam to Kottappuram of West Coast Canal including Udyogamandal and Champakara Canals were declared as National Waterway No. III.

5.62 Inland Waterways Authority of India is carrying out various developmental works viz. Capital dredging for providing 2 m Least Available Depth (LAD) , width of 38/32m , 24 hours navigational facilities and terminals equipped with mechanical cargo handling equipment .

5.63 Capital dredging work of Udyogamandal canal has been completed and the stretch is fully navigable and in Champakara canal, the work of dredging has been completed and the stretch is fully navigable except a small shoal at Thevara which could not be completed due to local issues .

5.64 Government agencies engaged in the development of Inland Water Transport in the State are Coastal Shipping and Inland Navigation Department (CSIND), State Water Transport Department (SWTD) and Kerala Shipping and Inland Navigation Corporation Ltd. (KSINC).

State Water Transport Department

5.65 During 2012-13 Kerala State Water Transport department took stringent action for Procuring ALM 400 marine engines and Hydraulic gear box and purchased Chemical/ Bio Toilet ,purchase timber from the Forest department, erection of Dry Dock System at Alappuzha and slipway at Ayitti Payyannr region ,complete slipway at Alappuzha, erection of Station Office building at Muhamma and erection of Office –cum-Workshop building at Alappuzha. As compared to the previous year the number of passengers increased accordingly number of trips also increased and total revenue receipts increased, 95 boats were operated with 740 trips during 2012-13. Details of operational statistics of this department are shown in [Appendix 5.25](#).

Kerala Shipping and Inland Navigation Corporation Ltd.

5.66 The Corporation was formed in 1989 by the statutory amalgamation of Kerala Inland Navigation Corporation Ltd. (KINCO) and Kerala Shipping Corporation Limited (KSC) both Government of Kerala Companies. 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. The Corporation at present has 8 barges 4 tourist boats and 2 Jhankars. The operational statistics of KSINC are shown in [Appendix 5.25](#).

Coastal Shipping and Inland Navigation Department

5.67 The main State Inland Canal schemes in the State are implemented through this department. The programmes implemented through this department during 2012-13 are:-

- Improvements and Modernization of Inland Water ways and Canals
- XIII Finance Commission has earmarked Rs.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 . An amount of Rs.50 crores each is provided for 2012-13 &2013-14 .This scheme includes improvement of Existing Main Canals and Feeder Canals for Inland Water Transport
- Development of Feeder Canals Connecting the National Water ways III(RIDF)

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Box. 5.7

Problems and issues existing in the Coastal Shipping/ Inland Navigation sector

- Delay in demarcation of canal land due to various factors
- Severe obstruction from public on boundary disputes and other local issues.
- Delay in eviction of encroachment and failure of evolving a proper rehabilitation plan for dwellers and affected people near the canal boundary
- Lack of depth in the waterway caused by silting
- Lack of maintenance of navigation system and bank protection.
- Accelerated growth of the water hyacinth.
- Lack of modern inland craft terminals and cargo handling system.
- Lack of end user incentivisation.

SECTION 2

Energy

5.68 Energy plays a vital role in the socio-economic development and human welfare of a State. Apart from its contribution to economic development, it contributes significantly to revenue generation, employment and enhances the quality of life. Per-capita power consumption is considered as an indicator for measuring the standard of living of the society. Making available the required quantity of power at affordable price is the responsibility of the state. The possibility of tapping non-conventional sources of energy and private participation in energy development, conserving depleting reserves and controlling rising prices are thrust areas. Development of the power sector is the key to the economic development.

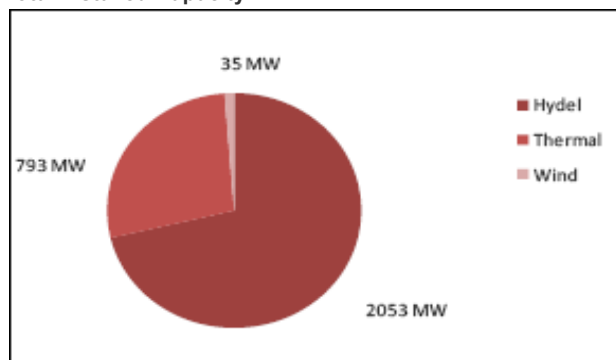
Power Sector in Kerala

5.69 In Kerala, shortage of power is the prime obstacle in starting new initiatives in the industrial field. The need for power is increasing and the production of power should also be increased accordingly. Monsoon is essential to sustain the hydropower base in the state and the shortage in rainfall usually creates power crisis. Hydel energy is the most reliable and dependable source in Kerala. Of the total installed capacity of 2881 MW during 2012-13, hydel contributed the major share of 2053 MW (71%); while 793MW was contributed by thermal projects including NTPC at Kayamkulam (Kerala’s dedicated thermal station) and Kanjikode wind farm, Palakkad has contributed 2MW. Wind Energy from IPP is 33 MW. Additional capacity generated during 2012-13 was only 8 MW (0.28%) that is 2881 MW in 2012-13 against 2873 MW in 2011-12. [Appendix 5.26](#) shows details of energy source and its installed capacity during the last five years.

5.70 Fig 5.6 highlights total installed capacity in Kerala from hydel, thermal and wind sources.

Fig 5.6

Total Installed Capacity



Performance of Power Sector Agencies

5.71 Power development activities in the state are carried out mainly through four agencies viz, Kerala State Electricity Board (KSEB), Agency for Non-conventional Energy and Rural Technology (ANERT), Electrical Inspectorate and Energy Management Centre (EMC). The Outlay and Expenditure of these departments for the last three years are shown in Table 5.3.

Table 5.3

Outlay and Expenditure

	Annual Plan	% of	Annual Plan	% of	Annual Plan

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Sl. No	Department	2011-12			2012-13			2013-14	
		Outlay	Expt.		Outlay	Expt.		Outlay	Expt. as on 30.11.2013
1	KSEB	103600	105677.00	102	111875	52129.09	46.60	117612	70119.21
2	ANERT	5950	2000.00	33.6	4226	1366.08	32.33	3980	132.22
3	MTSL	130	130.00	100	320	196.37	60.37	340	5.15
4	EMC	2620	1600.00	61	120	120.01	100.00	338	40.31
	Total	104700	109407.00	104.5	116541	53811.55	46.17	122270	70296.89

5.72 The outlay earmarked for power sector during the Annual plan 2013-14 was `122270 lakh. The expenditure as on 30.11.2013 is ` 70296.89 lakh (57.49%).

Kerala State Electricity Board (KSEB) Limited

5.73 KSEB is the driving force behind development of the state of Kerala. KSEB has been responsible for the generation, transmission and supply of electricity in the state, with particular mandate to provide electricity at affordable cost to the domestic as well as for agricultural purposes.

Corporatisation of KSEB

5.74 In order to comply with the provisions of Electricity Act 2003 and the Government of India directives, the Kerala Government notified a transfer scheme vide GO (M.S) No.37/2008/PD dated, 25.9.2008 through which all assets and liabilities of KSEB are vested with the State Government. These Assets and Liabilities now vested with the Government are to be re-vested in a fully owned government company incorporated under the Indian Companies Act, 1956.

5.75 Based on the above Govt order, a new company named Kerala State Electricity Board Limited has been incorporated on 14th January 2011 for the re-vesting of assets and liabilities of KSEB now vested with the Govt. Government holds the entire shares of the Company and the members of the Board are appointed as Directors of the Company. On 31.10.2013, the Govt. has notified the second transfer scheme for re-vesting the functions, assets and liabilities of the KSEB to the new company.

Generation

5.76 Kerala generates power from four sources - hydro power, thermal power, wind power and solar power. Of these, hydel and thermal power generations account for the considerable majority whereas wind and solar power generations make only marginal additions. Growth of power system in Kerala during the last five years is shown in Table 5.4.

Table 5.4

Growth of Kerala Power System at a Glance - 2008-2013

Sl.No	Particulars/Year	Position as on 11/2013				
		2008-09	2009-10	2010-11	2011-12	2012-13
1	Installed Capacity -MW	2694.75	2746.19	2857.59	2872.79	2881.04
2	Maximum Demand(System)-MW	2765	2998	3119	3348	3268
3	Generation Per Annum-(KSEB Own)-MU	6494.50	7240.38	7412.59	8350.74	5333.399
4	Import Per Annum- MU	9628.98	10199.96	10512.29	11270.71	12771.64
5	Export Per Annum-MU	463.33	53.9	130.24	201.1	0
6	Energy Sales within state Per Annum-MU	12414.32	13971.09	14547.9	15980.53	16838.24
7	Percentage of energy losses to energy available for sales	20.45	19.41	17.99	17.45	16.83
8	Per Capita Consumption - kWh	490.00	474	519	567	595
9	220 kV Lines - CT Kms	2683.00	2701	2701	2713	2719.55
10	110 kV Lines - CT Kms	3921.00	3970	4004	4005	4044.30
11	66 kV Lines - CT Kms	2387.00	2387	2387	2387	2386.76
12	33 kV Lines - CT Kms	1148.00	1348	1421	1497	1561.63
13	11 kV Lines - CT Kms	41791.11	45541	49232	51392	52971

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14	LT Lines - CT Kms	252458.00	260670	266856	270718	273274
15	Step Up Transformer capacity -MVA	2561.00	2564	2684	2689	2691
16	No of EHT Substations					
A	400 kV	2 *	2*	2*	2*	2*
B	220 kV	15.00	17	17	18	18
C	110 kV	116.00	123	128	131	132
D	66 kV	85.00	82	80	80	81
E	33 kV	87.00	106	113	120	128
17	Step down transformer capacity - MVA	13519.70	15827.9	16222.1	16556.3	16965.3
18	Distribution Transformers					
A	Numbers	46955.00	52724	58427	62726	65138
B	Capacity -MVA	5937.00	6708	7320	7674	7940
19	No of villages electrified	1384.00	1384	1467	1467	1467
20	No of consumers (Lakhs)	93.63	97.43	101.28	104.57637	108.0689
21	Connected Load-MW	15267.44	15866.55	16681.3	17518.42	18539.34
22	No of Street Lights	1086688.00	1148220	1196503	1218610	1257285
23	No of irrigation pumps	431745.00	437878	446460	455078	466289
24	Total revenue Per Annum (` Lakhs)	609899.00	641138	641138	797804.89	1165810
25	Revenue from Sale of Power Per Annum(` Lakhs)	509749.00	495060	495060	581781.92	722339.35

*Pallipuram 400 kv Substation owned by PGCIL

Source: KSEB

5.77 The history of Hydro Power development in Kerala begins with the commissioning of Pallivasal Hydro Electric Project in 1940. Next few decades reflected the progressive developments of various hydroelectric schemes implemented in the state. Sabarigiri in 1966 and Idukki in 1976 are milestones of power development in Kerala. The achievement in generation sector is not up to the level expected.

5.78 Total installed capacity of power in the state as on March 2013 is 2881 MW, of which the contribution of state sector is 2246.68 MW (78%), central sector 359.58 MW (12%) and private sector 274.78 MW (10%). Sector wise total Installed Capacity generated in Kerala during the Eleventh Plan is shown in [Appendix 5.27](#)

Hydel Generation

5.79 During the year 2012-13 the peak demand reached 3268 MW and there was huge gap in the availability against requirement. This was on account of various factors like the reduction in inflow due to poor monsoon, high cost of naphtha and Low Sulphur High Stock (LSHS), reduction in availability of Central Generating Stations (CGS) etc. The maximum demand increased from 2765 MW during 2008-09 to 3268 MW (18% increase) during 2012-13.

5.80 Under the purview of KSEB, 13 hydel projects are in the pipeline. The details of the project can be seen in [Appendix 5.28](#)

Negative Surplus Power during 2012-13

5.81 With the hike in the consumption of energy, the State's power quota from the central pool has enhanced from 1267 MW to 1292.06 MW as on March 2013. The poor yield from hydel reservoirs, high cost for thermal power and increased demand for power created a situation of Negative Surplus Power during 2012-13. The negative situation occurred mainly due to the drastic reduction in hydel generation. At the same time the total requirement increased to 19879.7 MU in 2012-13 from 18946.29 MU (4.92% growth) in the previous year against the power availability of 16197.69 MU resulted a negative surplus of 3682 MU. The details of power availability during the last five years are shown in [Appendix 5.29](#).

Pattern of Power Consumption

5.82 The domestic category consumers showed a growth rate of more than 3% from 8324961 in 2011-12 to 8573938 in 2012-13. Per capita consumption shows an increase of more than 4.94% i.e. 595 kWh in 2012-13 against 567 kWh in 2011-12. Growth of other agricultural pumping, Licensees (Bulk supply) also increased substantially over the year. During 2012-13, 16838.2 MU of energy amounting to ` 744697 lakhs was sold showing an increase of 656.57MU as compared to the previous years (16181.6 MU amounting to ` 581782 lakhs). The details of the pattern of power consumption and revenue

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collected during 2012-13 can be seen in [Appendix 5.30](#)

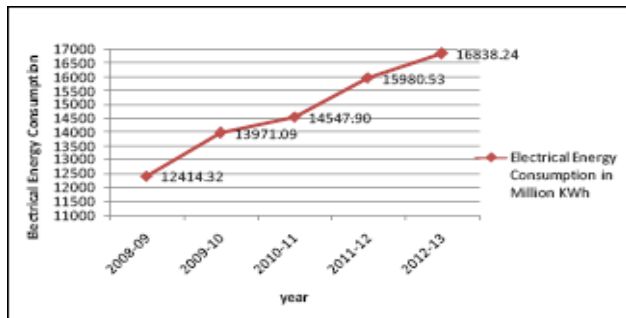
5.83 As per the 18th power survey, it is estimated that the annual consumption and maximum demand will be 26584 MU and 4669 MW respectively by the end of 12th plan period (2017).

Electrical Energy Consumption

5.84 In Kerala, electrical energy consumption has increased to 16838.24 MU in 2012-13 from 15980.53 MU during 2011-12. The percentage of consumption increased to 5.36 %. Electrical Energy consumption in Kerala during 2008-09 to 2012-13 is depicted in Fig.5.7

Fig 5.7

Electrical Energy Consumption in Kerala



Power Purchase Agreement (PPA)

5.85 KSEB has entered into a PPA with various Central Generating Stations of NTPC, NLC, NPCIL etc. envisaged for Southern Region. In addition to this, power is being purchased from Rajiv Gandhi Combined Cycle Power Plant of NTPC at Kayamkulam, BSES Kerala Power Ltd, Kochi and Kasaragod Power Corporation Ltd., Mylatti. As a measure to encourage non-conventional sources of energy, KSEB has executed PPAs for purchase of power from Wind Energy Projects, Agali (13.8 MW) & Ramakkalmedu (14.25MW) and from a small Hydro Projects Iruttukkanam (4.5 MW). Power is also being purchased from Ullunkal Small Hydro Projects (7MW) and a co-generation plant of MPS steel, Kanjikode (8MW) and Philips Carbon Black Ltd., Kochi (10MW). The capacity allocated from various stations for which the PPAs have been executed is given in the [Appendix 5.31](#).

5.86 Kerala is planning capacity addition through hydel and non-conventional sources during the 12th plan. Allocation of 232MW power from the projects viz. Neyveli Lignite Corporation Expansion (70MW), Simhadri Thermal Power Station (unit II-40.45 MW), Vallur (49MW) and Tutucorin (72.5 MW) are expected. Further KSEB has requested share of power from Kayamkulam Expansion (500MW).

5.87 KSEB had shown interest in sharing a total of 1200 MW power from the proposed Ultra Mega Power Projects (UMPP) such as Tadri (400 MW) in Karnataka, Akalthara (200MW) in Chattisgarh, Krishnapatnam (400MW) in Andhra Pradesh and Orissa (200MW). But only a tentative allocation of 200 MW power from proposed Tadri, Karnataka has been obtained by Kerala. Kerala has received allocation from Ministry of Power for 300 MW from Cheyyur UMPP in Tamilnadu, 190MW from Orissa UMPP and 75 MW from APUMPP.

5.88 Board is exploring the feasibility of setting up a 1000 MW gas based power plant at Brahmapuram using the gas from Petronet LNG/GAIL gas pipeline projects. There is also a proposal for expanding the capacity of NTPC Kayamkulam Plant by 1050MW using the gas from Petronet/ GAIL. Petronet LNG limited is also considering setting up a 1200 MW gas based power plant adjacent to their LNG terminal.

5.89 PGCIL is entrusted with the work of construction of Thirunelveli-Madakkathara 400 KV line for evacuation of power from Koodamkulam nuclear power plant. The work in Edamon- Kochi sector of this line is held up due to public protest.

Transmission

5.90 Transmission of Electricity means a bulk transfer of power over a long distance at high voltage, generally of 132 KV and above. A good transmission system is necessary to the effective distribution and to bring power from outside the state. The transmission network was scaled up by adding 401Circuit kms of Extra High Tension (EHT) lines from 2007 to 2013 and 90 substations were commissioned (including upgradation) during the period. During the year 2013-14, commissioning of 26 substations and construction of 314.6 KM of Transmission lines has been targeted. In the Transmission sector, many

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planned works could not be taken up due to land acquisition and right of way related issues. Kerala's Transmission system consisting of substations and its connected lines are given in [Appendix 5.32](#) and [5.33](#).

5.91 The performance of the construction of substation with various capacities has not achieved the desired target. Out of the target of 5 numbers of 110 KV substations, only 1 substation is completed and in the case of 33 KV substations, 8 substations are completed against the target of 9 numbers. In the case of 220KV and 66 KV substations, nothing has been achieved.

Renovation, Modernisation and Uprating (RMU) of old Generating Stations

5.92 As part of increasing the generation capacity of existing stations, several measures are being taken. The renovation, modernization and up rating of Sabarigiri Power Station has been completed. The rectification work of Unit #4 of Sabarigiri Power Station is in progress. The system installed capacity increased by commissioning of Neriamangalam Extension Scheme, Kuttiyadi Tail Race Scheme, Kuttiyadi additional extension scheme, Poozhithodu SHP, Ranni-perinad SHP, Peechi SHP and renovation of 5 units of Sabarigiri HEP.

Aggregate Technical and Commercial (AT & C) losses

5.93 During 2012-13 AT&C loss has come down to 15.30% from 15.65% in 2011-12. KSEB made significant achievements in the field of reducing AT&C loss. From 2003-04 onwards AT&C loss was considerably reduced by way of faulty meter replacement, intensification of theft detection, installation of new substations and lines, up gradation and modernization of sub transmission and distribution network through APDRP scheme. The impact of AT & C loss reduction during the last five years is shown in [Appendix 5.34](#). The decreasing trend of AT & C loss during the last 5 years can be seen in Fig.5.8.

Fig 5.8
Aggregate Technical and Commercial Losses



Distribution

5.94 In the distribution segment, 53193 Circuit Kms of 11 KV lines, 274230 Kms of LT lines, 65686 nos. of distribution transformers and 1279379 street lights are existing as on 30th Sept 2013. Service connections aggregating to 10963365 were effected during the years 2008-2013. During the financial year 2013-14, 190186 service connections were given up (against the target of 458130), 486.518kms of 11 kV line (against the target of 3430kms), 927 nos. of transformers (against the target of 4400 nos.) and 1415.5 kms of LT line (against the target of 6900 kms) were commissioned (up to 30.09.2013). The target and achievement of the distribution infrastructure during 2012-13 is given in [Appendix 5.35](#).

5.95 To improve customer satisfaction, model section concept was introduced and rolled out all over the state. SMS based complaint registration system (SMS CRS) introduced for speedy rectification of consumer complaints. A parallel run of ORUMA Net to provide anywhere payment for LT consumers started at 78 electrical sections in Kerala. E-payment facility for HT/EHT consumers is implemented. E-payment facility for LT consumers has been implemented since 23.04.2013.

5.96 Accounting Software SARAS implemented in all ARU's. Software for supply Chain Management implemented in all distribution offices. Software for Provident fund and Payroll implementation completed in all ARU's. Introduced Performance awards for employees in various fields for employee motivation.

5.97 Voltage & frequency of the power system was well within the specified limits. The availability of EHT & HT feeders was above 99% all over the state. T&D loss was reduced from 21.46 % to 15.30 % during the period from 2007 to 2013.

5.98 KSEB has given great attention to strengthen the distribution backbone by introducing new ventures of Restructured-Accelerated Power Development and Reforms Programme (R- APDRP) and Rajiv Gandhi Grameen Viduythikaran Yojana

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(RGGVY). The power consumption comes to all time high. As on 2012-13, total number of consumers has increased to 108.07 lakhs against 104.58 lakhs during 2011-12.

Demand Side Management activities

5.99 As part of Demand Side Management activities, an Energy Audit Cell has been formed during the year 2007 with an objective of conducting Energy Audit and for taking steps as per provisions of the Energy conservation Act 2001. As part of this, workshops have been conducted in the thermal and hydro stations for formulating the action plan for energy audits and for promoting energy conservation activities. Also the CFL-CDM Scheme Bachat Lamp Yojana (BLY) implemented in the entire State. A tentative peak load reduction of 120 MW is estimated as a result of implementation of the scheme. Sub division level DSM Cells were formed for conducting awareness programme on energy conservation for major energy consumers, resident associations and students to restrict energy consumption during peak hours. Programme on energy conservation implemented through schools, named "Nalekkithiri Oorjam" is jointly organized by KSEB, Energy Management Centre (EMC) and Education Department.

5.100 Anti Power Theft Squad (APTS) was active during the last 5 years. The details of amount realized by means of APTS inspections were detailed in Table 5.5

Table 5.5
Anti Power Theft Squad (APTS) Inspection

Particulars	2008-09	2009-10	2010-11	2011-12	2012-13
No of inspections	15792	17936	23479	24090	21609
Amount Assessed in `Crore	29.58	30.63	15.56	17.38	25.10
Amount realized in `Crore	18.97	20.47	11.85	11.34	15.19

Source: KSEB

5.101 The APTS wing conducted 12450 inspections till 31.10.2013 during the year 2013-14, and out of the assessed amount of ` 22.75 crore, ` 9.32 crore were realized.

Innovation Fund-State Supported Scheme Started on 2013-14

5.102 Aiming research activities into viable solutions for energy shortage in the state, Innovation fund has been provided to set up Energy Innovation Zone. The work 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.

Tariff

5.103 The overall average realization rate from tariff has been decreased to 329 paise per unit in 2012-13 as against the 347 paise per unit in 2011-12. The details can be seen in [Appendix 5.36](#) and [5.37](#). Tariffs are regulated by Electricity Regulatory Commission.

Restructured Accelerated Power Development and Reform Programme (R-APDRP)

5.104 The focus of the Restructured Accelerated Power Development and Reform Programme (R-APDRP) is on actual demonstrable performance in terms of reduction in aggregate technical and commercial (AT&C) losses. Projects under the scheme are taken up in two parts in urban areas and cities with population of more than 30,000. Part A of the scheme includes projects for establishment of baseline data information technology (IT) application for energy accounting/auditing and IT based consumer service centres. Part B of the project includes regular distribution-strengthening projects.

- Under Part A of APDRP, the Ministry of Power had approved detailed project reports for an amount of ` 214.38 crore submitted by KSEB for 43 town schemes. First installment of loan amounting to ` 64.31 crore has been disbursed by the PFC.
- Under Part A of Supervisory Control and Data Acquisition/Data Monitoring System (SCADA/DMS), 3 cities of Kerala viz. Thiruvananthapuram, Kochi and Kozhikode are eligible for SCADA/DMS project. An amount of ` 83.15 crore was sanctioned for these towns by PFC and disbursed `24.945 crore as loan.
- Under Part B of R-APDRP, Ministry of Power had approved 43 schemes at an estimated cost of `1078.30 crore.
- Distribution strengthening work in 40 towns is being done departmentally.
- As on Nov. 2013, work amounting to ` 210.13crore has been executed.

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Rajiv Gandhi Grameen Vidyuthikaran Yojana (RGGVY)

5.105 The Rajiv Gandhi Grameen Vidyuthikaran Yojana (RGGVY) was launched in April 2005 with the objective of providing all rural households access to electricity through the creation of an appropriate rural electricity infrastructure. Below poverty line (BPL) households are provided connections free of cost. The Government of India provides 90 per cent capital subsidy for projects under the scheme. Under the Rajiv Gandhi Grammeen Vidyuthikaran Yojana, sanction has been obtained to implement the scheme in 7 districts of Kerala, namely, Kasargod, Kannur, Kozhikode, Wayanad, Malappuram, Palakkad and Idukki for an amount of ` 221.75 crore. Implementation of the scheme in Idukki District has been completed. REC issued sanction on revised DPR for Kasargod, Kannur, Kozhikode, Wayanad, Malappuram and Palakkad for a total amount of ` 114.57 crore.

5.106 The details of the financial and physical progress of implementation of RGGVY as on 30-09-2013 are shown in the [Appendix 5.38](#)

Non – Conventional Sources of Energy

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

5.107 Agency for Non-conventional Energy and Rural Technology (ANERT) established by the Govt. of Kerala is functioning as an autonomous body under Power Department. ANERT is the nodal agency for the implementation and propagation of Non Conventional sources of energy in the State. ANERT has been designated as the state agency for Renewable Purchase Obligations and Renewable Energy Certificates, by the Kerala State Electricity Regulatory Commission (KSERC).

5.108 The major achievements of ANERT during 2013 are the following

- ANERT launched the 10,000 Rooftop Solar Power Plant programme in September 2012. The total capacity added would be 10 MW. This is expected to reduce the dependency of 10,000 consumers on the utility grid to the extent of 10 MW or 14 to 15 million units (MU) every year. ANERT would be providing a subsidy of ` 39,000 per system from State funds. Ministry of New and Renewable Energy (MNRE) has approved support for the programme under the Jawaharlal Nehru National Solar Mission (JNNSM) at the rate of 30% of the cost of the system. They have approved the programme to be completed within a period of 2 years. 4340 numbers of Rooftop Solar Power Plants were installed as on 11.2013.
- ANERT had proposed to install 100 kW solar PV power plants in Government buildings, wholly from ANERT funds. The following buildings were selected: (i) Medical College – 20 kW, (ii) AGs office – 10 kW, (iii) ANERT HQ building (new) – 15 kW, (iv) Thycaud Women and Children Hospital – 40 kW, (v) State Planning Board – 20 kW. Tenders were invited and orders issued, and installation has commenced in most of the locations. The installation and commissioning is expected to be completed by January 2014.
- Deposit works such as Installation of 3 kW Solar PV power plants in 8 factories of CAPEX (total 24 kW) has been completed. Installation of solar lighting systems in CESS campus at Thiruvananthapuram has also been completed. Installation of SPV power plants at RARS of Kerala Agricultural University at Ambalavayal has been completed, and that at Homoeo College at Thiruvananthapuram is progressing.
- The Ministry of New and Renewable Energy (MNRE), Government of India had sanctioned 16 projects totalling 224 kWp solar photovoltaic power plants under the Jawaharlal Nehru National Solar Mission programme. Of these 13 projects totalling 185.1 kWp was completed.
- Installation of Solar LED street lights were also completed in three municipalities such as Neyyattinkara, Palakkad and Iringalakkuda, Cliff House, Manmohan Bunglow, Homoeo Medical College, Animal Husbandary farm, Mannoorakonam Lake Pattom, Sankar Square Palayam.
- The solar lantern programme (28,000 nos. of CFL lanterns with a state subsidy of Rs.1000) is almost complete.
- During 2012-13, under Solar thermal water heating systems, 4960 evacuated tube collector systems (with 7440 sq.m collector area) and 675 nos. of flat plate collector systems (with 1350 sq.m collector area) were installed.
- 3967 biogas plants were installed under the 2012-13 programme (1244 nos. under MNRE programme, and 2723 nos. under state programme).
- ANERT has installed 11344 improved chulhas under 2012-13 programme (domestic - 3434 nos. under general category, 7091 nos. under SC/ST and total housing scheme, and 819 community models).
- Under the programme of Wind resource assessment, four 80m wind monitoring stations were installed and commissioned during 2012-13.

Kerala Solar Energy Policy 2013

- i. Increase the installed capacity of the solar sector in the State to 500MW by 2017 and 2500 MW by 2030;
- ii. Contribute to long term energy security of the State of Kerala as well as ecological security by reduction in carbon

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emission;

iii. Define end users who can adapt solar in a big way and target them;

iv. Adopt a multi-pronged approach in targeting different groups of consumers;

v Deploy package of incentives and disincentives for identified groups;

vi Adapt solar to trigger a paradigm shift in the usage of energy at the micro and macro levels;

vii Generate large direct and indirect employment opportunities in solar and allied industries;

viii Create skilled and semi-skilled man power resources for installation and maintenance of the solar systems through promotion of technical and other related training facilities;

ix Promote entrepreneurs / startups industries / institutions in the State that are engaged in the development of innovative solar based systems;

x Create an R&D hub by establishment of institutional collaborations with educational institutions, research centres, industries, utility, etc. for working towards applied research and commercialization of nascent technologies to accelerate deployment of various combinations of solar power technologies and solar- based hybrid co-generation technologies which will focus on improving efficiency in existing systems, reducing cost of balance of system

Energy Management Centre-Kerala

5.109 Energy Management Centre (EMC) - Kerala was established in the year 1996 with the prime objective of promoting energy efficiency in all sectors of economy. In 2003, EMC was designated as the State Designated Agency to enforce Energy Conservation Act 2001 in the State. The Small Hydro Promotion Cell constituted by Government of Kerala for the implementation of Small Hydro Power (SHP) Projects is functioning in EMC.

Activities and achievements of EMC during 2012-13

- EMC saved 1% of the total energy in the State through various sources such as electricity, oil, coal, LPG and firewood.
- For the outstanding achievement in the field of energy conservation, EMC received the National Energy Conservation Awards 2012, in the category of second best SDA.
- EMC has completed the installation of 100 LED Street lights in 41 municipalities and 4 corporations.
- EMC has also developed “Almanac Fed Automatic Street Light control system” which switch ON and OFF based on the sun rise and sun set time.
- Launched Energy Smart School Program in CBSE Schools in Kerala by Dr. A P J Abdul Kalam, Former President of India. Prizes for the winners of Energy Smart School/ Nalekkithiri Oorjam programme for the year 2011-12 were distributed.
- EMC has set up an energy information bureau for better reach of energy conservation messages to public and for addressing their queries on energy conservation.
- EMC has conducted Investment Grade Energy Audit in 28 Government Buildings. As part of it , EMC selected Secretariat , Collectorates of Thrissur, Kozhikode & Ernakulam and Vikas Bhavan, Thiruvananthapuram for retrofit of energy efficient equipments and other energy efficiency measures and achieved saving of 8 lakh units of electricity.
- In order to make industries energy efficient and to reduce their energy intensity, Government of Kerala has made mandatory Energy Audit for HT/EHT for high rise buildings, apartments in the state. The energy audit would give a positive orientation to the energy cost reduction, preventive maintenance and quality control programs which are vital for production and utility activities. Energy Management Centre has empanelled 23 energy audit firms to carry out mandatory energy audits.
- EMC has given intensive training to selected students from NSS Technical Cell to carry out energy audits in small and medium scale government buildings.
- Bhoomikkoru Chitram- EMC conducted Cartoon/ Cartoon film making competition in association with IT@School. Through this programme, students could develop their knowledge base on energy conservation and making animation.
- SAVE+ programme in association with Malayala Manorama Weekly can save about 7 lakh unit of electricity.
- EMC developed Almanac Fed Streetlight Control system and a control system for automatic on & off for refrigerators. These systems enable peak load reduction.
- EMC has prepared Kerala State Small Hydro Power Policy and published. EMC got two assignments from Idukki District panchayat ie, renovation of 50 kW Kallar Project and synchronization of 110 kW Mankulam project in KSEB Grid. The Mankulam project has been commissioned and Idukki District panchayat became the first panchayat in India selling power to utility.
- EMC has got project assistance from MNRE to implement 50 Pico Hydro projects. Out of 35 projects allotted, 18 projects have already been commissioned.

Department of Electrical Inspectorate

5.110 The Electrical Inspectorate is functioning under the Ministry of Power, Government of Kerala. Safety inspections are

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carried out and sanction for energisation for all HT/ EHT and other medium voltage installation in the State are issued by this department. Enquiry of all electrical accidents occurring in the State and forwarding the enquiry report to the Government and taking actions against responsible person/authority are also done by this department.

Activities and achievements of Electrical Inspectorate during 2012-13

5.111 During the year 2012-13 CT testing equipments and power quality analysers were procured for conducting effective inspections / enquiry. The infrastructure to upgrade 4 existing Laboratories in Kottayam, Ernakulam, Palakkad and Kozhikode has completed and with the procurement of Automatic Energy Meter Test Set. These Laboratories can be upgraded to NABL Standards.

5.112 The motto of MTSL is to provide testing and calibration of various types of electrical equipment. At present calibration facilities is available for voltage, current, resistance, frequency, power, power factor and energy. The testing facilities include pre-commissioning tests for protection relays and instrument transformers. Also conducts some pre-commissioning tests for power transformers, cables and circuit breakers. All calibrations and tests are conducting as per national and international standards.

5.113 For the year 2013-14, the tendering of major components was completed through e-tendering and the process of procurement of equipments is in progress.

5.114 The Meter Testing and Standards Laboratory at Thiruvananthapuram attached to the Department is the only Laboratory in the State under the State Government which has got NABL (National Accreditation Board for Calibration and Testing laboratories) accreditation, for Electro Technical Calibration for the parameters AC & DC voltage and current, resistance & power. Accreditation for the parameter ENERGY by the NABL is received recently. This Laboratory is the first and only one in the State with NABL Accreditation for energy.

5.115 For the effective implementation of SQMS in Public Services Organisations, the department could achieve the prestigious 'SEVOTHAM CERTIFICATION' (Service Quality Management System Certification) as per I.S.15700: 2005 from the Bureau of Indian Standards. It is the first department in the country, which bags this certification.

5.116 The department has received the first e-governance Award from the Honourable Chief Minister of Kerala for being the first department in the State for speedy and diligent implementation of SPARK. Also the department has received e-governance award 2009 for in house development and maintenance of cost effective touch screen information KIOSK.

Kerala State Electricity Regulatory Commission (KSERC)

5.117 The KSERC is a statutory organization of quasi-judicial nature constituted under the Electricity Regulatory Commissions Act, established in the year 2002. During this period, this statutory body has taken all efforts to set up a fair, transparent, modern and objective electricity regulatory process in the State of Kerala.

Mission of the Commission

- To promote competition, efficiency and economy in the activities of the Electricity Industry within the State of Kerala.
- To regulate the power purchase and procurement process of the distribution licensees for sale, distribution and supply of electricity within the State of Kerala.
- To determine the tariff for generation, transmission, wheeling and supply of electricity, wholesale, bulk or retail, as the case may be, within the State of Kerala.

Challenges in the Energy Sector

- Inadequate capacity addition over the years leading to massive in-house demand supply gap.
- Hydel power dominated supply scenario.
- Negligible share of Renewable Energy in the Energy mix.
- Losses/inefficiencies of the main power utility.
- Gap between energy conservation potential and its realisation.
- Limited presence of Independent Power Producers (IPPs) and Co-Generating Stations (CGS).
- Limited penetration of star labeled products.
- Insufficient interventions/incentives to promote energy conservation and thereby manage demand.
- No coal based plant, no gas based plant.
- Energy price volatility.

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Outlook for Energy Sector

- The State shall become power sufficient by the end of the 12th plan period.
- Renovation and modernisation of 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 15% and below.
- 100% electrification of the State shall be achieved.
- 400 kV transmission backbone across the state shall be implemented.
- Life extension and reducing the cost of generation by way of conversion of fuel to natural gas may be explored in the case of BDPP and KDPP.
- Demand side management activities shall be continued by improving efficiency of the programme.
- Hydel projects to be speeded up.
- 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 WEGs.
- To achieve an installed capacity of 500 MW in Solar Photovoltaics.
- 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.
- Private participation in energy development.
- Conserving depleting reserves.

SECTION 3

Urban Infrastructure

5.118 Rapid urbanisation and intense commercial development in cities has necessitated the creation of new mass transport system in cities and improvement of existing transportation system. The Government of Kerala has decided to implement Metro Rail system in Kochi and Mono Rails in Thiruvananthapuram and Kozhikode. The foundation stone for Kochi Metro Rail was laid by the Hon'ble Prime Minister of India on 13th September 2012 at Kochi. A state owned special purpose vehicle for implementing Mono Rail projects in Kozhikode and Thiruvananthapuram has been created.

5.119 In Kerala, urban centres are concentrated along major arterial and sub-arterial roads. This has resulted in the concentration of commercial establishments along the main road routes and highways. Therefore, there is an acute crunch for parking space. A multilevel vehicle parking system is essential to ensure safety to the vehicles. Steps have already been taken to provide such facilities in major cities in the State. Due to the enormous increase in the number of motor vehicles, traffic congestion and environmental pollution shoots up at an alarming rate. Encouragement to walking and cycling is essential to mitigate the above problems. Construction of separate walk-ways and cycling paths in major cities are also being considered by the government.

Urban Development Programmes in Infrastructure

5.120 The major Urban Development Programmes implemented at the state level are given below.

Urban Infrastructure Development Scheme for Small and Medium Towns (UIDSSMT)

5.121 The Urban Infrastructure Development Scheme for Small and Medium Towns (UIDSSMT) is a centrally sponsored scheme launched by GOI during the year 2005-06 to improve the infrastructure in small and medium towns in the country in a planned manner. The scheme is for a period of seven years. In Kerala, 61 urban local bodies (excluding Thiruvananthapuram and Kochi Corporations, Thrippunithura and Kalamasseri Municipalities) are eligible for getting financial assistance under the scheme. The funding pattern is 80:20 shared by the central and state governments. The State Share (20%) would be equally shared (ie.10% each) by state government and the participating urban local self governments. Under the scheme 25 projects were approved by Government of India for the 22 municipalities of the state. This includes 13 Water Supply Projects and 11 Solid Waste Management Projects and one Sewerage Project. Details of projects approved under UIDSSMT are given in [Appendix 5.39](#)

Capital Region Development Project

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5.122 The Capital Region Development Project (CRDP) was introduced in 2002 to improve the quality of life of people in the capital city by strengthening and improving the critical infrastructures like roads, water supply, solid waste management, surface water drainage, city beautification and bus terminals. Details of projects undertaken by Capital Region Development Programme are given in [Appendix.5.40](#).

Development Authorities In Urban Infrastructure

i) Thiruvananthapuram Development Authority (TRIDA)

5.123 Thiruvananthapuram Development Authority (TRIDA) was constituted for the implementation of projects for planned and scientific development of Thiruvananthapuram city and adjoining areas. The jurisdiction of TRIDA extends to Thiruvananthapuram Corporation and 10 grama panchayaths covering an area of 293.65 square kms. TRIDA has been appointed as the nodal agency for the land acquisition related works as a part of the Capital Region Development Programme. Under this programme, 12 roads totaling to a distance of 42.6 Kms have been taken up for improvements. The land acquisition for widening of roads has been completed and the land was handed over to the Kerala Road Fund Board (KRFB) for road widening works. The construction of a flyover at Bakery Junction was completed. Details of major projects undertaken by TRIDA are given in [Appendix 5.41](#).

(ii) Greater Cochin Development Authority (GCDA)

5.124 Greater Cochin Development Authority (GCDA) is an autonomous body constituted under the Local Self Government Department of the Government of Kerala. The GCDA aims at formulating and implementing various urban development schemes and projects for the welfare of the general public in the area coming under its jurisdiction. The jurisdiction of this authority covers an area of 732 sq.kms consisting of Cochin Corporation, 9 Municipalities and 29 Panchayaths. GCDA activities are generally non-remunerative and welfare oriented public utility services benefiting the urban residents and neighbouring population. Government have recently revived the Development Authorities of Thrissur, Kozhikode and Kollam. The details of major programmes under taken by GCDA are given in [Appendix 5.42](#).

Kerala Sustainable Urban Development Project (KSUDP) (EAP)

5.125 The Kerala Sustainable Urban Development Project is an externally aided project funded by the ADB for addressing the challenges thrown up by urbanisation. KSUDP deals with the improvements, upgradation and expansion of existing urban infrastructure facilities and basic urban environmental services in five Municipal Corporations of the state viz; Thiruvananthapuram, Kollam, Kochi, Thrissur and Kozhikode.

The project components are:

- Promote good governance in municipal management.
- Develop and expand urban infrastructure like urban road transport, water supply, sewerage and sanitation, storm water drainage and waste management, community infrastructure, Livelihood promotion, low cost sanitation, poverty social fund and administrative cost etc.
- Formulate, support programmes for improving urban social services for the elderly, destitute, women and street children.

Details of major projects included under KSUDP are given in [Appendix 5.43](#).

Jawaharlal Nehru National Urban Renewal Mission (JNNURM)

5.126 Cities and towns of India constitute the world's second largest urban system. Government of India has approved a mission mode approach for implementation of urban infrastructure improvement programme in a time bound manner in selected cities. The mission entrusted with this task is known as the Jawaharlal Nehru Urban Renewal Mission. The mission was launched in 2005 and continued till 2012. Corporations of Thiruvananthapuram and Kochi were selected as mission cities from Kerala State.

5.127 JNNURM the flagship scheme of Government of India after an initial set back has now in a dynamic stage of implementation in the state through the spirited team work.

5.128 The Brahmapuram solid waste plant of Kochi corporation, a mile stone in the Clean Kerala Mission has been commissioned during the year 2008 and the construction of RDF Plant is also completed. The original project envisages setting up of Solid Waste Management facility in Kochi Corporation area and also two adjoining Municipalities and 13 Grama Panchayats. Works on 2 Municipalities viz., Thripunithara and Kalamassery have been arranged and is in progress. Kochi Water Supply Project has also moved forward. As the original sewerage project was not technically feasible a fresh project adopting latest Sewage Treatment Technology has been prepared and submitted for approval. The road works in

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Kochi Corporation and procurement of buses under economic stimulus programme has also been started and is in progress. The three important Rail Road Overbridge construction in Kochi is also envisaged in the Project.

5.129 Similarly for Trivandrum works relating to the Water Supply Project have been arranged. Under the Sewerage Project the Sewerage Treatment plant work has already been in progress. For the network project the land acquisition is in progress. Sewerage phase II bids have been invited for the construction of a Sewage Treatment Plant in Medical College Campus and also for providing Sewerage Network in coastal areas. Out of this, the bids for construction of STP is under evaluation and bids for bringing sewage to the treatment plant at Muttathara has been awarded and 35% work has been completed. In Solid Waste Management almost all works have been arranged and is in progress. The Storm Water-Drain Project is being executed by 5 different agencies and the works of the Irrigation Department has already been completed. Procurement of buses under economic stimulus project also been taken up and is expected to complete by March 2014. E-governance is an important project being implemented in both the mission cities.

5.130 Admissible components included in the mission are redevelopment of inner city areas, water supply and sanitation, sewerage and solid waste management, construction and improvement of drains/storm water drains, urban transport including roads, highways/expressways/MRTS/metro projects, parking lots/spaces on Public Private Partnership basis, development of heritage areas, prevention and rehabilitation of soil erosion/landslides only in case of special category states where such problems are common and preservation of water bodies.

5.131 The funding pattern of Thiruvananthapuram Corporation is Government of India 80%, Government of Kerala 10%, ULB 10% and that of Kochi Corporation is Government of India 50%, Government of Kerala 30% and ULB 20%. Details of projects approved for implementation under JNNURM are given in [Appendix 5.44](#).

5.132 Most of the state level reforms, urban local body level and optional reforms insisted under the scheme have been successfully achieved in the state.

Integrated Housing & Slum Development Programme (IHSDP)

5.133 Integrated Housing and Slums Development Programme (IHSDP) was launched during 2006-07 aiming at the holistic development of slums in urban areas. The basic objective of the scheme is to strive for Holistic Slum Development with a healthy environment by providing adequate shelter and basic infrastructure facilities to the slum dwellers of the identified urban areas. The programme was formulated by combining two erstwhile schemes viz. Valmiki Ambedkar Awas Yojana (VAMBAY) and National Slum Development Programme (NSDP). IHSDP is to be implemented in all towns and cities identified as per 2001 census except cities/towns covered under JNNURM. (Thiruvananthapuram and Kochi Corporations).

5.134 The components for assistance under IHSDP include all slum development/ improvement/relocation projects including new house construction/improvement of houses and infrastructural facilities. The financing pattern of the scheme is in the ratio of 80:20 by Central and State Governments. Beneficiary share (12% for General and 10% for SC/ST) is stipulated for projects for individual beneficiaries like housing. Out of 20% State share, the balance fund after deducting beneficiary share will be borne equally by the ULB and State (Maximum state share is 10% of the total Project Cost).

5.135 The achievements of the scheme are summarized in [Appendix 5.45](#). Details of projects approved by GOI and fund released to 53 ULBs are given in [Appendix 5.46](#).

Rajeev Awas Yojana

5.136 This is a new scheme under JNNURM aiming at slum free cities in India. The intention is to create a slum free nation in five years. Under the scheme each state would prepare a State Slum-free Plan of Action (POA). The state POA would include the cities identified by the State and intended to be covered under RAY in five years. Government of India had given sanction to prepare Slum Free City Plan of Action of five corporations (Thiruvananthapuram, Kollam, Kochi, Thrissur and Kozhikode) of Kerala. At present the main work in Kudumbasree under RAY is preparation of slum free city plan by conducting detailed MIS based socio economic survey and GIS based geo-referenced mapping including total station survey.

Non-Motorized Urban Conveyance initiatives

5.137 Due to the enormous increase in the number of vehicles traffic congestion and air pollution shoot up at an alarming rate. In order to encourage walking and cycling, it is essential to provide separate facilities in the major towns. The following components are proposed to be implemented under the plan.

- Dedicated Cycle tracks
- Uninterrupted walkways

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- Safe pedestrian crossings
- Identification of arterial roads/bypasses/gullies suited for safe cycling
- Maintenance of these roads/lanes
- Providing destination/time boards in these roads/lanes
- Guided cycle circuits connecting tourists/heritage spots
- Arranging rallies/Guided walks for creating awareness
- Guided walking / cycling for school children
- Providing cycle tracks in important city centers
- Inter departmental co-ordination and stake holder/NGO consultation
- Implementation of the project on a PPP basis in selected zones

Other Schemes for Urban Development

Various Poverty reduction and Employment generation programmes for the Urban Sector in Kerala include

Swarna Jayanthi Shahari Rozgar Yojana (SJSRY)

5.138 Swarna Jayanthi Shahari Rozgar Yojana (SJSRY) is a Centrally Sponsored Scheme launched in December 1997. The fund is shared on 75:25 basis by both Central and State Governments. The objective of this integrated poverty alleviation programme is to provide gainful employment to the urban unemployed and under employed poor by setting up self employment ventures and taking up wage employment in public works. The programme is being implemented by the Urban Local Bodies through Community Based Organization of the poor.

5.139 Kudumbashree has organized community based organization (CBOs) of the poor in all the 65 urban local bodies in the state. There are 30614 Neighbourhood Groups (NHGs), 3120 Area Development Societies (ADSs) and 94 Community Development Societies (CDSs) under Kudumbashree working as Community Based Organisations in the urban areas. The CBOs in the urban areas act also as Thrift and Credit Societies and facilitate savings and credit to the poor. District wise details of NHGs, ADSs, CDSs and thrift fund mobilized are given in [Appendix.5.47](#)

5.140 During the period 2007-08 to 2012-13 8150 individual enterprises (USEP) and 1341 group enterprises (UWSP) were set up in SJSRY scheme. The [Appendix 5.48](#) and [5.49](#) show the financial and physical achievements of SJSRY (2007-08 to 2013-14). Details of micro enterprises and group enterprises created under the schemes are given in [Appendix 5.50](#) and [5.51](#). The activities of group enterprises vary from solid waste management to the computer hardware assembling.

Basic Services to the Urban Poor (BSUP)

5.141 Basic Services to the Urban Poor (BSUP) is a sub-component of Jawaharlal Nehru National Urban Renewal Mission (JNNURM) and implemented through Kudumbashree. The duration of mission is seven years beginning from 2005-06. Only two corporations in the state, Thiruvananthapuram and Kochi come under the scheme. The objective of the scheme is to provide basic services and civic amenities with a view to provide utilities to urban poor. A City Development Plan (CDP) would be required before the city can access mission fund. The CDP of Thiruvananthapuram include 5 adjacent Grama Panchayats in addition to Corporation area. 13 adjacent Panchayats and Thripunithara, Kalamassery Municipalities are included in the CDP of Kochi.

5.142 The total allocation under BSUP to the State during the mission period is ` 250 crore. Projects are sanctioned based on the Detailed Project Report submitted by the mission cities. The Central Share will be released in 4 instalments (25% each) based on submission of Utilization Certificate for 70% expenditure of the funds released. The fund sharing pattern for Thiruvananthapuram is 80:20 by Central and State Governments. The State's share is borne equally by the State and Local Governments. For Kochi Corporation the sharing pattern is 50:50 by Central and State Governments. Out of 50% of State Share, 30% would be borne by the State Government and the balance amount after deducting beneficiary share would be borne by the respective ULBs.

5.143 Four phases of projects worth ` 208.01 crores and 3 projects worth ` 135.66 crore was sanctioned for Thiruvananthapuram and Kochi Corporation respectively. Details of projects sanctioned under BSUP for the two Corporations are given in [Appendix 5.52](#) and [5.53](#).

The physical achievements of the scheme are summarized in [Appendix 5.54](#).

Ayyankali Urban Employment Guarantee Scheme

5.144 Ayyankali Urban Employment Guarantee Scheme started during 2009-10 in the state is considered as a unique

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initiative in the State. It is intended to address the unemployment and under-employment problems in the urban society. The objective of the scheme is to enhance livelihood security in urban areas by providing at least 100 days of guaranteed wage employment to every household whose adult members are willing to do unskilled manual labour. Creation of durable community assets and strengthening the livelihood resource base of the urban poor is also envisaged in the scheme. The scheme is structured in the pattern of Mahatma Gandhi National Rural Employment Guarantee Scheme. While providing employment, priority shall be given to women in such a way that at least 50% of the beneficiaries shall be women who have registered and requested for work under the scheme. Since the scheme is its initial stage of implementation no financial or physical achievement has been reported.

5.145 The Financial achievements of major schemes implemented under urban development sector are given in [Appendix.5.55](#).

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Postal Network of Kerala

5.146 Indian postal system is the largest in the World with a network of about 1.55 lakh Post Offices, of which 1.39 lakh (89.78 %) were in rural areas and 15826 (10.22%) in urban in the country. The postal network consists of four categories of post offices namely, Head Post Offices, Sub Post Offices, Extra Departmental Sub Post Offices and Extra Departmental Branch Post Offices.

5.147 Kerala Postal circle includes the entire State of Kerala, the Union Territory of Lakshadweep and Mahe under the Union Territory of Puducherry. Kerala is the only postal circle where every village has at least one post office. As on 31.09.2013, there are 5066 post offices in the circle, of which 1506 are Departmental post offices and 3560 Extra Departmental post offices. On an average each post office in the State serves an area of 7.69 Sq.km and a population of 6607 as against the national average of 21.21 sq.km and a population of 7175 people. 83 percent of the post offices are in the rural areas. Major Activities of Kerala Postal Circle is given in Box 5.8. More details are available in the [Appendix 5.56](#) , [5.57](#) , [5.58](#) and [5.59](#).

Box 5.8

Major Activities of Kerala Postal Circle during 2012-13 up to 30.09. 2013

- All the 1506 departmental post offices in the Circle are computerised
- Providing new e-based and value added services
- Introduction of International Speed Post or EMS - a facility available from India to 99 countries
- Two new parcel products of India "Express Parcel" and "Business Parcel" introduced
- Introduction of Logistics Post Air to the customers for getting end to end services on the logistics value chain for faster transmission /delivery of their consignments
- Tie up with Kerala State Government for Corporate e-post
 - i. Tie up with Commissioner for Entrance Exam for selling Application forms under Retail post
 - ii. Tie up with director, LBS Centre for Science & Technology
 - iii. Kerala Water Authority under e-payment
 - iv. BSNL under e-payment
 - v. Tie up with Local Self Government for tax collection

Telecommunications

5.148 Telecommunication is one of the prime support services needed for rapid growth and modernisation of the economy. The telecommunication services in India have improved significantly since independence. Kerala Telecom circles serves the whole of Kerala State, the Union Territory of Lakshadweep and part of Union Territory of Puducherry (Mahe). The circle has 11 major SSAs and one minor SSA of Lakshadweep. The status of telecom sector in Kerala is given in Box 5.9

Box 5.9

Status of Telecom Sector in Kerala as on 31.03.2013

• No. of Telephone Exchanges	1266
• Equipped Capacity	9920944
• Working Connections	10661427
• Average No. of Telephone per Sq.Km	274
• Telephone Density	334 per 000 population

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• Telephone density (Rural)	230 per 000 population
• Telephone density (Urban)	626 per 000 population
• Market share of BSNL in Kerala	32.64

5.149 All the Panchayats and all the villages in the Circle have been provided with public telephones. There is wide network of over 46775 Public Telephones for easy access to the average public and the same has become very popular among the people. The State has a modern telecom network spanning its length and breadth and comprises of state-of-the-art Digital switches interconnected by reliable Optical Fibre/Microwaves/Satellite media. The State is served by 1266 automatic exchanges all of which are Digital electronic.

5.150 BSNL has launched WIMAX (Wireless Broadband Service) service with mobility for the first time in the State with 450 towers covering all the SSA Head Quarters. In the (Code Division Multiple Access (CDMA) front, BSNL Kerala has already implemented all India roaming facility and Evolution Data Optimal (EVDO) services offering High Speed Internet Access at affordable rates. The Public Grievance Cell is working at Circle level with '12727' and District level with '12728' other than computerised '198' fault repair services. Call Centre with '1500' is fully functioning for Kerala. Call Centre for mobile service is '9447024365'. Internet helpline is also working at 12678 for Kerala Circle. The major achievements of BSNL as on 31.03. 2013 is given in the Box 5.10. More details are available in the [Appendix 5.60](#).

Box 5.10

The major achievements of BSNL as on 31.03. 2013

- The total number of Telephone connections working is around 107 lakh (Landline 29 lakh, WLL 2.75 lakh and Mobile 75.45 lakh)
- There are 614998 Broadband Customers available in the Circle. Broadband service is 'on demand' in almost all Exchanges
- 245060 3G connections have been provided
- 15480 WIMAX connections provided
- 20484. 017 RKM of OF cable has been laid
- 844 Colleges are covered under National Mission for Education Project (NME) and about 9260 broadband connections have been provided
- BB connectivity to 1656 Akshaya Centres are provided
- BB Kiosks have been provided at 363 locations under USOF
- Provided 872 VPNoBB connections to Grama Panchayats and 1100 Village offices in twelve districts
- Provided about 935 BB connections to Kudumbasree Offices and 472 connections to NREGS
- Provided about 652 Combined VPN connections to Excise Department and 566 connections to Kerala Police

All India Radio and Doordarshan

5.151 The Audio Video Communication wing in the Electronic Media Division of I&PRD is engaged in producing and broadcasting various video magazine programmes through electronic media. They include Navakeralam -bimonthly inter active programme with Hon.Ministers in Doordarshan, Priyakeralam - a weekly development news magazine programme in Doordarshan, Janapadham - a weekly development programme in AIR and Sutharyakeralam - a live complaint redressal programme through video conferencing by the Hon'ble Chief Minister is telecast by Doordarshan and its audio version is broadcast over all stations of All India Radio. The programme, Sutharyakeralam is being aired on Doordarshan every Sunday at 7.20 pm and repeat telecast can be seen the following Monday at 9.30 pm. Its radio format is broadcast over All India Radio every Sunday at 8.30 am. All stations in Kerala broadcast this programme. During 2012-13 and up to December 2013, 72 episodes of each programmes were telecast.

SECTION 5

Information Technology

5.152 The State of Kerala has always been a forerunner among the states of India in the adoption and application of ICT be it the services /support to its citizens or enabling smoother functioning of the business community. Numerous initiatives have been taken up over the years, which have enabled the State to be at the forefront in implementing ICT projects and pioneer in E-governance activities. Government of Kerala acknowledges the critical importance of Information and Communication Technology as the key vehicle for the State's overall equitable development and reiterates its commitment to the Sector.

Box. 5.11

IT Policy 2012 - Vision & Objectives

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- To Plan, develop and market the state as the most preferred IT/ITES investment /business destination in India
- To utilize ICT for the effective, transparent and efficient delivery of services to the citizens scarnlessly through an integrated e-governance framework
- To make the state of Kerala a 100 percent e-literate and digital society
- Achieve up to 5,00,000 direct employment in the ICT sector by 2020
- Create at least 3,000 technology startups in the state by 2020
- Ensure electronic delivery of services to citizens and business across all departments and functions to achieve the objective of Transparency and efficiency.
- Enable“SMART” (Simple, Measurable, Accountable , Responsive and Transparent) governance through digital work flow and automation system
- Re-engineer the Government business practices and rules to suit the delivery of electronic service
- Have the best in class ICT and allied infrastructure thereby ushering efficient and effective developments within the government and in the sector as such.
- Provide broadband connectivity to all Government offices up to Panchayat level through OFC by 2014

5.153 Kerala State Information Technology Mission (KSITM), Indian Institute for Information Technology and Management – Kerala (IIITM-K), Techno Park, Info Park, Cyber Park and Kerala State Information Technology Infrastructure Ltd. (KSITIL) are the major agencies involved in the implementation of Information Technology schemes in the State. The Plan outlay for Information Technology during 2012-13 is 27% higher than that in 2011-12. The outlay during 2013-14 is `232.58 crore which is 6% higher than the previous year. The details of Plan Outlay and Expenditure table are given in Table 5.6.

Table 5.6
Plan Outlay and Expenditure
(` in Lakh)

Sl.No	Agency	Annual Plan 2011-12		Annual Plan 2012-13		Annual Plan 2013-14	
		Outlay	Expdr.	Outlay	Expdr.	Outlay	Expdr. (upto Nov.)
1	KSITM	5039.00	2166.50	7307.00	3112.00	6853.00	2049.13
2	IIITM-K	900.00	900.00	1200.00	1006.00	1500.00	147.39
3	Technopark, Infopark and Cyberpark	7850.00	8171.13	11769.00	8983.00	12500.00	7649.18
4	KSITIL	2400.00	2400.00	1700.00	629.00	2405.00	634.33
5	Others	1000.00	500.00				
	Total	17339.00	14137.63	21976.00	13730.00	23258.00	10480.03

Kerala State Information Technology Mission (KSITM)

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

5.155 Kerala State Information Technology Mission is formed to take over the existing facilities, equipments and other assets of the Mission Group on Information Technology (IT) which has been set up by the Government. All the activities of the Mission Group namely, assisting the IT Department in the implementation of the IT policy declared by the Government, initiate efforts at e-governance by providing effective and citizen friendly government interfaces, promotion of the State as an IT destination for industries and use of IT as a tool to upgrade the standard of living of the people in all walks of life, shall be carried out by the Mission. 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 & transparency in governance and improved quality of life for the common man.

Box 5.12

Primary Responsibilities of KSITM

- Interfacing between the Government and the industry.
- Interacting with potential investors.
- Strengthening the IT/ITES industry base.
- Holding promotional campaigns for hard selling the state.
- ICT dissemination to bridge the digital divide.

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- E-governance.
- Developing Human Resources for IT and ITES.
- Advising the Government on policy matters.

Indian Institute of Information Technology and Management–Kerala (IIITM-K)

5.156 The Indian Institute of Information Technology and Management – Kerala (IIITM-K) promotes higher education and IT related information services across Kerala and beyond.

Box 5.13

Vision and Objectives of IIITM-K

- To be a premier institution of excellence in Science, Technology, Systems and Management related to Information in diverse fields.
- Develop professionals and leaders of high calibre imbued with values of entrepreneurship, ethics and social responsibility
- Actively promote higher education, IT enabled services and industry across Kerala and beyond through its education programs and services

5.157 The institute has a cloud computing facility with two high ended HP Proliant server and four work stations. They also has a cluster computing facility and image processing facility. Apart from this, institute hosts high end blade servers for different projects such as Computational Chemistry, Geographical Informatics Systems, KISSAN Kerala, Plan Space, Agri Informatics and Medical Image Computing and Signal Processing etc,

Box 5.14

Projects Implemented by IIITM-K

- Set up and inter disciplinary Centre for Excellence in Applied Machine Intelligence and Pattern Analysis
- Establishing School of Continuing Studies at IIITM-K
- Centres for Innovation and Technology Incubation at IIITM-K
- Library and Information Service
- Establishment R&D facilities for scientific data mining
- Proposal to establish Virtual Resource Centre for Language Computing at IIITM-K
- Proposal for Research in Localisation and Adoption of Open Standards in e-Governance Project
- Establishment of Advanced School of Computational Science
- Integrating Ecology, Information Technology and Society Ecological Informatics

Technopark

5.158 Techno Park has been growing steadily both in size and employee strength. The park is now home to nearly 300 companies, employing more than 45000 IT/ITeS professionals. With the commissioning of Technopark Phase III, Techno Park became the largest IT Park in India. Technopark has become the single largest source of employment in Kerala, with over 45,000 people working directly and 1,80,000 indirectly.

5.159 Total investment upto March 2013 is `4000 crores, total turnover upto March 2013 is ` 2850 crore and the total export upto March 2013 is `3493 crore. Details of physical achievements of Technopark are given in [Appendix 5.61](#).

Infopark

5.160 Info Park is a Society with a target of creating 1 lakh IT jobs by 2020, by providing cost effective and energy efficient layouts for small, medium and large IT companies to set up their operations in the green, eco-friendly campus.

5.161 Info Park in the financial year 2012-13 registered all – time high software export revenue of `1534 crore, which is an increase of `634 crore showing a 46% growth year over year. Apart from its best in class infrastructure at Kochi, Infopark has two more Parks at Cherthala and Thrissur, through a hub and spoke developmental plan.

5.162 Through the 153 companies functioning from all the parks together, total employment strength has grown to 20500, which is an additional 2500 employment increase from previous year.

5.163 Total investment as on March 2013 is `1645crore and the turnover upto March 2013 is `1600crore. Total export during the financial year 2012-13 is `1534 crore.

At present Infopark has the following IT Parks

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- Infopark Kochi – Phase I - 101 acres in Kakkanad, Ernakulam. There are 115 companies in the park with around 19700 employees
- Infopark Kochi – Phase II - 125 acres in Kunnathunad, Ernakulam. Phase 2 is planned to provide about 80000 additional employments in a span of 7-8 years.
- Infopark, Thrissur - 30 acres in Koratty. At present there are 27 companies providing jobs to nearly 600 IT professionals and it is expected to provide employment to nearly 3500 IT professionals in the near future.
- Infopark, Cherthala - 66 acres in Pallippuram, Alapuzha. Currently there are 9 companies functioning from this park, with about 200 employees.

The physical achievements of Infopark are furnished in [Appendix 5.62](#).

Cyberpark

5.164 Government of Kerala following its 'Hub &Spoke' model of development of IT industry in the State has established 'Cyber Park' in Kozhikode in January 2009 as a society registered under the Societies Registration Act, 1860 which will form the 'hub' in Kozhikode. Cyber Park has started the journey to set up an IT/ITeS parks in Kozhikode, Kannur and Kasaragod inside SEZ for the overall development of IT industry in the Malabar region.

5.165 While tapping into the large pool of locally available skilled resources and reputed educational institutions, the purpose of Cyber Park is to provide a friendly, cost effective and top of the line infrastructure to the IT/ITeS investors, there by acting as a catalyst for the social and infrastructure development of the region with a vision to provide unlimited employment opportunities and a substantial contribution to economic development of the state especially the Malabar region.

5.166 The total land available for Cyberpark is about 167.52 acres. The total investment upto March 2013 amounts to ` 6.34 crore. The physical achievements of Cyberpark are given in [Appendix 5.63](#).

Kerala State IT Infrastructure Ltd (KSITIL)

5.167 Kerala State IT Infrastructure Ltd (KSITIL) is a public limited company promoted by Government of Kerala with an objective of leveraging the valuable land assets owned by the Government and through viable financial models, generate enough funds and utilize the same for building up of IT Infrastructure in the State.

5.168 KSITIL has therefore been mandated by the Government of Kerala to be the vehicle for all IT infrastructure developments in the state in a Private Public Participation (PPP) model. KSITIL enjoys enormous advantages including preferential allocation of land for projects by Government and obtaining necessary clearances from Government. The business model for the company is to acquire land, create value addition to providing basic infrastructure like electricity, water road and compound wall, obtain SEZ status and such other Government approvals that may be required and then allot land to private developers for development of either IT SEZ or IT Parks.

The company has completed acquisition of 43 acres of land at Cyberpark – Kozhikode, 12 acres of land at Ambalapuzha, 60.61 acres of land at Cherthala has been purchased from KSIDC. In addition, Government land has been provided in the districts of Kollam, Alappuzha (Ambalapuzha and Cherthala), Thrissur, Kannur and Kasaragod for development of IT parks.

Outlook for IT Sector

- Improvement in quality of administrative services and governance through ICT revolution.
- E-governance which form an integral part of any economy which tries to achieve transparency, reliability, affordability in its services shall be encouraged.
- Green IT may be developed.
- IT Parks in new areas including hardware manufacturing will be promoted.
- Knowledge Cities are necessary.

SECTION 8

Information & Publicity

5.176 Information and Public Relations Department is the nodal department for disseminating information concerning Government policies and priorities and performance of Government departments. The department facilitates feedback from the public, and ensures a healthy relationship between the government and the public by acting as a meaningful link between various stakeholders.

5.177 Maintaining Kerala pavilion at the India international trade fair in New Delhi, presenting tableau in the Republic Day parade, preparing printed publicity material, screening of feature films, production of documentaries and short films for serving the social and cultural interests of the state, archiving of newspapers, photos and videos, organizing Gandhi

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Jayanthi celebrations, reading week celebrations, theatre festival, media award presentation, etc are the important activities.

5.178 Two autonomous institutions namely, Kerala Press Academy and Centre for Development of Imaging Technology (C-DIT), working under this department accomplish the administrative, technical and promotional affairs of the public and private sector with the help of advanced technologies in the field of visual communication, journalism, etc.

Sutharyakeralam

5.178 This is a flagship programme initiated by the department and is a live complaint redressal forum where the Hon Chief Minister addresses the grievances of common people especially the poor.

Field Publicity and Exhibitions

5.179 Awareness programmes and campaign are the part and parcel of the public information system and mass media activities. The field publicity wing functioning at the Directorate of I&PRD organizes various event management activities on behalf of the government. At the district level, the field publicity wing is giving adequate publicity to Government policies and programmes. These campaign and awareness programmes are being arranged in the form of art and cultural programmes. Exhibitions and multimedia campaigns were launched for creating awareness on national integration, communal harmony, decentralized planning etc within and outside the state. It has been decided to erect LED display boards (video walls) at district HQs in a phased manner for dissemination of information on various development and welfare schemes of the government. One video wall has already been installed at Thiruvananthapuram.

Outlook for Infrastructure

Infrastructure development calls for huge investments as land is scarce and there is a huge demand - supply mismatch in roads, public transport, sources of energy, housing and other urban infrastructure. Keeping Kerala green while at the same time ensuring world class infrastructure will require tough policy choices, careful planning, optimal use of resources and a high degree of innovation and efficiency in implementation. While public funding and public agencies should continue to provide infrastructure, structuring of PPP Projects which are viable and acceptable to the Kerala context should be given priority in the coming years. The process of land aquisition needs to be streamlined , key policies and regulatory reforms should be fast - tracked, an infrastructure bill and a PPP policy with a robust dispute resolution framework should be put in place.

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Chapter 6

EXTERNAL SECTOR



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Introduction

Kerala is a highly globalized state and depends on external trade, tourism and remittances from Non Resident Keralites to enhance the economic welfare of the people. At the national level, during the period April-October, 2013, exports increased by 6.3 percent, while imports increased by 9.6 percent. This led to a negative trade balance of ` 90682 million US \$. Kerala's contribution to the export sector helps in reducing the country's trade gap. The significant contribution of inward remittances by Malayalis working in other countries helps in building up the country's foreign exchange reserves. Kerala has become a "must see" tourism destination for global as well as domestic travelers. This chapter addresses the recent achievements and constraints faced by departments and implementing agencies involved in facilitating trade, tourism and welfare of non resident Keralites.

External Trade

Exports performance of India over the last two years has been affected by continued sluggishness in global trade. An overvalued exchange rate for a prolonged period had also not helped matters. The deceleration in world trade in 2012 is attributed to slow growth in both advanced and emerging market and developing economies. Keeping in view the reduced global demand in general and advanced economies in particular, the Govt. of India announced several measures since June 2012 to promote India's exports. The depreciation in the exchange rate, both in nominal and real terms, appears to have helped improve India's exports competitiveness in recent months.

6.2 Major share of trade operations in Kerala is being conducted through Cochin Port. Pepper, cashew, coir and coir products, tea, cardamom, ginger, spices and spices oil and marine products are the main items of trade. During 2012-13, the total traffic handled by Cochin Port declined by 1.2 per cent and reached 198.5 lakh MT. It was 200.9 lakh MT during

2011-12. Import during this period increased to 160.1 lakh MT from the previous year level of 157.8 lakh MT. Exports meanwhile declined to 38.3 lakh MT from 43.1 lakh MT of 2011-12. The fall in exports was 11 percent in quantitative terms. But due to higher price per unit there was an increase of 7 per cent in the value of exports.

6.3 All commodities except sea foods and coir products exported through Cochin Port showed a decreasing trend during 2012-13. Export of tea declined further by 15.3 per cent in 2012-13 than the slight 0.2 per cent decline of 2011-12. Export of Cashew Kernels decreased by 5.8 per cent, coffee by 30.1 per cent and miscellaneous items by 9.4 per cent. The exports of spices nose dived by 93.4 per cent during 2012-13. However, coir products export increased by 15 percent and sea food by a thin rate of 1.9 per cent (Appendix 6.1).

6.4 Imports through Cochin port continued to increase during 2012-13 also. It reached at the level of 160.1 lakh MT during 2012-13 from 157.80 lakh MT of 2011-12, marking a slight increase of 1.5 per cent. Fertilizers and raw materials, iron and steel and machinery, newsprint, raw cashew nut, P.O.L etc. are the main items of import. However, there was no food grains import during 2012-13 through Cochin port. Import of miscellaneous items including P.O.L alone has increased during 2012-13; at the rate of 2.5 per cent, resulting in the rise of total imports. Import of fertilizers and raw materials decreased by 18 per cent and that of iron, steel and machinery by 70.5 per cent, newsprint by 24 percent and raw cashewnut by 1.2 per cent.

6.5 Coastal as well as foreign exports from Cochin port declined during 2012-13 by 5.5 per cent and 14.0 per cent respectively. Coastal export decreased from 14.9 lakh MT of 2011-12 to 14.1 lakh MT in 2012-13, while foreign exports decreased from 28.25 lakh MT in 2011-12 to 24.29 lakh MT in 2012-13. On the other hand both coastal and foreign import increased marginally by 0.73 per cent and 1.8 per cent respectively during 2012-13 (Table 6.1)

Table 6.1
Cargo Handled at Cochin Port during 2007-08 to 2012-13 (In Lakh MT)

Traffic	Export						Import					
	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
1	2	3	4	5	6	7	8	9	10	11	12	13
Coastal	14.92	9.81	12.83	12.04	14.86	14.05	36.60	38.17	42.65	48.21	51.74	52.12
Foreign	19.99	17.29	23.13	22.00	28.25	24.29	86.04	89.67	95.68	96.47	106.06	107.99
Total	34.91	27.10	35.96	34.04	43.11	38.34	122.64	127.84	138.33	144.68	157.80	160.11

Source: Cochin Port Trust

Marine Products

6.6 Share of Kerala towards marine exports of India declined during 2012-13. In quantitative terms it was 18.1 per cent in the year ago period but declined to 18.0 per cent in 2012-13. In value terms, the contribution of Kerala went up marginally and stood at 18.2 per cent in 2012-13 from 18 per cent of 2011-12. During 2012-13 Kerala exported 166399 MT marine products valued at ` 343585 lakh vis-à-vis 155714 MT with a value of ` 298833 lakh in 2011-12. Details of marine products exports from Kerala compared to all India in quantity and value for the years 2008-09 to 2012-13 are shown in Table 6.2.

6.7 Marine products exports from India during 2012-13, both in quantity and value, was far larger than the average quantity exported and value earned respectively during the 11th Five Year Plan period (ie, 2007-12). The average quantity exported during 11th Plan was 699617 MT and the export of 2012-13 was 928215 MT. As such the average value of marine products exports during the 11th Plan was ` 1115522 lakh and the value of 2012-13 was ` 1885626 lakh. In the case of Kerala also the same trend can be seen. The average contribution of Kerala to total quantity of marine exports during 11th Plan was 117744 MT with an average value of ` 193270 lakh whereas Kerala share in total marine exports during 2012-13 is 166399 MT in quantity and ` 343585 lakh in value terms.

Table 6.2
Export Trend of Marine Products – India & Kerala 2007-08 to 2012-13

Year	INDIA		KERALA		KERALA'S share %	
	Quantity (Tonnes)	Value(Rs Lakh)	Quantity (Tonnes)	Value(Rs Lakh)	Quantity	Value
2007-08	541701	762092	100318	143091	18.52	18.78
2008-09	602835	860794	100780	157218	16.72	18.26
2009-10	678436	1004853	107293	167002	15.81	16.62

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2010-11	813091	1290147	124615	200210	15.33	15.52
2011-12	862021	1659723	155714	298833	18.06	18.00
2012-13	928215	1885626	166399	343585	17.93	18.22

Source: The Marine Products Export Development Agency (MPEDA)

6.8 Commodity wise import through Cochin Port is given in [Appendix 6.2](#). Item wise details of export of marine products from India and Kerala during 2012-13 are given in [Appendix 6.3](#).

Cashew

6.9 The percentage share of Kerala in cashew kernels export of India, both in value and quantity, which was declining since 2006-07 has shown a reviving trend in 2012-13. Contribution of Kerala in total exports of cashew kernels in India in quantitative terms which stood at 52.5 per cent during 2011-12, increased to 53.6 per cent in 2012-13, whereas in value terms it was 52.4 per cent in 2011-12 and slightly moved up to 52.9 per cent in 2012-13 (Table 6.3). The major markets for Indian cashew kernels during 2012-13 were USA, UAE, Netherlands, Japan, Saudi Arabia UK, France, Spain and Germany. There was considerable increase in exports to countries like Saudi Arabia, Korea, Iran, Malaysia etc.

Table 6.3

Export of Cashew Kernels – Kerala & India (2007-08 to 2012-13) (Qty:MT, Value : Crore)

Year	KERALA*		INDIA		Share of Kerala (%)	
	Quantity	Value	Quantity	Value	Quantity	Value
2007-08	69298	1395.02	114345	2289.02	60.60	60.94
2008-09	63730	1716.52	109523	2988.4	58.19	57.44
2009-10	61698	1635.79	108120	2905.82	57.06	56.29
2010-11	56578	1478.67	105755	2819.39	53.50	52.45
2011-12	68655	2295.84	130869	4383.82	52.46	52.37
2012-13	53624	2138.47	100105	4046.23	53.57	52.85

*Export through Cochin Port. Source: The Cashew Export Promotion Council of India

6.10 When compared to the 11th Plan average, cashew kernels exports of India declined in quantity and increased in value during 2012-13. Average quantity of exports during the Five Year Plan 2007-08 to 2011-12 was 113722 MT with an average value of ` 3077 crore against 100105 MT and ` 4046 crore respectively of 2012-13. Share of Kerala in total exports also declined in 2012-13 over the average value in quantity but in value terms marked an increase. Average contribution of Kerala during 11th Plan period in quantitative terms was 63991 MT and in value terms ` 1704 crore. Whereas exports in 2012-13 was 53624 MT in quantity and ` 2138 crore in value.

6.11 The export of cashew nut shell liquid/cardanol from India during 2011-12 was 13528 MT with a value of ` 59.5 crore. It declined to 9192 MT valued at ` 29.8 crore in 2012-13. The decrease in quantity is 32 per cent and that of value is 50 per cent. Contribution of Kerala to total export of cashewnut shell liquid from India (through Cochin port) in quantity terms in 2012-13 is 17 per cent and in value terms 14 per cent ([Appendix 6.4](#)).

6.12 India imported 892365 MT of raw cashewnut with a value of ` 5331.74 crore during 2012-13 against 809825 MT valued at ` 5338.64 crore of 2011-12. Import through Cochin Port during 2012-13 was 249755 MT and marked a decline of 2 per cent over the 2011-12 quantity of 252771 MT ([Appendix 6.2](#)).

Coffee

6.13 Exports of coffee from India during 2012-13 stood at 299030 MT (Provisional) having a value of ` 4548.3 crore. This shows a decline of 10 per cent in quantity and 2.5 per cent in value over the year ago period in which export was 333181 MT valued at ` 4662.8 crore.

6.14 Export from Kerala through Cochin port during 2012-13 was 80674 MT with a value of ` 902.2 crore. There is a decline of 30 per cent in export in 2012-13 against the quantity of 115359 MT of 2011-12. In value terms the decline was 21.3 per cent, the export value of 2012-13 being ` 1146.3 crore

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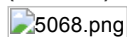
6.15. The quantity of export of tea through Cochin port during 2012-13 marked a decline of 15.3 per cent over 2011-12. During 2011-12, export of tea was 111137 MT valued at ` 464.7 crore and these figures for 2012-13 was 94165 MT and ` 516.00 crore respectively. Though the quantity of tea export fell down, the value drawn increased by 11 per cent.

Coir and Coir Products

6.16 Export of coir and coir products from India reached the highest ever level during 2012-13. Exports in quantity terms increased by 4.5 per cent over the previous period and stood at 429500.9 MT and in value terms, marking 6 per cent increase, reached ` 1116 crore.

6.17. Exports of coir and coir products through Cochin port recorded an increase of 15 per cent in quantitative terms and 39 per cent in value terms during the year under review. Quantity of exports which was 122521 MT with a value of ` 4 crore in 2011-12 increased and reached 140882 MT and ` 5.6 crore respectively in 2012-13. Exports of coir and coir products during 2012-13 was higher than the average quantity of exports in 11th Plan period. Main items of exports are coir mat, coir yarn and other coir products. Export trend of coir and coir products through Cochin port for the period from 2008-09 to 2012-13 is shown in the graph (Fig 6.1).

Fig 6.1
Export trend of Coir and Coir Products from Cochin Port
(Lakh MT)



Source: Cochin Port Trust

6.18 China continued to be the major importer for coir and coir products from India, its share increased to 34 per cent in 2012-13 from 30.2 per cent of 2011-12.

Spices

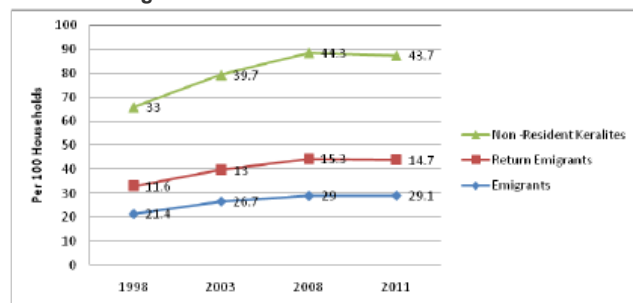
6.19 Export of spices through Cochin port sharply declined by 93.42 per cent during 2012-13. The percentage decline in value is calculated as 57.1 in 2012-13 over the previous period. During 2011-12 a total quantity of 114669 MT of spices valued at ` 873.5 crore was exported. It declined to 7550 MT and ` 374.6 crore respectively in 2012-13. Main items of exports through Cochin port include pepper, cardamom, chili, ginger, turmeric, coriander, cumin, celery, fennel, fenugreek, other seed spices, garlic, tamarind, nutmeg & maize, other miscellaneous spices, curry powder/mixture, spice oils and oleoresins and mint products.

SECTION 2

Welfare of Non Resident Keralites (NRKs)

6.20 Non resident Keralites play a vital role in the development of the state. Their contribution to the development can be seen at family level, community level and state/country level. At family level it has improved household earnings, food, health, housing and educational standard and at state/country level higher foreign exchange and accelerated economic growth are the result. It is estimated that more than 22.8 lakh emigrants from Kerala are living abroad and that of Kerala emigrants who returned and are living in Kerala is to be 11.5 lakh. The total Non-Resident Keralites is estimated to be 35 lakh. The trend of emigration from Kerala shows that the number of emigrants to 100 households increased from 21 from 1998 to 29 in 2011. The return migrants to the same fraction for the corresponding period is nearly 12 to 15 and the Non-Resident Keralites to the 100 household is increased from 33 to 44 respectively.

Fig 6.2
Trend of Emigration 1998-2011



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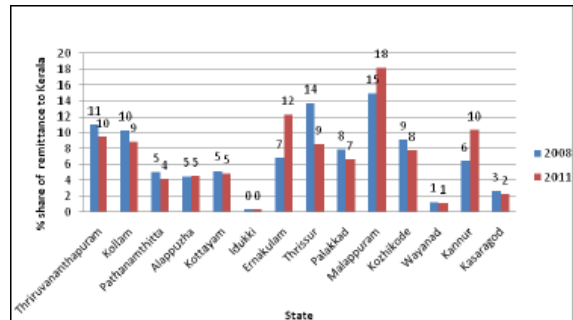
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Source: Report on Kerala Migration Survey,2011,Norka,GoK

6.21 Kerala receives substantial remittances from its emigrants. It is estimated that the total remittances received in Kerala have crossed ` 65000 crore during 2012-13. District wise data on the percentage share of remittances received from abroad shows that Malappuram received highest household remittances followed by Ernakulam and then Kannur. The lowest share is reported from Idukki district. Except Malappuram, Ernakulam, Kannur and Alappuzha, the share of household remittances of other districts declined for the period 2008 and 2011.

Fig 6.3

District wise household remittances



Source: Report on Kerala Migration Survey,2011,Norka,GoK

6.22 Non Resident Keralites Affairs Department was set up by the Government of Kerala in 1996 with the aim of ensuring welfare of the NRKs, redress their grievances and safeguard their rights. Since then, NORKA has been playing a vital role in the lives of NRKs, supporting them in times of need and lending them a helping hand in every possible means. In order to address the rising expectation of our expatriates with regard to delivery of welfare measures/services, Government instituted an agency NORKA ROOTS under Norka Department in 2002.

Box 6.1

Glimpse of Plan Schemes, Services and Own Projects Offered by NORKA ROOTS

- Santhwana, this scheme is providing financial assistance to NRKs(returnees) whose annual income is below ` 1 lakh for cases like medical assistance, marriage of their children, marriage assistance etc. and 1322 persons were benefitted for the period 2012-13.
- Swapna Saphalyam, the scheme propose to address those NRKs jailed abroad for no wilful default on their part and aims to provide free air tickets when they are released from jails and are not able to afford the tickets.
- Karunyam, fund for meeting the expenditure incurred on repatriation of mortal remains of the NRKs who died abroad or those who died outside the state. During 2012-13, 6 such cases were assisted.
- Pre Departure Orientation Programme, NORKA ROOTs is conducting training programme in every district across Kerala to impart awareness about the chosen country of employment, their culture and labour laws, and matters related to visa stamping, immigration, baggage, customs clearance, financial literacy etc.
- Rehabilitation of Return Migrants, aim of the scheme is to reintegrate returned emigrants by helping them to find suitable employment/ self employment As a step towards the rehabilitation of return migrants, Government have formulated NORKA Department Project for Return Emigrants (NDPREM) to develop a Sustainable Business Model. The project envisages providing a Capital Subsidy of 10 % of the total project cost as a backend subsidy to eligible entrepreneurs among return emigrants who wish to start up their own ventures in the field of agri-business, trading, services and manufacturing.
- Pravasi Legal Aid Cell, major aspect of the mechanism is that Government can extend legal assistance, including appearances in courts abroad, only through the Indian Diplomatic Missions or through advocates empanelled by the Indian Mission. The broad activities coming under this programme are awareness campaign by conducting orientation programmes, support, assistance, facilitation and aid. Legal aid includes legal advice, filing of cases, legal representation etc.
- 24 Hours Help Line/Call Centres, this intended to disseminate information on various schemes/projects implemented by Government and NORKA ROOTS, redress grievances of NRKs, conduct counselling to NRKs who are in distress, create awareness among emigrants and prospective emigrants against illegal exploitation, migration etc. and act as a frontline service facilitator/one point client interaction point for NRKs.
- Skill Upgradation Programme, it is a programme for upgrading the skill of young Keralites' workforce to meet the challenges in the overseas employment market through 32 training institutes in Kerala.For the period 2012-13 nearly 4000 candidates benefitted under the programme.
- Awareness Campaign on Illegal Recruitment and Visa Check, under which awareness creating to the general public about illegal recruitment and visa cheating.

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SECTION 3 Tourism

6.23 Kerala has an active tourism industry which has been accepted as one of the most suitable industries for the state. The state has clear advantage in the industry as it is bestowed with the natural endowments like beautiful hills, valleys, lakes, waterfalls, beaches, backwaters, lagoons and also manmade facilities like national parks and wild life sanctuaries. Further it is endowed with a rich heritage of art, culture, traditional dance forms, festivals, temples, and traditional medicine. The tourism industry is critically important in Kerala's economy as it is the largest industry creating jobs across national and regional economies. Since 1986, the Government have made deliberate interventions in the industry, for bringing it in the world tourism map by brand building, marketing, and creating infrastructural support. Now the Government strongly advocates bringing in more private investment in the industry. This is explicit in the Tourism Policy announced in 2012.

6.24 Government intervention in marketing, infrastructure support and promoting private sector transformed the industry from barely 50,000 foreign tourist arrivals in 1986, to a status of over 9 million domestic and over 0.7 million foreign tourist visitors in 2012. In 2012, the industry contributed a total revenue of ` 20,430 crore from direct and indirect sources. Tourism plays an important role in driving growth and bringing about economic prosperity in the state.

Achievements

Growth in tourist arrivals

6.25 Over the past more than one and a half decades, the total number of in-coming tourists increased sharply in Kerala. Between 1997 and 2012, it almost doubled from 51 lakhs to 108 lakhs, registering an annual growth rate of 9.5 per cent. While the number of domestic tourists increased from 49.5 lakhs to over 100.76 lakhs that of foreign tourists increased several times from 1.8 lakhs to 7.93 lakhs over the same period.

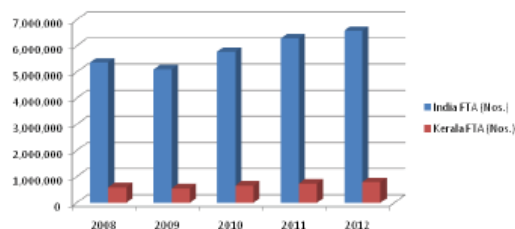
6.26 It is significant to note that Kerala is able to capture an increasing percentage of the national pie in foreign tourist arrivals. Its share in India's foreign tourist arrivals has grown from less than 8 per cent in 1997 to 12.07 per cent in 2012. Clearly, foreign tourist flow has been growing faster in Kerala than at the national level.

Foreign Tourist Arrivals (FTA)

6.27 Foreign Tourist arrival to Kerala for a decade starting from 2000 shows an increasing trend. The Foreign Tourist arrival during the year 2012-13 was 7, 93,696. It showed an increase of 8.28 per cent over the previous year. At national level it registered only a 4.5 per cent growth in FTA. [Appendix 6.5](#) gives the details of FTA in Kerala and in India since 2008. [Fig 6.4](#) gives a comparison of growth of foreign tourist arrivals in Kerala.

Fig 6.4

Year Wise Foreign Tourist Arrivals



Source: Department of Tourism

6.28 The single largest source market of Kerala for foreign tourist arrivals is United Kingdom, with a share of about 23.7 percent in 2010, followed by the United States 10.79 per cent. The share of top five countries is shown in [Fig 6.5](#).

Fig 6.5

Share of Top Five Countries in Kerala Tourism

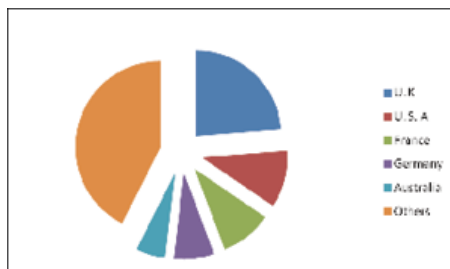
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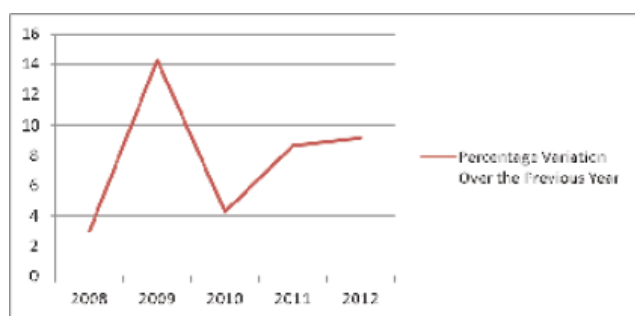


Source: Kerala Tourism Statistics 2010

Domestic Tourist Arrivals

6.29 Domestic Tourist arrival to Kerala during the year 2012-13 was 10,076,854. It shows an increase of 7.41 per cent over the previous year. The percentage changes of year wise domestic tourist visits since 2008 are given in Fig 6.6. Appendix 6.6 illustrates the domestic tourist arrival in Kerala since 2008.

Fig 6.6
Tourist Arrivals Over the Previous Year



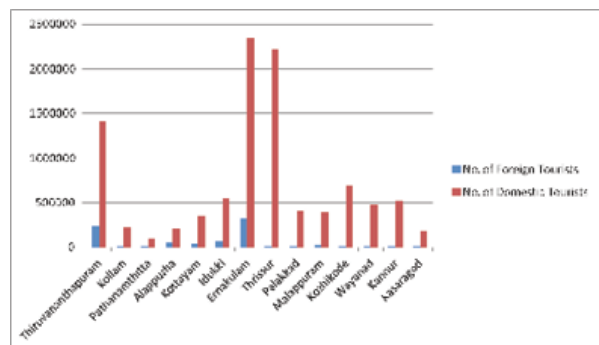
Source: Department of Tourism

6.30 As per the 2010 estimation, 71.03 percentages of domestic tourist visits originate from within the state itself. Tamil Nadu, Karnataka, Maharastra, Andhra Pradesh and Delhi together contribute 26.31 percentage of domestic tourist arrivals. State wise tourist visits along with percentage share is given in Appendix 6.7.

District Profile

6.31 Tourist arrivals vary significantly across the districts. Ernakulam district received the highest share of Foreign Tourist Arrivals during 2012. Thiruvananthapuram comes the second position. The other districts receive a sizeable share in foreign tourist are Idukki, Alappuzha and Kottayam. Most of the other districts receive a meager share or no share in foreign tourist arrivals. As far as domestic tourist arrivals are concerned, Ernakulam stands first, Thrissur second and Thiruvanthapuram third. Appendix 6.8 and Fig 6.7 shows the share of districts in total tourist visits in the state, both foreign and domestic tourists.

Fig 6.7
Tourist Visits to Districts



Source: Department of Tourism

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Economic contribution of tourism in Kerala

6.32 Tourism activities have wider impact on the economy in terms of creating jobs and income for the households through tourists spending in the local economy. The direct contribution of the industry is explicit in Foreign exchange earnings and domestic tourist earnings. Tourism industry is a major contributor of foreign exchange earnings of the state. The foreign exchange earnings during the year 2012-13 were ` 4571.69 crores. Domestic tourist earnings for the year 2012-13 were ` 10883 Crores. The tourism industry in broader terms has great indirect multiplier impact in the economy through backward and forward linkages and also induced impact through spending of benefitted households and firms in the economy. Total Revenue (including direct & indirect means) from Tourism during 2012-13 was ` 20430 Crores, showing an increase of 7.31per cent over the previous year's figure. The details of Tourism earnings from the year 2008 to 2012 are shown in Table 6.4.

Table 6.4
Earnings from Tourism (2008-2012)

Year	Foreign Exchange Earnings (Rs.in crores)	Earnings from Domestic Tourists (Rs.in crores)	Total Revenue generated from Tourism (Direct & Indirect) (Rs.in crores)
2008	3,066.52	6,832.13	13,130.00
2009	2,853.16	7122.18	13,231.00
2010	3,797.37	9282.68	17,348.00
2011	4,221.99	10131.97	19,037.00
2012	4,571.69	10,883.00	20,430.00

Plan Outlay

6.33 The details of State Plan Allocation and Central Financial Assistance for Kerala Tourism from 2007-08 to 2012-13 are given in Fig 6.8 and 6.9, respectively.

Fig 6.8
Allocation By State Government

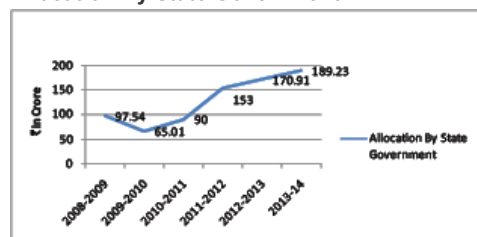
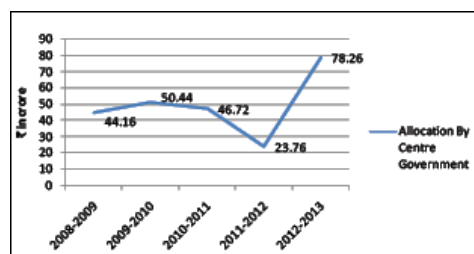


Fig 6.9
Allocation By Central Government



6.34 The State Government allocation on Tourism sector grows over years and it reached ` 183.20 crores in 2012-13. The Central allocation generally increases except in the year 2011-12. But that steadily increased in 2012-13 and reached ` 78.26 crores. The details of fund allocation of Central and State Government to the tourism sector is shown in [Appendix 6.9](#) and [6.10](#)

Responsible Tourism

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6.35 The first thematic conference on Responsible Tourism – The Industry Perspective provided a platform for direct interaction between the demand and the supply sides of Responsible Tourism. It enabled a clear understanding of visitor requirements by service providers, while keeping requisite safeguards in place, such that tourism outcomes could be optimized for mutual benefit. Kumarakom was declared as the first responsible Tourism destination in India by the International Conference on Responsible Tourism held at Kumarakom in 2013. Involvement of local self governments, community groups and NGOs in tourism planning, implementation and operation of tourism products, and creation of employment opportunities for the local population are came true in this destination. RT in Kumarakom and other destinations in Kerala take care the main responsibilities-economic, social and environmental of RT and also contribute to conservation of natural and cultural heritage.

Awards and Recognitions

6.36 Kerala Tourism won 11 awards in total in 2012-13 including national and international awards as well as central Government's awards. They are Golden Sitigate Award of ITB Berlin, Award in Prag International Advetising Festival, Lonely Planet India Travel Award, Outlook Traveller Award for Kovalam, Outlook Traveller Award, Award of CNBC AWAAZ TRAVEL AWARD 2012, Cond Nast Travel Readers Travel Award, Times of India Award, Government of India Award for best Website, TTF Kokatha Award

Milestones in Tourism Industry

Visa on Arrival

6.37 The introduction of Tourist Visa-on-Arrival (T-VoA) facility at Thiruvananthapuram and Kochi airports marks a new chapter for Kerala Tourism and will help attract more foreign visitors to the state. Countries like Finland, Japan, Luxemburg, New Zealand, Singapore, Cambodia, Vietnam, Philippines, Laos, Myanmar and Indonesia are included in the present list. Apart from that Kerala Tourism has also started efforts to include some major European countries in the list to boost the foreign tourist arrivals to Kerala.

Kerala Sea Plane Project

6.38 Kerala is blessed with abundance of water bodies which are mostly in areas of tourist interest. Kerala Government is rolling out seaplane project for providing connectivity by air to its destinations across the state. The plan is to provide the service initially in prioritized circuit consisting of Ashtamudi, Kumarakom, Bolgatti and Bekal with three Airports as base stations. The project was launched in 2013; although it confronted some setbacks and resistance from densely populated areas. The department is exploring new possible locations for developing the network of the project.

Spice Route Based Tourism Marketing

6.39 Spice route as a base for tourism marketing, Department of Tourism has proposed to activate the spice route destinations in Europe, Middle East and Far East connecting Muziris. It is a deliberate step to involve a new marketing strategy for Kerala Tourism collaborating with major Spice route Countries under the umbrella of UNESCO.

Inland Water Transport Facilities and Tourism Promotion

6.40 As part of developing Inland water tourism from Kollam to Kottapuram, Kerala Tourism started its initiative to set up inland wayside infrastructure facilities through the Alappay mega tourism project with CSF funding and State share to an amount of ` 52.2 crores. This will be the focal point of tourist attraction to Kerala in the coming years.

Adventure Tourism

6.41 Kerala Tourism has taken the initiative to setup an Adventure Tourism Promotion Society to introduce a new branch of tourist attraction via adventure tourism. Elaveezhaponchira, Ayyampara and Vagamon will be the focal points of adventure tourism activities of Kerala in the beginning.

Muziris Heritage Tourism Project

6.42 Muziris is an ancient port in Kerala. Muziris heritage project was developed to utilize the State's immense potential in the Heritage tourism sector. Muziris Heritage project today, one of the most successful projects undertaken by Kerala Tourism.

Supporting Organizations

Kerala Tourism Development Corporation (KTDC)

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6.43 KTDC is a commercial agency, which is actively participating in building up basic infrastructure needed for the development of tourism in the State. KTDC is running hotels and wayside amenity centres in almost all tourist destinations.

Kerala Tourism Infrastructure Limited (KTIL)

6.44 Kerala Tourism Infrastructure Limited (KTIL) is the agency meant for joint venture projects. Presently there are 4 hotels at Varkala, Kumarakom, Thekkady and Ernakulam sharing with TAJ group. It also oversees the Land Bank Scheme. Investment development at tourism sector conducting of Investors Meet and formation of consultancy cell for tourism development are other major achievements.

Kerala Institute of Tourism and Travel Studies (KITTS) and Food Craft Institutes (FCIs)

6.45 Kerala Institute of Tourism and Travel Studies is a pioneer organization offering quality education and training in the State. These institutions are actively involved in the recruitment and placing of quality staff in the tourism site throughout Kerala. All aspects of Human Resources Development for the tourism and hospitality sectors are facilitated by KITTS and FCIs by establishing and monitoring the quality regulations of the Tourism and Travel Training Institutes.

District Tourism Promotion Councils (DTPCs)

6.46 The District Tourism Promotion Councils have undertaken the responsibility of creating and marketing local tourism products and opportunities. They are constantly improving the quality standards of these tourism products and services through surveys and other data collection means. The DTPCs also monitor and supervise the levels of sanitation in tourist destinations. Other related activities of the DTPCs are the creation of awareness of the facilities and services in their specific area development of tourism clubs, dissemination of tourism specific information, homestay scheme and development of local basic infrastructure.

Bekal Resort Development Corporation (BRDC)

6.47 Bekal Resort development Corporation Ltd is company formed for the development of Bekal and surrounding tourist attractions. The main focus is to provide marketing resources and to be actively involved in local, regional and state wide marketing promotions.

Directorate of Eco-Tourism

6.48 Kerala is famous for its ecotourism initiatives. The objectives of eco-tourism are to convert entire tourism industry in Kerala into eco-friendly mode, to strengthen Eco-tourism development initiatives in the state and to ensure local community involvement in tourism initiatives leading to employment and income generation. The Directorate of Tourism is pioneering the eco- tourism activities in the State.

Promotion and Publicity

6.49 The Department of Tourism has taken various innovative initiatives in promotion and publicity. The result is evident from the very high growth rate of tourist arrivals which Kerala is witnessing now .As part of the Govt's aggressive marketing initiatives, new steps were taken to market Kerala Tourism at both the national and international level. Kerala took part in important international tourism fairs like WTM, ITB, FITUR, TOP Resa and TUR and other popular domestic tourism fairs. New emerging markets were identified and Kerala Tourism was marketed there effectively. Roadshows were conducted in Saudi Arabia, Australia, Scandinavia and other European markets like Berlin, Marseille, Milan, Madrid and London. The roadshows were successfully conducted in major cities across India as well.

Outlook

Slower external demand due to slow growth in both developed and emerging nations has resulted in a slowing down in export from Kerala, tourist arrivals into Kerala, as well as in out-migration from Kerala. Global business cycles have a great impact on this sector and the State's control over these cycles is minimal. While the benefits of external trade, foreign tourist arrivals and remittances should continue for people in Kerala, concerted efforts to promote domestic trade, encourage domestic tourists and provide gainful employment in the State must be made, so that a crisis can be averted. This will call for high quality infrastructure, better logistics, excellent provision of services, competitive pricing and diversifying into new and hitherto untried markets to hedge risk.

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Chapter 7

CAPACITY BUILDING



Introduction

Due to the emphasis given to the quality of human dignity and welfare in the State for decades, the work force in Kerala is considered to be more healthy and more qualified than workers from other parts of the country. However, dynamic changes in the global economy as well as demographic changes in Kerala call for focused efforts on further capacity building and skill enhancement so that people can find appropriate and fulfilling livelihood options, both within the State and elsewhere. Further development of a scientific base and fostering effective technology partnerships has become all the more important. This chapter brings out the efforts made by Institutions and Implementing Agencies in Scientific Services, Technology Development and in Skill Development.

Scientific Services & Research

Developments in the different spheres of human activity have been influenced to a great extent by the advancements in

Scientific Services & Research

Kerala State Council for Science, Technology & Envmt

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Science and Technology. Human life has been revolutionised by the impact of Scientific Research and innovations. Apart from bringing about rapid growth, S&T also holds the power to address the challenges facing mankind. It is the immense capacity and potential of this sector which has ensured that successive Governments at the Centre and the State, accord it high priority.

7.2 The Indian Science sector is witnessing a new growth momentum in the recent years. On the one hand, the relative position of India has improved in terms of its Science output and publications. However, on the other hand, we need to achieve global standards in areas like Innovation system, Inventiveness in our basic sciences etc. For a country of the size of India, with a robust scientific infrastructure and a vast pool of trained scientific manpower, the productivity gains from a hike in R&D spending could be huge. Many developed and emerging economies have been investing 2 per cent and more of their GDP in the R&D sector for quite some time now. And it is now well understood that India has to invest much more than 1 percent of GDP in R&D.

7.3 S&T in Kerala contributes to not only enhanced economic development, but also balanced and sustainable growth by generating income and employment opportunities. R&D activities in the govt sphere are undertaken not only by dedicated institutions but also by the line departments. Rural Industrialisation of the non-traditional kind and self employment are two critical areas identified in the Approach Paper of Kerala's 11th Plan. Significant points identified in the Approach paper of Kerala's 12th Plan are – encouraging high quality R&D, effectively showcasing Technology developments in India and abroad to facilitate S&T based industries, special attention to marine biotechnology etc. Energy, water management, farm production, medical research, waste disposal, health care, and communications are some areas where S&T inputs and innovations can bring a significant change in Kerala society.

7.4 The Annual Plan allotment to 'Science, Technology & Environment' in Kerala has increased from ` 150.25 crores in 2007-08 to ` 446.52 crores in 2012-13. During 2013-14, the allocation was ` 534.43 crores, which is 3.14 percent of the total Plan allocation. Kerala has accorded high priority to the sector in the Annual Plans. A brief comparison is provided in [Appendix 7.1](#).

7.5 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.

7.6 Plan allocation and expenditure (including SDG) of KSCSTE and RCC during the 11th Plan and Annual Plan 2012-13 is indicated in the Table 7.1 below.

Table 7.1
Year wise Plan Outlay and Expenditure (Rs in Lakhs)

Plan	KSCSTE			RCC			Total		
	Plan Outlay	Plan Expenditure	%	Plan Outlay	Plan Expenditure	%	Plan Outlay	Plan Expenditure	%
11th FYP	22,768	14,265.9	62	7,565	7,965	105	30,333	22,230.9	73
2012-13	6620	5380.17	81	3400	3400	100	10020	8780.17	87

Source: PLANSPACE; and CPMU, Government of Kerala

7.7 Funds allocated to KSCSTE and RCC during 2012-13 were mainly used for the following categories of expenditure:-

- 1) Research and Development
- 2) Expansion, Augmentation and upgradation of Infrastructure
- 3) Promotion of Science & Scientific Research, Dissemination of Knowledge, Up gradation of Human Resource capabilities.

Kerala State Council for Science, Technology and Environment

7.8 The Kerala State Council for Science, Technology and Environment (KSCSTE) was established in 2003 to promote excellence in science and technology through learning, research and development with the involvement of academia, industry, research organizations and to benefit the society through science and technology interventions with the involvement of user agencies and beneficiaries. Kerala State Council for Science, Technology and Environment (KSCSTE) was constituted as an autonomous body of the Govt. of Kerala by restructuring the erstwhile State Committee on Science, Technology and Environment. The primary objective of the Council is to implement Science and Technology Programmes to enhance the socio- economic development as well as quality of life and environment of the State. The Council also intends to revamp and streamline the science and technology programmes to make them more responsive to the

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development needs of the State, and help in the transformation of Kerala as a knowledge economy..

7.9 There are six Research & Development Centers functioning under the umbrella of the Council viz., Centre for Earth Science Studies (CESS), Centre for Water Resource Management and Development (CWRDM), Kerala Forest Research Institute (KFRI), National Transportation Planning and Research Centre (NATPAC), Jawaharlal Nehru Tropical Botanic Garden and Research Institute (TBGRI), and Kerala School of Mathematics (KSM).The Council also supports three grant-in-aid institutions namely, Sophisticated Test and Instrumentation Centre (STIC), Integrated Rural Technology Centre (IRTC) and Malabar Botanical Garden Society (MBGS). The council also undertakes co-ordinates and oversees many research programmes through the Universities and other R&D facilities established by the State and Central Governments.

Activities and Achievements of KSCSTE during 2012-13

a) Science and Research

- Funds were released for 52 new and 58 ongoing projects under the Science Research Scheme (SRS).
- 10 Scientistships were awarded under the KSCSTE Emeritus Scientist Scheme (ESS).
- 160 candidates were offered KSCSTE Research Fellowship

b) Science for students

- 64 Projects sanctioned under the Student Projects Scheme.
- Model Science laboratories were established in 20 Model Residential Schools under the SC/ST Department, and financial assistance was given to 15 Schools under the Sastraposhini Scheme.
- District level Childrens Science Congress was conducted in 14 Districts in November 2012. 68 projects were selected for State CSC. 16 Best projects were selected for National CSC held at Varanasi in December 2012.

c) Science Promotion

- The 25th Kerala Science Congress was held at Technopark, Thiruvananthapuram from 29 January – 1 February 2013. The special theme was ‘Science Education and Research’.
- 200 projects were sanctioned under the Scheme for Promotion of Young Talents In Science (SPYTiS)

d) Science and Environment

- KSCSTE along with CWRDM is implementing the Programme on Water Quality for the state. It is to be expanded to all the 44 river basins in the state.
- KSCSTE along with CWRDM, Soil Survey Department and KFRI are implementing the Programme on Soil Quality monitoring for the state and a report was published in 2012.
- KSCSTE prepared the State of Environment Report for Lakshadweep which was a project from the MoEF, Govt of India. The report was published in June 2012.
- The website of Environmental Information System (ENVIS) Kerala has been revamped to Content Management System. 94 new web pages have been created.
- 3500 schools were provided financial assistance @ 2500 per school under the National Green Corps Programme.
- 1500 schools were covered under the scheme for establishment of Eco-clubs in schools.
- 350 proposals were processed for providing Technical input for KCZMA.
- Special functions to mark important days like World Environment Day, World Earth Day, International Day for Preservation of Ozone Layer etc.
- The Wetland Technical Unit co-ordinated the preparation of Management Action Plans(MAP) for the Sasthankotta and Vellayini lakes in the state. Ramsar Information sheets for Kavvayi wetland has also been prepared and forwarded.

e) Science and Technology

- 15 project proposals approved under Engineering & Technology Programme (ETP). Financial grant was released to 11 new projects and 12 ongoing projects.
- TECHFEST 2013, three day mega technological event was jointly organised with Rajiv Gandhi Institute of Technology, Kottayam from 16-18 January 2013 at Kottayam.
- Financial assistance was provided to 109 institutions for conducting Seminar, Symposia and Workshop.
- Financial grant was provided to 10 new and 5 ongoing projects under the Rural Technology Programme (RTP)
- Rural Innovators Meet (RIM – 2013) was organised jointly by KSCSTE and Integrated Rural Testing Centre (IRTC) at Palakkad from 12 to 23 March 2013.
- The Patent Information Centre (PIC) conducted 19 awareness programmes. 73 patent applications were received. Patent database search was conducted in all applications and reports sent to inventors. 7 patent applications from Govt Organisations / Institutions were forwarded for further patent filing procedures.

f) Science and Women

- Activities of the Women Scientist Division includes 8 projects sanctioned under Back to Lab Programme, 9 awareness

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programmes, 2 topics sanctioned under SPEED, and 82 Pratibha Scholarship awards.

g) Biotechnology

• 3 new projects under the Young Investigators Programme in Biotechnology(YIBP), 1 new Project under the Industry Linked Biotechnology Research Scheme(IBRS), 1 new project under the Biotechnology Innovation for Rural Development(BIRD) scheme and 1 project under the Biotechnology Training and Workshop Scheme(BTW) were sanctioned by the Kerala Biotechnology Commission. A National Colloquium on Translational Health Science was organised by Kerala Biotechnology Commission jointly with Srinivasa Ramanujan Institute of Basic Sciences (SRIBS) and Translational Health Science and Technology Institute, Gurgaon during 18 and 19 March 2013.

Activities and Achievements of R & D Centers under the Council

1. Kerala School of Mathematics (KSM): The Centre organized 6 workshops/ seminars, 11 symposia/ colloquiums, and 5 training programmes during the reference period. The centre also organized an International Conference on Vector Bundles from 02 to 06 April 2012; and an International Conference on Analytic and Algebraic Geometry related to bundles from 25 to 29 March 2013. 4 Papers were published. 11 collaborative research works have been undertaken by the Centre. A hostel block with all necessary amenities is under construction, and has become partially functional.

2. National Transportation Planning and Research Centre (NATPAC):

NATPAC has undertaken application oriented research, sponsored studies and Training & Extension programmes in the field of Transportation and allied areas

• The major R&D projects of NATPAC includes Computerization and periodic updation of Price Indices for Stage Carriage Operations in Kerala, Computerization and periodic updation of Price Indices for Auto taxi Operations in Kerala, Study on the performance of Highways developed under KSTP, Safety Audit of Public Transport systems in Kerala, Predictive accuracy of Urban Transport Studies in Kerala, Use of waste plastic in road construction, Use of Geo-textiles in road construction in Kerala, Route network planning of Inland Water Transport for Kerala, Evaluation of accident Black Spots on roads using GIS and Remote Sensing,

• Other activities and achievements of NATPAC include – 7 Training programmes on Roas Safety, Seminar and publication as part of International Level Crossing Awareness Day 2012, National Seminar on Transport Vision Kerala 2030, Road Safety Week programmes, Panel discussion on Coastal Shipping & Inland Navigation, preparation of material for training and awareness on Road Safety etc.

3. Jawaharlal Nehru Tropical Botanic Garden and Research Institute (TBGRI): The major activities under the institute includes:-

- Workshop in connection with World Bamboo Day celebrations on 18 september, 2012
- Outreach programme, 'Plant Wonders Evolution and Genetics' for Higher Secondary Students from 14-23 Nov 2012.
- 25th Kerala Science Congress Expo at Kanakakunnu from 28 Jan -3 Feb 2013
- Refresher Course in Plant Taxonomy, 11-16 Feb 2013
- Vavilov's Day celebrations and lectures
- 20 training programmes on Plant Propagation and Nursery Techniques under the ATMA programme of Kerala Agricultural Department.
- 21 International and 32 National publications in Peer reviewed journals.
- 7 Research Reports / Project Reports published
- 1 patent filed.

4. Centre for Earth Science Studies (CESS): the major activities and achievements of CESS during the reference period includes :-

- 20 Projects with funding from Central Government Ministries / Agencies
- 22 Projects with funding from State Government Departments / Agencies
- 17 projects with funding from other agencies
- 34th IIG conference was organised by CESS from 13-15 December 2012, with the focal theme "Natural Resource Management and Decentralised Planning"
- Celebration of Earth Day and National Science Day.
- Series of awareness programmes on Ocean State Forecast from 15 March to 24 April 2013.
- Seminar on Mapping Tool for Environmental Management and Planning on 24 June 2013
- 11th Prof. C. Karunakaran Endowment Lecture on 10 August 2012.
- 17 publications each in International and National peer reviewed journals.
- 32 Research Reports / Project Reports published

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5. Centre for Water Research Development and Management (CWRDM)

CWRDM is carrying out 66 research projects on various aspects related to water resources management, of which 30 are plan funded projects and 24 funded by various agencies like DST, Ministry of Water Resources, Ministry of Environment and Forests, Indian National Committee on Hydrology, etc. 12 projects are carried out through Consultancy model, based on demands from user agencies. During the reported period, 3 externally funded projects, 6 plan projects and 8 consultancy projects were completed. During the reported period, 11 seminars and 10 sponsored trainings were undertaken. 4 Farmer Leaders Training Programmes were also held. The centre also has 1 national and 15 international publication in peer reviewed journals. In 2012-13, a significant addition to infrastructure was the Mobile Water Analysis Lab.

Activities and achievements of Grant in aid Institutions

1. Malabar Botanical Garden (MBGS)

During the reference period the institution has processed and deposited in the MBG herbarium about 1100 Angiosperms, 1217 Bryophytes and 78 Pteridophytes. MBG conducted 2 seminars and 2 exhibitions apart from winning the prize for the best stall at the 25th Kerala Science Congress Exhibition. It has 6 sanctioned R&D projects at various stages of progress. MBG had 11 publications in the reference period. The main highlights of MBGS are Jnakiya (RET Plant Repository), Vaidyamadam (Medicinal Garden), Bambusetum (Bamboo Garden), Hortus Valley (exclusive garden for the plants of 'Hortus Malabaricus'), Panathottam (Palm Garden), Apushpi (Pteridophyte Conservatory), Nakshatra Vanam (Trees of Birth Stars), Aquagene (Aquatic Plant Conservatory and Nursery) etc.

2. Sophisticated Test and Instrumentation Centre (STIC)

- Instruments added during the time period includes Data logger, Agilent make Model 34972A LXI Data Acquisition Switch Unit, Agilent make 34901A Armature Multiplexer Module, Microbalance, Mettler-Toledo, Standard weights including E1 class, Porosity Tester, Direct Mercury Analyser etc.
- The Calibration and Testing Laboratories conducted 2924 tests/ calibrations from 317 users. 17341 samples were analysed by the Sophisticated Analytical Instrument Facility from 1521 users.
- R&D works were undertaken in specific areas like Biomedical Instrumentation, Photoacoustic and photothermal phenomena, measurement science and sensors, applied materials science etc
- STIC conducted a 2 day workshop on 'Material Characterisation at Nanoscales' in March 2013, and has 10 publications in International peer reviewed journals.

3. Integrated Rural Technology Centre

- Under the Watershed Development Programme, masterplans have been prepared for 25 grama panchayats. Holistic Watershed Development programmes of 45 watershed has been taken up.
- 227 persons were given training under the Livelihood Support Programmes.
- Installation of around 800 portable domestic biogas plants and 11 community biogas plants have been completed.
- A five day National workshop was conducted on 'Modern Techniques in Traditional Pottery.'

7.10 During 2012-13, a new Plan Scheme, namely 'Special Programmes of KSCSTE' was introduced for enhancing and augmenting the quality of human resource in the sector.

Box 7.1

Research Output which have found field applications

- NATPAC – The computation and periodic updation of price indices by NATPAC is used by the government for revision of taxi, auto and bus fares. Study on the 'use of waste plastic in road construction' has paved the way for more roads being constructed with the use of waste plastic, which is a serious community menace.
- CWRDM – Water Security Plan prepared for 26 Grama Panchayats have been used in the Jananidhi Phase II.
- KFRI – Through the 'Tree Health Helpline' KFRI has been attending to queries from public on problems related to pest, diseases, and other aspects of trees.
- CESS – The expertise of CESS has been utilized for Sand Budgeting at the Mining Sites of Kerala Minerals and Metals Ltd, Chavara. CESS has proposed the geomorphological signature based approach for demarcation of High Tide Line (HTL) for Coastal Regulation Zone applications including preparation of CRZ Maps

7.11 The relatively low level of expenditure of the Plan outlay in this sphere is an area of concern to Kerala. Various R&D institutions under the Central and State Governments have developed a wide range of technologies. However their full

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potential remains untapped. This indicates the existence of major gaps in production, dissemination and application stages. Science along with R&D has to be demand driven and need based. The knowledge emerging from research must be able to provide solutions to many of the developmental concerns affecting Kerala's society. Hence greater emphasis has to be placed on the delivery mechanisms in this sphere.

Regional Cancer Centre, Thiruvananthapuram

7.12 Regional Cancer Centre, Thiruvananthapuram (RCC), is an autonomous scientific institution set up by the Government of Kerala and supported by the Government of India. The centre was established in the year 1980 as a tertiary referral centre for the diagnosis and treatment of cancer. RCC rated amongst the top three of the 28 Regional Cancer Centres in the country. It is the only comprehensive, dedicated centre for diagnosis, treatment and control of cancer in Kerala. There are almost 40,000 new cancer patients every year in the state and out of this more than one third come to RCC for treatment.

7.13 RCC has 17 divisions divided into Cancer Therapy divisions, Diagnostic divisions & Supportive divisions.

Box 7.2

Major Achievements of RCC during the period 2012-13

Infrastructure Development

- Construction of a new 10 storeyed building is progressing.
- Purchase of equipment like Homogenizer, Microtome, Flow Cytometer, Hematology Analyser, Laboratory Centrifuge, 4 DCT Scanner, Apharesis machine, Sterile connecting device, Platelet agitator and Incubator, Plasma Expressor, Fumigating machine, Ophthalmoscopes, High frequency Ergonomic Portable X-RAY, Franking machine etc. PET Scanner, Ultra sound scanner etc.

Patient Care facilities

Many patients have benefitted from

- RCC initiatives like Cancer Care For Life (CCL), Akshaya Pathram (Free Food), Kinginicheppu (Children's Welfare Fund), Free Drug Bank etc
- Government Sponsored Schemes like Cancer Suraksha Scheme, Thaalalam, Comprehensive Health Care Programme for Scheduled Tribes, Karunya Benevolent Fund, Chis Plus, Snehasanthwanam for Endosulfan victims, Prime Ministers Relief Fund, Health Ministers Rastriya Arogya Nidhi, Cancer Pension, Railway and Airway concession to patients etc
- Support from NGOs like Indian Cancer Society, Aasandha Insurance for Male Patients.

Cancer Control Activities

- Total 89 programmes
- Training to trainers, doctors, volunteers, student representatives & teachers, paramedics, health supervisors & workers, lay public and NGOs.
- Screening clinics for early detection of cancers
- Tobacco cessation clinics and Global Adult Tobacco Survey- Dissemination of Kerala Fact sheet.
- Cancer detection camps & cancer awareness programmes

Research and Training

- Purchase of equipment like Dynamic Light scattering system, Electro-spinning apparatus, Electrophoresis etc
- Upgradation of facilities in Cancer Research Division and the Library Information Systems Division
- Conducted Super specialty, post graduate, post doctoral, fellowship, graduate and diploma level academic programmes.
- Training to students from various Universities, rotation postings and project training.
- 40 ongoing & 3 completed Extramural Research Projects
- 22 ongoing & 5 completed Pharma / Industry Sponsored Research Projects
- 14 ongoing & 4 completed other funded projects
- 39 ongoing & 3 completed In-house Research Projects

7.14 Details of leading sites of Cancer can be derived from an analysis of the Patients treated in the seven multi-disciplinary clinics during 2011-12 and 2012-13 as provided in [Appendix 7.2](#).

7.15 During 2012-13, a new Plan Scheme, namely 'Institute of Nuclear Medicine in RCC' was introduced for using Nuclear Medicine in patient care, training of personnel and research into various aspects of the use of radioactive sources in healthcare.

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7.16 The incidence of cancer in Thiruvananthapuram and Kollam (Consolidated Report of Population Based Cancer Registries published by ICMR) is among the highest in the country (AAR for Males 132.6/1,00,000; Females 123.2/1,00,000). More than 5000 new cancer patients were diagnosed from Thiruvananthapuram alone during the report period (2009-11), of which 50 percent are females. During the report period, RCC organised the 28th Annual Review Meeting (ARM) OF National Cancer Registries from 6 to 7 December 2012 and published a 30 year consolidated report of Hospital based Cancer Registry (1982-2011) during this meeting. The leading cause for cancer in males are tobacco related, predominantly those of oral cavity (13.9 percent) and lung (13.6 percent) whereas the leading cancer sites in females are breast (28.1 percent) and thyroid (13.2 percent) in 2011 in contrast to uterine cervix (28.8 percent) and breast (17.5 percent) in 1982.

7.17 With the analysis of data relating to cancer, showing the emergence of certain trends, it is perhaps time to reinvigorate our efforts and, have a fresh look at our strategies to treat and prevent cancer. The main emphasis of Government expenditure in S&T sector in 2013-14 was on enhancing R&D activities, expanding infrastructure, promotion of Science & Scientific Research, dissemination of knowledge, upgradation of human resource capabilities. Despite such initiatives, Kerala faces economic, social and environmental challenges that require a new level of R&D effort and success. For the economy to escape the low productivity cycle and transit to a knowledge economy, it must improve economic productivity and competitiveness through innovation. Kerala needs to think in terms of a new strategy that uses S&T to address the emerging challenges of the state. Kerala also needs focussed programmes to support the industrial and other economic sectors in their R&D efforts to improve economic efficiency and competitiveness.

SECTION 2 Skill Development

7.18 Skills and knowledge are the driving forces of economic growth and social development of the state. The economy becomes more productive, innovative and competitive through the existence of more skilled human potential. The level of employment, its composition and the growth in employment opportunities are the critical indicators of the process of development. Increasing pace of globalization and technological changes provide both challenges and growing opportunities for economic expansion and job creation. In taking advantage of these opportunities as well as in minimizing the social costs and dislocation, which the transition to a more open economy entails, the level and quality of skills that a nation possess are becoming critical factors. Countries with higher and better levels of skills adjust more effectively to the challenges and opportunities of globalization.

7.19 As per 66th NSSO round 2009-10, 84 percent of the total workforce in India was in the unorganised sector and 92 percent were in informal employment. This indicates the need for training them so that they can get better employment. However, there is a shortage of Trainers. Training of trainers is a key component of the skill development. There is an acute shortage of trainers not only in the existing trades but also in the proposed new trades. There is an urgent need for improving the quality and size of trainer resource. Skill Upgradation of trainers, their quality assurance and improvement of their status in society are important to improve the quality of training.

State Skill Development Mission

7.20 The State Skill Development Mission has already been constituted under the section 25 of the Companies Act 1956 Kerala Academy for Skills Excellence (KASE) to promote and implement programme and projects related to Special Skill Development Initiatives. To address the problem of educated unemployment an action plan and project has been prepared in Colleges with the Higher Education Department. Additional Skill Acquisition Programme (ASAP) is meant for those studying in various Colleges in the State. The physical details of ASAP is given in the education section. ASAP strive to transform State of Kerala as a human resource hub of the region and is well positioned to capture growth opportunities. ASAP aims to impart industry specific skills to the needy students in the selected schools and colleges along with their regular studies through modular courses with the active participation of Industry partners. Students enrolled with ASAP will get opportunity to learn sector specific skills of their choice. Communicative English and Basic IT modules are integral component of ASAP Programmes. Additional Skill Enhancement Programme (ASEP) is for the students of ITIs and Registrants of Employment Exchanges is also envisaged. Physical details of ITIs given in the Labour section. Along with this Modular Employable Skill Programme is also being run with the support of Vocational Training providers in the State

Outlook

Kerala has the potential to become a major knowledge hub and provide high value in all sectors of the economy. A knowledge economy requires considerable long term funding of select institutions and building of strategic technological partnerships. It requires the spread of a scientific temperament and a quest for excellence. User integration between research institutions and implementing agencies and promotion of pilot projects which add value to the economy are required. Kerala's literate labour force should be transformed to a highly skilled, highly productive asset through focused

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investments in science and technology and skill development.

State Planning Board Thiruvananthapuram, Kerala, India.

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Chapter 8

LOCAL GOVERNMENTS AND DECENTRALISED PLANNING IN KERALA

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Introduction

The decentralization initiated by the 73rd and 74th amendment Acts of the Indian Constitution has given greater responsibility and powers to the local bodies for local planning, effective implementation and monitoring of various social and economic development programmes. In Kerala, the process of decentralization launched at the beginning of 9th Five Year Plan as the People's Plan Campaign was restructured and named as Kerala Development Plan during the Xth Plan and a number of innovative steps were taken to strengthen and institutionalize the decentralization in the State. During XIth Plan, Government revamped the entire process, emphasising the concept of People's Planning, focusing on institutionalisation of decentralisation. Kerala is a role model for other states in the area of financial and functional devolution.

XIIth Plan Approach

In order to make the system more efficient and effective the 12th plan approach envisaged some concrete steps to strengthen the institutions as well as the planning process. The plan approach pinpoints the following steps to strengthen the decentralized planning as a whole.

- Special Grama Sabhas will be convened for the families of differently able and 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 Local Governments (LGs).
- Citizens Watch Committee will be established at the LG level to watch the progress of schemes by conducting social audit.
- The line departments and Local Self Government Institutions (LSGIs) will be encouraged to have a well defined approach

to empowerment of women and Gender Development.

- They 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

Planning Process

8.2 Kerala follows a multi staged planning process. Important stages of this methodology are outlined below.

- Environmental setting (need identification)
- Setting up of functionary groups
- Grama Sabha/Ward Sabha consultation with stakeholders
- Preparation of draft plan proposals by the functionary groups with the recommendation of Grama/Ward Sabha
- Discussion of the draft plan in development seminar
- Preparation of development report and vision document
- Strategy setting by the Panchayat committee
- Prioritisation and resource allocation by the Local Government
- Plan finalisation by Local Government
- Vetting of Plans (including Technical Approval)
- Approval by the District Planning Committee
- Plan implementation

Special Component Plan and Tribal Sub Plan under Decentralization

8.3 The Special Component Plan (SCP) and Tribal Sub Plan (TSP) are intended to provide special protective measures to safe guard the interest of scheduled castes and scheduled tribes. As one of the major objectives of decentralized planning is to improve the socio-economic status of SCs and STs and enhancing the quality of life, conscious efforts have to be made at Government as well as LG's level to the effective implementation of these SCP/TSP.

8.4 The allocation of Plan fund to SCP and TSP from State Plan outlay is done according to the ratio of population of SCs and STs to total population of the State. Out of the total SCP/TSP Plan outlay, a certain percentage of funds are earmarked to LGs for implementation of schemes under decentralized planning. The projects under the SCP/TSP can be categorized into two viz, the beneficiary oriented schemes and infrastructural development schemes. The category wise allocation and expenditure of grant- in- aid to LGs are given Table 8.1 and Fig. 8.1 & 8.2.

Table 8.1

SCP & TSP Allocation of the LGs (` in Crore)

Year	SCP		TSP	
	Allocation	Expenditure*	Allocation	Expenditure*
2007-08	443.30	442.17	66.55	71.17
2008-09	487.63	413.49	73.20	73.13
2009-10	535.99	518.43	80.51	79.78
2010-11	589.49	484.03	88.47	78.28
2011-12	660.23	697.69	99.09	93.07
2012-13	739.46	661.58	110.98	99.65

Source: Appendix IV of the Budget & Information Kerala Mission

*includes opening balance

Fig 8.1

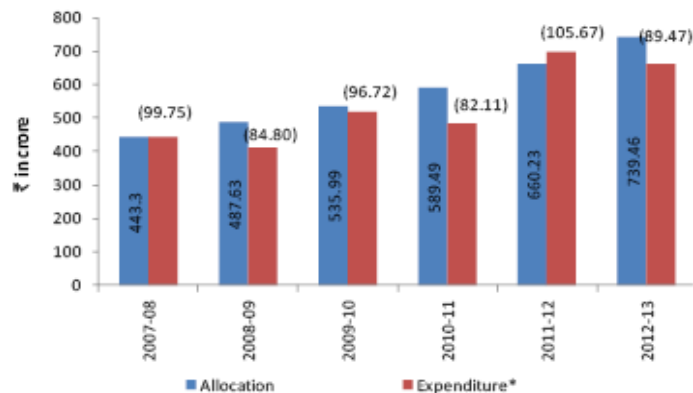
Allocation and Expenditure of SCP

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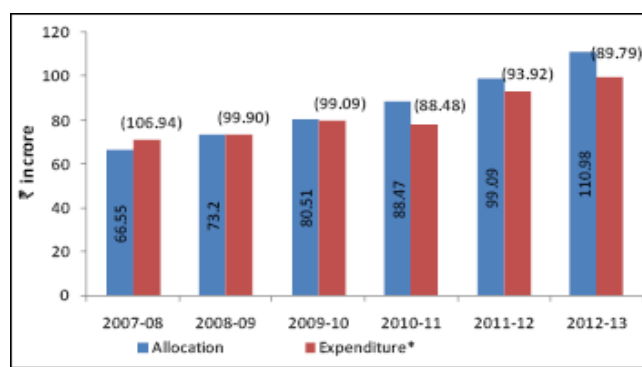
*including opening balance

Figures in parenthesis are the percentage of expenditure

Source: IKM & Appendix IV of the Budget

Fig 8.2

Allocation and Expenditure of TSP



*including opening balance

Figures in parenthesis are the percentage of expenditure

Source: Appendix IV of the Budget & Information Kerala Mission

Major Changes in the Plan Guidelines

8.5 During the beginning of twelfth plan period some conscious efforts have been made to give more flexibility and freedom to the local bodies for Plan Formulation. Accordingly, some changes have been made in the Plan Guidelines, mainly in sectoral ceilings and project appraisal. Now there is no mandatory minimum or maximum ceiling in productive or service sector. However, in infrastructure sector the mandatory ceiling fixed is not more than of 45 per cent to Grama Panchayats and Block Panchayats, 55 per cent to Municipalities and Corporations and 50 per cent to District Panchayats in General Sector Plan Outlay. In addition to this, 10 per cent of the development fund must be earmarked for women component plan and 5 per cent to children, old age, differently abled, palliative care and other vulnerable groups. The Annual Plan Document of local bodies need only be approved by the District Planning Committee (DPC) instead of approving individual projects.

8.6 Another important aspect is that the Technical Advisory Group (TAG) mechanism has been discontinued. Instead of vetting the projects by the TAG concerned, it has been verified and certified by the implementing officer and then furnish to the officer of the same sector at the higher levels for getting it appraised and approved. Also Project Formulation Committee (PFC) can be constituted, if required, for providing technical expertise to prepare and approve the projects for LGs.

8.7 It is also important to notice that now under SCP/TSP the construction of roads is allowed within SC/ST habitat. Expenditure on prorata basis is allowed from TSP fund where such roads benefits both tribal and others. Width of the road in tribal colonies is enhanced to a maximum of 3 metres. Introduction of financial support for SCs/STs in getting employment abroad, assistance to meritorious students seeking admission in national and international institutions are some of the landmarks in the utilization of SCP/TSP funds.

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8.8 Sulekha is a Plan monitoring software developed by Information Kerala Mission (IKM) for the formulation and monitoring of plan projects of local governments. The application of this software includes plan formulation, appraisal, approval, monitoring, revision processes and expenditure tracking of the plan projects of local governments of Kerala. Main features of Sulekaha software are:

- Tracks the entire course of plan formulation process of LGs by incorporating reports of working group, grama sabha, development seminars and social and other audit reports into plan projects.
- Facilitates generation of validation reports to ensure plan process pass through the approved guidelines and
- Facilitates standard project accounting-fixing financial & physical targets, schedules, details of approval, assets created, financial and physical achievements, etc.

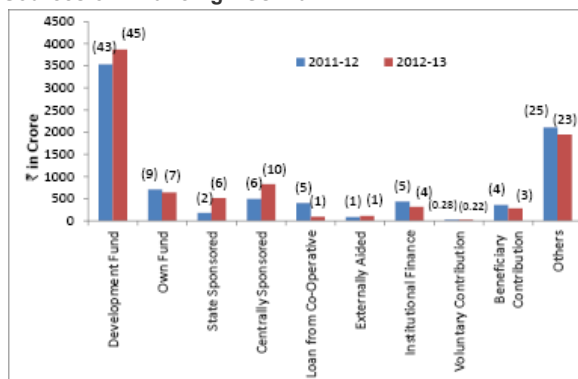
Financing of LGs plans

8.9 Financial devolution is the most important element of Kerala's decentralization process, which has enabled the LGs to receive the required resources from various sources for their plan. LGs raise the resources for the local development activities from the state's plan allocation as well from its own revenue. LGs are provided plan allocation for implementing LGs own schemes as well as State and Central Schemes transferred to LGs.

8.10 The fund provided from the state plan to LGs is in the form of untied plan grant for planning and implementing projects for local development. LGs have full freedom in formulating and implementing schemes after deciding their priority subject to a general overall framework. The allocations of development fund to LGs are 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 per cent of the likely plan size should be devolved to LGs for development purpose.

8.11 The total plan size of LGs during 2012-13 was ` 8594.96 crore of which the plan grant from Government constituted 45 per cent. The own contribution of LGs constituted 7.41 per cent and the rest was from other sources. The percentage of expenditure in 2012-13 recorded only 47 per cent while it was 50 per cent in 2011-12. Out of the total expenditure, the plan grant share is 67.41 per cent, own fund share 4.6 per cent, sponsored schemes together with externally aided source 3.53 per cent and the balance goes to funds from other sources. Even though there was 9.62 per cent hike in the plan grant allocated to LGs in 2012-13, proportionate increase was not noticed in the plan grant utilization, which is the major resource of LGs plans. Source wise funding details for 2012-13 and the respective percentage to total fund is given in Fig. 8.3 and sub-sector wise detail of 2011-12 and 2012-13 are given in [Appendix 8.1](#).

Fig 8.3
Sources of Financing LGs Plan



*Figures in Parenthesis are the respective percentage to total fund source

Source: Information Kerala Mission, 2013

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8.12 The LGs allocated their plan funds mainly in Productive, Service and Infrastructure sectors. As far as the LGs are concerned, they have a vital role in eradicating poverty at the local level by achieving increased production, productivity, employment and income generation. The total plan fund available with LGs for allocating funds to various development sectors during 2012-13 was `3870.33 crore.

8.13 Out of the total grant-in-aid, only `2741.67 crore was utilized for different sectors. Thus, the overall utilization percentage in 2012-13 was 71 per cent which is lower than in 2011-12 i.e. 75 per cent. The expenditure pattern shows

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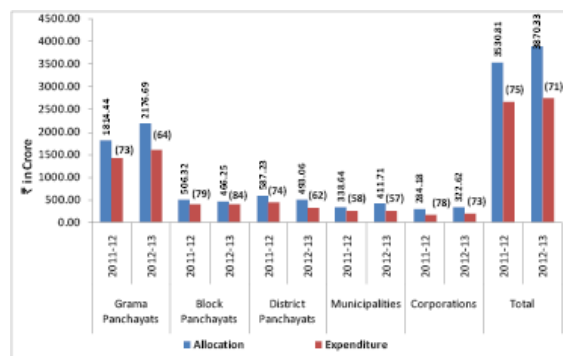
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wide variations among local bodies. Among the three tier rural LGs the performance was better in Block Panchayat with 84 per cent expenditure followed by Gama Panchayats 73 per cent and District Panchayats 62 per cent. The percentage of expenditure was noted lowest by the Municipalities with 57 per cent. The tier wise details of outlay, allocation and expenditure of grant-in-aid during 2011-12 and 2012-13 are given in Fig. 8.4 and [Appendix 8.2](#).

.Fig 8.4

Grant-in-Aid to LGs, Allocation and Expenditure

*Figures in Parenthesis are the per cent of expenditure

Source: Appendix IV of the Budget & Information Kerala Mission

Category - wise performance

8.14 As mentioned earlier, the allocation of grant-in-aid to LGs is 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 State Finance Commission. During the period under review, an amount of `3870.33 crore was allocated to different categories of which general category, SCP & TSP constituted 68 per cent, 28 per cent and 4 per cent respectively to the total allocation. An analysis of category wise utilization during 2012-13 shows that the percentage of expenditure under General Sector was 74.72 per cent of the plan outlay and in the case of SCP and TSP it was just above 62 per cent as against the overall average of 70.84 per cent. Shortfall in expenditure of SCP/TSP is a common phenomenon for all tiers of LGs except with the case of Block Panchayats. The category wise and local body wise allocation during 2012-13 are given in Table 8.2 and in Fig. 8.5 (see [Appendix 8.2](#)).

Table 8.2

Category wise Allocation of Grant-in-aid to LGs during 2012-13 (` in Crore)

Category of LGs	General	SCP	TSP	Total
1	2	3	4	5
Grama Panchayats	1524.22	556.62	95.85	2176.69
Block Panchayats	279.22	158.88	28.15	466.25
District Panchayats	276.82	180.37	35.87	493.06
Municipalities	317.79	91.64	2.28	411.71
Corporations	243.56	79.05	0.01	322.62
Total	2641.6	1066.56	162.17	3870.33

Source: Information Kerala Mission

Fig 8.5

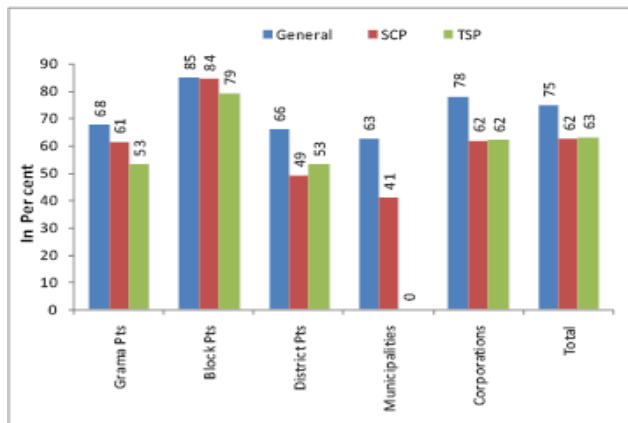
Category wise expenditure of Grant-in-Aid to LGs during 2012-13 (per cent)

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Source: Information Kerala Mission 2013

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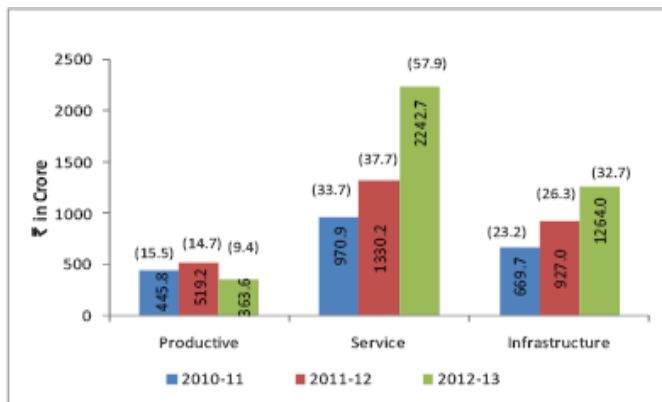
Sector-wise performance

8.15 The LGs allocate their plan funds mainly in three sectors viz, productive, service and infrastructure. Productive sector includes agriculture and allied sectors, soil and water conservation, irrigation and industries. Service sector consists of education and allied sectors, health and allied services, women and child development, labour and labour welfare and infrastructure sector includes energy, transportation and buildings. The total fund available for these sectors for the year 2012-13 was `3870.33 crore. Out of this, the allocation to productive, service and infrastructure sectors were 9 per cent, 58 per cent and 33 per cent respectively and the corresponding figures in the previous year it was 15 per cent, 59 per cent and 26 per cent respectively. The sector wise allocation and expenditure details in 2012-13 are given in Fig. 8.6. While it can be seen that allocations to all sectors have increased in 2012-13 compared to 2011-12, the quantum of increase in the service sector is much higher than the others. The service sector also occupies a major share compared to others in allocations. It can also be observed that the investment in productive sector has reduced from 15 per cent to 9 per cent which is not a good trend. The sector wise allocation and expenditure details in 2011-12 & 2012-13 are given in [Appendix 8.3](#).

Fig 8.6

Sector wise Allocation to LGs

Grants-in-Aid and its Utilisation



*Figures in Parenthesis are the percentage to total allocation in each sector

Source: Information Kerala Mission 2013

Productive Sector

8.16 Out of the total plan fund made available to productive sector by LGs, 35 per cent of fund was earmarked to the implementation of various schemes under agriculture and allied sectors in 2012-13 while it was 68 per cent in the previous year. The LGs have given more weightage to the agriculture and allied sectors compared to irrigation, soil conservation, industries etc. The initiative of rural local bodies in this respect is worth mentioning as there was considerable increase in their allocation as much as 88 per cent to this sector during 2012-13. The grama panchayats have given major attention to the implementation of this programme and allocated 60 per cent their allocation to this sector. However, the performance of Block Panchayats is better in the productive sector since they have spent 74 per cent of funds of their allocation to this sector. The details of allocation and expenditure during 2012-13 is given in Table 8.3 and the percentage of allocation to different tiers is shown in Fig. 8.7. The details of achievements during 2011-12 and 2012-13 are given in [Appendix 8.4](#)

Table 8.3

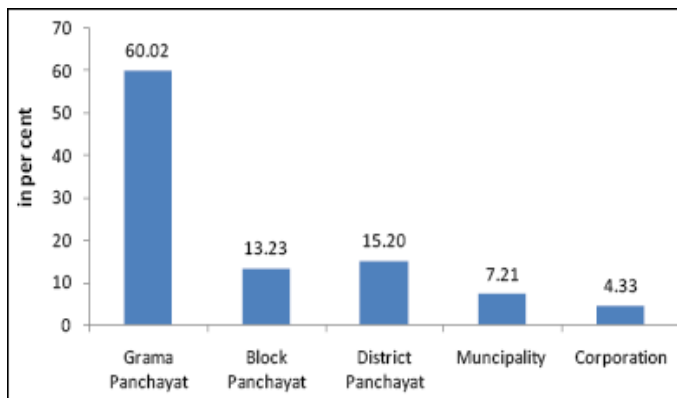
Productive Sector- Local Body wise Allocation & Expenditure during 2012-13 (` in Crore)

Type of LGs	2012-13		
	Allocation	Expenditure	percentage
Grama Panchayat	217.48	155.00	71.27
Block Panchayat	47.94	35.57	74.20
District Panchayat	55.06	32.45	58.94
Municipality	26.14	13.28	50.81
Corporation	15.70	5.08	32.33
Total	362.32	241.38	66.62

Source: Information Kerala Mission 2013

Fig 8.7

Percentage share of productive sector allocation to different Tiers of LGs during 2012-13



Source: Information Kerala Mission 2013

Service Sector

8.17 Under Service Sector all LGs have given more attention to enhance the quality of basic services given to public through welfare oriented programmes with special emphasis on health and education. In utilizing fund, the service sector is seen better in spending than the productive and infrastructure sectors. Block Panchayats performed well in the service sector by achieving 90 per cent of expenditure. There has been overall hike in both allocations and its utilizations in service sector during 2012-13 compared to 2011-12. It reveals the importance given to social service sector and health in particular. The sector wise allocation and expenditure are shown in Table 8.4 and percentage share of service sector to different tiers are shown in Fig. 8.8 and sub-sector wise details for 2011-12 & 2012-13 are shown in [Appendix 8.5](#).

Table 8.4

Service Sector - Allocation & Expenditure during 2012-13 (` in Crore)

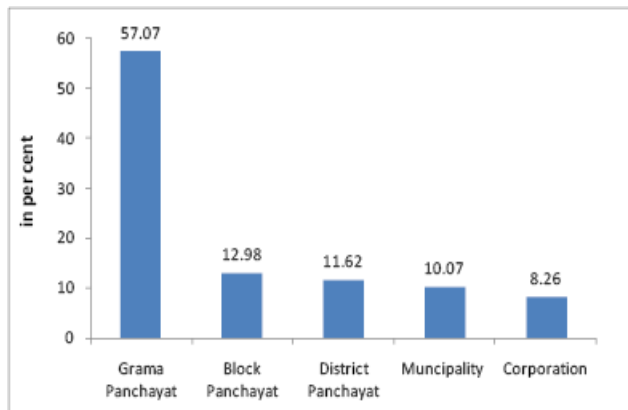
Type of LGs	2012-13		
	Allocation	Expenditure	Per cent of Expenditure
Grama Panchayat	1279.84	984.39	76.92
Block Panchayat	291.16	262.71	90.23
District Panchayat	260.71	191.51	73.46
Municipality	225.75	146.70	64.98
Corporation	185.27	114.24	61.66
Total	2242.73	1699.55	75.78

Source: Information Kerala Mission 2013 Fig 8.2

Category wise Allocations during IXth, Xth and XIth 5 year Plans

Fig 8.8

Percentage share of service sector allocation to different Tiers of LGs during 2012-13



Source: Information Kerala Mission 2013

Infrastructure Sector

8.18 During the review period, the LGs set apart 33 per cent of the total allocation was earmarked to infrastructure sector while it was 26 per cent in 2011-12. It shows an increasing tendency to allocate more fund under this sector. Among the tiers, the Grama Panchayat allocated 54 per cent of their allocation to this sector. The expenditure during 2012-13 diminished to 63 per cent from 73 per cent in 2011-12. In the utilization of plan fund in this sector, Block Panchayats and Grama Panchayats achieved 75 per cent and 67 per cent of expenditure during 2012-13. Against the total allotment made in the infrastructure sector, 76 per cent of fund was earmarked for transportation facilities and the corresponding expenditure was 66 per cent. Transportation and building sectors together constituted 91 per cent of funds from their total outlay in the infrastructure sector. Tier wise, sub sector wise allocation and expenditure details in 2012-13 are given in table 8.5 and percentage share of allocation to different tiers is shown in Fig. 8.9 and sub-sector wise details of 2011-12 & 2012-13 in [Appendix 8.6](#).

Table 8.5

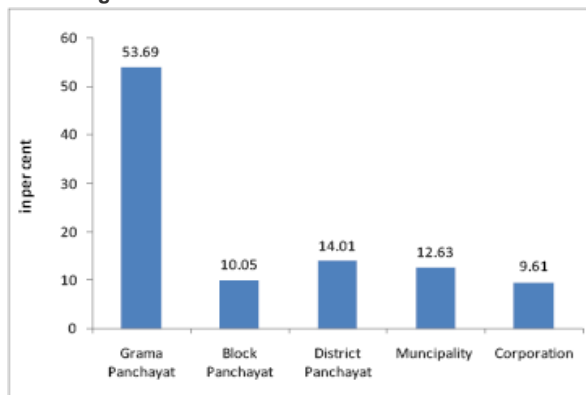
Infrastructure Sector - Allocation & Expenditure during 2012-13 (` in Crore)

Type of LGs	2012-13		
	Allocation	Expenditure	Percentage
Grama Panchayat	679.37	451.83	66.51
Block Panchayat	127.15	94.8	74.56
District Panchayat	177.28	93.46	52.72
Municipality Corporation	159.82	95.11	59.51
Corporation	121.65	65.53	53.87
Total	1265.27	800.74	63.29

Source: Information Kerala Mission 2013 Auditing

Fig 8.9

Percentage Share of Infrastructure Sector Allocation to different Tiers of LGs during 2012-13



Source: Information Kerala Mission 2013

Performance under Special Sector Plans

8.19 For women component plan and plan for disadvantaged groups (aged, children, disabled, palliative and other vulnerability) in the plan of local governments is one of the salient features in Kerala's Decentralization. The expenditure in

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Women Component Plan (WCP) and special programme for children showed a slight decline from 69 per cent in 2011-12 to 68 per cent during 2012-13. In the case of special programme for children the expenditure increased from 87 per cent to 88 per cent. In addition, separate amounts of `26.78 Crore and ` 40.35 crore was set apart for palliative care and other vulnerability groups. Out of this, `20.50 crore and `100.23 crore were expended for their well being. Details of allocation and expenditure during 2012-13 are given in Table 8.6 and the figures in 2011-12 & 2012-13 are given in [Appendix 8.7](#).

Table 8.6**Allocation and expenditure of Special Sector Plan for 2012-13(` in crore)**

Type of LGs	2012-13		
	Allocation	Expenditure	Percentage
Women Component Plan	431.01	294.21	68.26
Special programme for children	169.14	149.37	88.31
Special programme for oldage	28.30	16.21	57.26
Differently abled	65.81	50.21	76.30
Other Vulnerability	140.35	100.23	71.42
Palliative	26.78	20.50	76.55

Box 8.1**Introduction of Award system**

State Planning Board has initiated an award system during 2012-13 onwards to the first three Districts which complete successfully, in all respects, the Plan formulation and getting approval of the projects of the local bodies from the District Planning Committee. In the year 2012-13, Wyanad, Alappuzha and Ernakulam districts were selected as first, second and third respectively. The Hon'ble Chief Minister distributed the awards on the occasion of the State Development Council (SDC) meeting held on 22nd February 2013.

Kudumbashree

8.20 Kudumbashree - the State Poverty Eradication Mission is an innovative mechanism initiated by the State Government in 1998 under the Local Self Government Department with the primary objective of eradicating poverty. Kudumbashree differs from conventional thinking and it perceives poverty not just as the deprivation of money but as the deprivation of basic human rights and denial of spaces to exercise one's agency and subjectivity. It attempts to enhance the standard of living of its members through micro finance and income generating activities like micro enterprises and innovative interventions in an integrated way like samagra and consortia, collective farming, taking care of the destitute through Ashraya, gender self learning, interventions to address gender based violence through help desk, a short stay home for the affected; designing special programmes for the ST population, especially micro- level planning in all the tribal hamlets and promoting total inclusion of the ST into the Kudumbashree network, empowering children through Balasabha and Balapanchayats and providing care and support to the mentally challenged through BUDS school and BUDS rehabilitation centers, thus providing a convergent platform for the economic and social needs of the society.

Organization structure

8.21 Government of Kerala has brought the whole Kudumbashree programme under its department of Local Self Government with a separate wing namely "Kudumbashree -The State Poverty Eradication Mission". The Chairman of the mission is the Minister of Local Self Government and the Vice Chairman is the Secretary to the Department of Local Self Government. For effective convergence of the programme, a three tier Community Based Organisation (CBO) is in action. They are Neighborhood Groups (NHGs), Area Development Society (ADS) and Community Development Society (CDS). The lowest tier constitutes the Neighbourhood Group/ Ayalkoottam consisting of 20-40 women members selected from the poor families. Area Development Society, the second tier, is formed at ward level of panchayat/ municipality by federating 10-15 NHGs. Community Development Society (CDS), is formed by federating various ADSs at the Panchayat/Municipal/ Corporation level.

Kudumbashree as a support system for strengthening LGs

8.22 Kudumbashree is considered as an innovative practice in the field of poverty alleviation and women empowerment. The decentralized planning process in Kerala provided Kudumbashree a positive environment. It has developed a close interface with the LGs in supporting the development activities at the local levels. Kudumbashree network is used for implementing the social welfare programmes of the panchayat, like destitute rehabilitation and universalizing the take home

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ration, for providing special assistance to the development of physically and mentally challenged, and in tribal development programmes. This development initiatives is what makes the intervention of Kudumbashree different from other CBOs. All these are significant areas of interface of the CDS with the local government.

8.23 Members of the CDS are members of the working groups formed under the aegis of LGs for project preparation. The governance plans provide an opportunity for factoring community monitoring into local government programmes. Success of any experience of decentralization demands a highly sophisticated coordination of people's participation. It works as an effective interlocutor between the community and the panchayat. This most needed position of the Kudumbashree not only helps it in carrying out its roles and responsibilities, but also helps the panchayat to address the local economic issues in an effective manner. CDS Action Plan, Asraya and BUDS Schools of the Kudumbashree are exemplary interventions towards the LGs interface.

Limitations of Kudumbashree Mission

8.24 The initiative to position Kudumbashree as a rights-based agency of women, form a tool for poverty alleviation, was effectuated, largely, because of the internal flexibility of Kudumbashree. However, it is this flexibility and elasticity that made Kudumbashree spread too much that in certain interventions it could not bring out the qualitative outcome as envisaged. For instance, the intervention in the area of micro enterprises, though proving to be very effective in certain areas like the catering units of Cafe Kudumbashree, similar outcome could not be claimed in other units of micro enterprises.

8.25 The second limitation is the inadequacy in the convergence and integration of Kudumbashree interventions with other stakeholders and NGOs working in the similar areas, especially in the case of our flagship programmes like Asraya and Snehitha. It is to be documented that Ashraya interventions are indeed exemplary in certain areas, however an effective evaluation method to monitor Asraya at the state level could not be brought about yet.

8.26 Another limitation is its intervention in the coastal and tribal belt, the most excluded periphery in Kerala. Despite the special programmes if Kudumbashree like special Asharya and special NHGs designed to cater to the need of the tribals, a more specific, concrete and effective engagements are needed to address the social and economic issues of coastal and tribal communities.

8.27 Though Kerala achieved a breakthrough in participatory poverty reduction through Kudumbashree with the leadership role of LGs, the benefits of anti-poverty policies and programmes do not reach the absolutely poor at a satisfactory level. So the mission has to sensitize the LGs about their new role in poverty eradication. Therefore, conscious efforts have to be made at the level of each local self government for the effective implementation of the system.

Outlook for Local Government

It can be observed without doubt that the decentralization process has made its impact in the local level planning and has been deep rooted. The systems developed under this process have become part and parcel of the development activities at the grass root level. Moreover the innovative initiatives to organize people participation through different organizational set up including Kudumbashree have been appreciated widely. However, more efforts are required to bring the socially backward sections in the society including SCs/STs, and also provide assistance to oldage people, disabled and others facing difficulties for leading a normal life. Similarly conscious and consistent efforts have to be made for the sustainability of the whole process. While adequate and increasing budgetary funds are provided to LGs, there is inadequate capacity among local Governments to conceptualize, preapare detailed project reports, implement and monitor local projects. Project management skills are yet to be attained. Capacity buiding is therefore the most important gap that needs to be bridged.

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Chapter 9

DRINKING WATER



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Introduction

Access to safe drinking water plays a fundamental role in economic and social development of a country. The way that people secure their drinking water has a direct impact on their health. Further, it is also central to human right and personal dignity. With high density of population and rapid urbanisation on the one hand, as well as the impact of climate change on the other, availability of utilizable water will be under strain in future, with the possibility of deepening water conflicts among different user groups. Low consciousness about the scarcity of water and its life sustaining nature and inadequate comprehension of its economic value results in its mismanagement, wastage, and inefficient uses. Geographically, Kerala has plenty of water resources and is one of the few states which experiences both North East and South West monsoon. However, due to large spatial and temporal variation in the rainfall system, the abundance of water resources in one season leads to shortage in the next season. Moreover, the undulating topography with steep terrain coupled with deforestation and sand mining results in the decline of ground water recharges, surface soil erosion in water sheds, sedimentation in rivers and drought in summer.

Kerala has 41 west-flowing and 3 east-flowing rivers originating from the Western Ghats. The total annual yield of all these rivers together is 78041 Million Cubic Meters (MCM) of which 70323 MCM is in Kerala. Normal rainfall in the state is 2939.75 mm. About 85 per cent of the annual rainfall is received during the monsoon period, of which 70 per cent is during South West monsoon, 15 per cent during the North East monsoon and the remaining 15 per cent during the non-monsoon period between December and May. The total storage level in reservoirs of completed projects is 1133.76 Mm³.

Box 9.1

Twelvth Plan Focus on Drinking Water

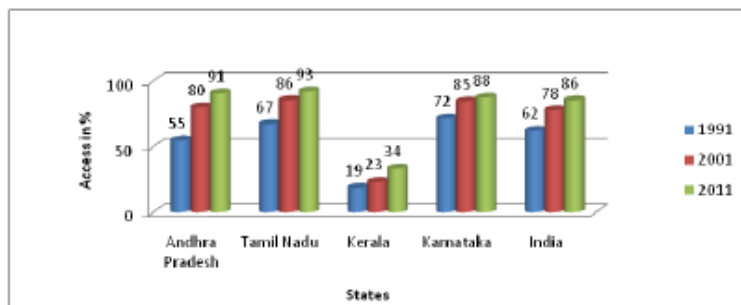
Twelvth Plan envisages providing households with safe piped drinking water supply at the rate of 70 lpcd from the existing norm of 40 lpcd (litres per capita per day). At the end of 2017, at least 35 per cent of rural population should have individual household pipe connections. Convergence between drinking water supply and sanitation will be strengthened. The weakest aspect of rural water supply is Operation and Maintenance (O&M). Allocation for O&M has been increased from 10 per cent of National Rural Drinking Water Programme (NRDWP) to 15 per cent in the Twelfth Plan. All new drinking

water supply schemes will be designed, estimated and implemented to take into account life cycle costs and not just per capita capital costs. All community toilets built with public funds and maintained for public use will be provided with running water supply under NRDWP. Waste water treatment and recycling will be an integral part of every water supply plan

Access to safe drinking water in Kerala

9.2 Kerala has been considered as a model to show how it is possible to achieve both growth and improved income distribution through human development. Unfortunately Kerala has not done well in the drinking water segment. Safe drinking water remains out of reach for more than 65 per cent of the households in the State. Only 29.3 per cent of the houses in the State are serviced by the tap water supply network and just 34 per cent gets safe water supply which is 52 per cent less than the national average and 57 and 59 per cent less than our neighbouring states Andhra Pradesh and Tamil Nadu respectively. The rural-urban gap is also widening, total urban population getting safe water to the total population has been reduced from 42.85 in 2001 to 39.4 per cent in 2011.

Fig 9.1
Access to Safe Drinking Water

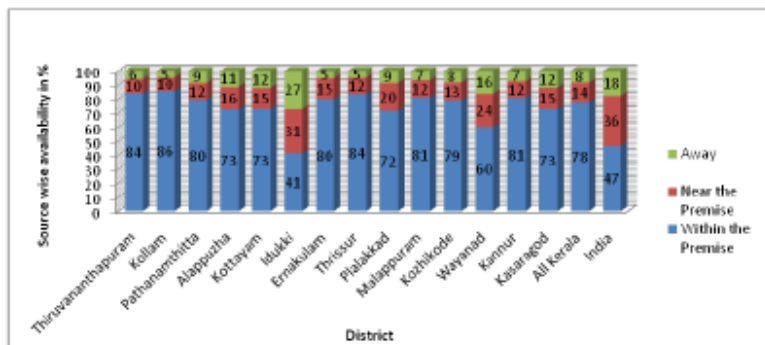


Source: Economic Survey 2012-2013, GoI

9.3 Sixty-two per cent of the households in Kerala depend on wells for drinking water purpose, 1.4 per cent of houses rely on springs, 0.2 per cent on rivers and canals and 0.7 per cent on tanks, ponds and lakes, exposing themselves to bacterial and chemical contamination. While 0.7 per cent apply hand pumps to draw water, 3.7 per cent are serviced by tube wells and 2 per cent of households getting drinking water in other ways.

9.4 Based on the distance of water source available, Census of India 2011 classified water availability into three category such as Within the premise, Near the premise and Away from premise *. In Kerala 78 percent of the people availed drinking water from their own premises, 14 percent of the people depending upon Near the premises and 8 percent Away from the premises (Appendix 9.1). However, in Idukki district, 27 percent of the people depended on Away from the premises, 31 percent from Near the premise, and 41 percent within premises and for Wayanad it is 16 percent, 24 percent and 60 percent respectively.

Fig 9.2
Source wise drinking water availability in Kerala



Source: Census of India 2011

9.5 In rural Kerala, 72 percent of people have drinking water within the premises. District wise, Kollam has the highest access of 85 percent and Idukki has the lowest access of 39 percent. Among urban regions, Kollam, Thiruvananthapuram and Pathanamthitta have the highest levels of more than 86 percent within premises and Wayanad has the lowest level of 74 percent (Appendix 9.2). In Alappuzha nearly 11 percent of urban people do not have drinking water access within or

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nearby premises.

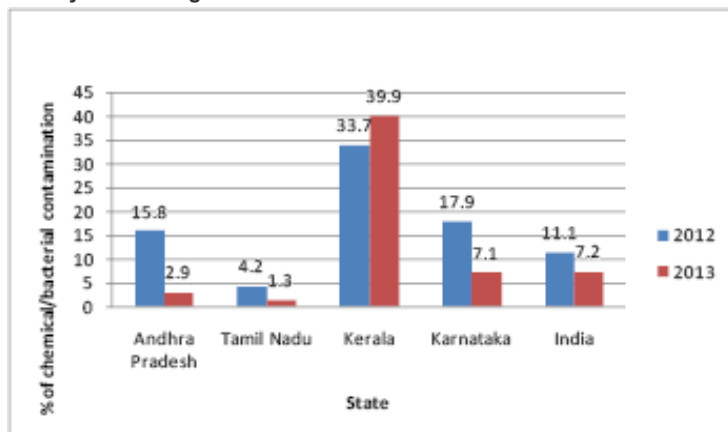
9.6 Rural drinking water is one of the six components of Bharat Nirman, the rural infrastructure programme of the country. Even if the existing schemes have greatly increased the coverage of safe drinking water in the rural areas of the country, the provision of drinking water to rural areas is fraught with problems. Many habitations which once came under the "covered" status have been found to slip down to the "partially covered" or even "uncovered" status. As per the Ministry of Drinking Water and Sanitation, GoI, there are 11883 habitations in Kerala, of which 934 habitations have been slipped back in 2011-12. The highest frequency reported in Alappuzha is 19 percent, followed by Palakkad at 18 percent and then Kasargode by nearly 14 percent ([Appendix 9.3](#)).

Quality of drinking water in Kerala

9.7 Kerala is the most vulnerable state in the country in terms of water quality parameter. People in Kerala generally depend upon well water system. Around 75 percent of rural people do not have access to piped drinking water system and lack of piped water connection enhances the level of bacterial and chemical contaminations in the drinking water. It is indicated that 39.9 percent of rural drinking water in Kerala has been contaminated with Iron, Fluoride, Salinity, Nitrate, Arsenic, Faecal coliform and other multiple contaminations. Unscientific waste disposal, unplanned construction of toilets in highly populated areas, discharge of industrial waste etc. are the major reasons. Most of the states which had chemical and bacterial contaminations have been successful in reducing the contamination level. National average indication of bacterial and chemical contamination as per Field Kit Test by Ministry of Drinking Water and Sanitation was 11.08 per cent in 2012, which has been reduced to 7.2 per cent in 2013, whereas in Kerala it has increased from 33.74 per cent to 39.9 per cent in 2013.

Fig 9.3

Quality of Drinking Water in Kerala

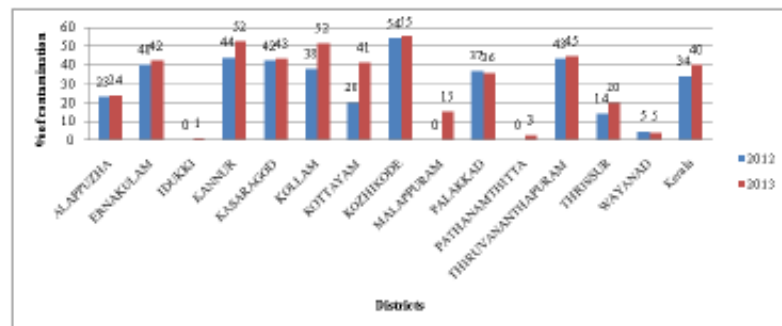


Source: Ministry of Drinking Water and Sanitation, GoI, (FTK Test)

9.8 District wise analysis shows that the highest contamination is in Kozhikode as 55 per cent of tested sources indicated bacterial and chemical contamination and Idukki experiences a low level. Except Palakkad, in all the districts the level of drinking water is worsening, the highest increase in quality affected district over previous year is Malappuram, where zero level of contamination was reported in 2012 and now 15 per cent of sources are indicated as contaminated. Kottayam and Kollam are also in a highly vulnerable position.

Fig 9.4

District wise indication of contaminated water



9.9 Among the districts, Alappuzha and Palakkad are fluoride affected regions and Thiruvananthapuram dominates in bacteriological contamination of faecal e-coli. Multiple contaminations seem high in Palakkad, Thiruvananthapuram, Kollam

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Reasons for Demand Supply Gap

9.10 The primary concern for drinking water is whether there is enough water to address the consumer demand, both at present and in future. Due to the rapid urbanization, the gap between the demand for and supply of water has been widening over the years. Water is mainly needed for irrigation and domestic requirement. The potential utilization of available ground water resource in Kerala is 43.24 per cent. The net ground water availability in Kerala is 6229.03 MCM, of which 59.25 per cent is utilized for irrigation purpose and 40.74 per cent is used for domestic and industrial purpose. Present drinking water demand is at 645 million litres / day and the projected water requirement by the year 2021 in the industrial sector is 4270Mm³ and for domestic requirement is at 3230 Mm³. The supply availability and demand side factors which influence water availability and sustainability in the state noted below:

Box 9.2

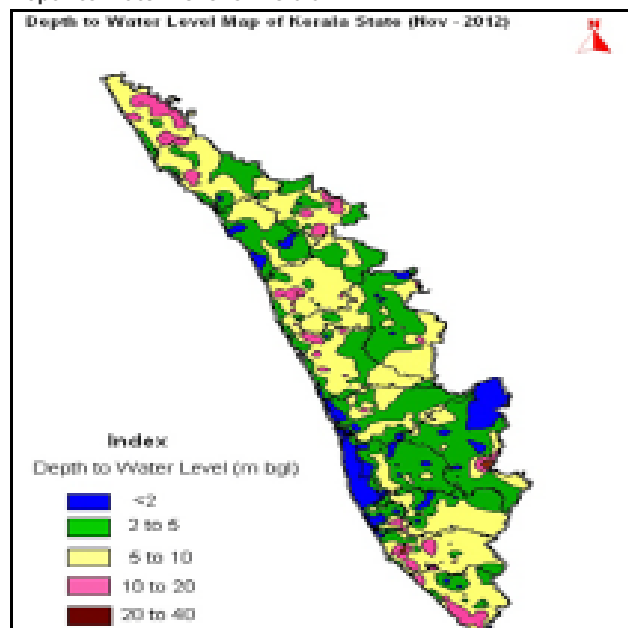
Factors influencing water Availability and Sustainability

Supply side factors	Demand side factors
Primary and back up water sources	Increasing population
Storage capacity	Consumption pattern
Climate change	Urbanisation
Deforestation	Industrialisation

9.11 Although Kerala has 44 rivers, as per the national norms, the state does not have any single major river and has only four medium rivers, the combined discharge of which is less than half of that river Krishna. The remaining 40 rivers are only minor ones and the combined discharge is only about one – third that of the Godavari. In contrast to our neighbouring states, the availability of annual replenishable ground water and extraction of potential ground water are low. Fall in the cultivable land particularly paddy field is one of the major reasons for the low level of ground water development in the state. Recharge of potential resources through the conservation of wetland is a pre-requisite for long term need of the state. Ministry of Water Resource observed that the depth of ground water level in Kerala during 2012 ranged from 0.10 m bgl (below the ground level) in Alappuzha district to 38.28 m bgl in Idukki district. It is found that 18 per cent of the wells have less than 2 m bgl water level, mainly in coastal areas. About 32 per cent of the wells show water level in the range of 2-5 m bgl. About 37 per cent wells have shown water level in the range of 5-10 m bgl, 11per cent wells with 10 to 20 m bgl water level and the remaining 1 per cent wells having > 20 m bgl water level. Deeper water level > 20 m bgl are observed in Idukki district only.

Fig 9.5

Depth to Water Level of Kerala



Source: Central Water Resource Board, MoWR, GoI.

9.12 Open well density in Kerala is perhaps the highest in the country with 200 wells per sq.km in the coastal region, 150 wells per sq.km in the midland and 70 wells per sq.km in the high land. Due to change of land use pattern, abandoning of

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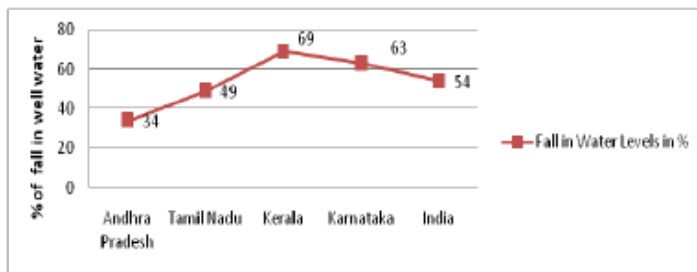
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water bodies and less water storage facility, the water levels in these wells have been declining. During 2011-12, 69 per cent wells in Kerala experienced a high fall in water level while Andhra Pradesh experienced a rising level of 65 per cent and for Tamil Nadu the fall in well water was 49 per cent and country's average fall in well water was 54 per cent respectively. The decadal (mean) comparison of Pre Monsoon water level of 2003-12 shows that about 71 per cent of wells have declined in water level, of which 63 per cent of the wells fall in the range of 0-2m.

Fig 9.6

State wise fall in well water level 2011-12



Source:Ground Water Level Scenario in India,Min.of Water Resources,Gol

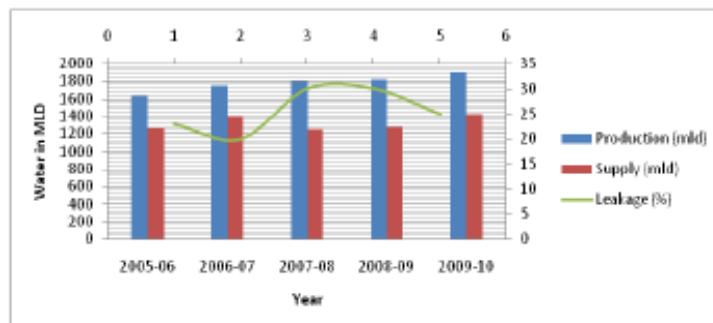
9.13 Climate change and rising sea level are expected to intensify the resource sustainability problem in many water-stressed regions in Kerala by the way of reducing the annual supply of renewable fresh water and promoting the intrusion of saline water into aquifers along sea coasts.

9.14 Forests hold much of the rainfall to the soil through roots of trees. The rain water sinks in deeper to the ground and eventually replenishes the supply of water in the water bodies. Therefore deforestation is a threat to the sustainability of water resources. Deforestation has two impacts, firstly it affects the replenishing capacity of water bodies and secondly the water from rain is not enabled to stay in the soil longer. This has been observed in the Western Ghats region in Kerala. Most of the rivers originating from Western Ghats have been affected by the large-scale deforestation which results in the lower storage capacity of the soils. This increased the surface soil in water sheds and sedimentations in the rivers. Deforestation also affects the river ecology and water quality across the length and beneath the rivers. Kerala's forest land have been diminishing so fast that within the next 50 years, the quantum of forest and related natural resources will reach at a level much below the minimum required for sustaining life .It is estimated that additional forest land to the existing forest land is reduced from 1689 sq.kl.m in the period 2003-05 into 40 sq.kl.m in 2005-07 and has become negative by 24% during 2007-09. To maintain a balanced environment and optimum climate, Kerala should call for rational and dynamic approach which includes conservation of biodiversity, rehabilitation of degraded natural forests through protection and care, promotion of agro forestry and social forestry for meeting local needs and promotion of effective forest activities particularly plantation forestry.

9.15 Currently, there are enormous losses in the water distribution system in Kerala. It is estimated that nearly 40 percent water has to be counted as the distribution loss. Lack of repair/replacement of old pipe lines, pumps motors and electrical installations are major reasons for this huge loss. This necessitates comprehensive engineering solutions and these must be complemented with social response from end users. As on 2009-10, Kerala Water Authority produced water at the rate of 1890.64 million litres per day (mlpd) and distributed at the rate of 1417.90 mlpd through piped water supply system. The unaccounted for water (ufw) is 472.74 mld, which implies that the estimated distribution loss of water produced is 25 per cent. Production and supply of water by Kerala Water Authority for the period 2005-06 to 2009-10 is given in the Fig. 9.8.

Fig 9.7

Production and distribution of Water



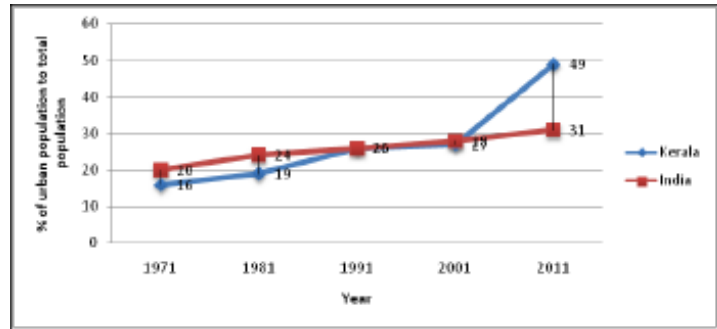
Source :Kerala Water Authority

9.16 Urbanisation imposes heavy pressure on civic amenities. As the pace of urbanisation grows, providing safe drinking

water to urban people has become increasingly challenging. These challenges emerge for two reasons: one from the ever increasing demand both from domestic as well as industrial needs and second, the dependence on water sources which are located at faraway places.

Fig 9.8

Urbanization in Kerala



Source: MOSPI, GoI

9.17 The pace of urbanization in Kerala is high as compared to other states in India. In 1970's the proportion of urban people to the total people in Kerala was less than the national average and was the least one among the southern states. Conversely, the post liberalized period showed a reverse trend since the population density and economic activities surpassed environment conservations as well as the ecosystems. Major problems associated with rapid urbanization are lack of universal accessibility of drinking water, ineffective distribution of water supply, deprivation among the people, high level of pollution, water shortage, wastage due to old leaking pipeline etc. Primary source of pollution in the urban region is the untreated industrial and domestic wastewater. Even if technical solutions have improved significantly, wastewater treatment is still a problem in Kerala. Industries discharge hazardous pollutants like phosphates, sulphides, ammonia, fluorides, heavy metals and insecticides into the rivers. Kerala State Council for Science, Technology and Environment estimated that nearly 260 million litres of industrial effluents reach the Periyar estuary daily from the Kochi industrial belt. It is noticed that rivers such as Chalakudy, Muvattupuzha, Meenachil, Pamba and Achenkovil are highly polluted with bacteriological contamination.

Coverage of Water Supply Schemes

9.18 Kerala Water Authority (KWA) is the primary drinking water supplier in the state. It covers 94 percent of total piped water supply in Kerala. Other agencies which provide water supply in rural area are Kerala Rural Water Supply and Sanitation Agency (KRWSA) and Local Self Government Institutions (LSGIs). KRWSA and LSGIs have been ensuring community participation in implementation of water supply schemes by sharing the financial costs and taking responsibility in management, operation and maintenance to some extent.

9.19 Total water supply schemes operating under KWA is 2214, of which 72 are urban water supply schemes and 2142 are rural water supply schemes. As on 31.09.2013, the existing water supply schemes in Kerala have covered 79 percent of the total population. In urban population, more than 85 per cent have been covered and in rural area more than 77 per cent reported as covered. District wise Ernakulam received the highest coverage of 97 percent and Kozhikode reported as the lowest coverage of little over 55 percent. (Appendix 9.4) For rural water supply coverage, again Ernakulam tops with 98 percent and Kozhikode is the lowest coverage district of nearly 42 percent. In urban area, Malappuram is the highest covered district of 99 percent and Wayanad is the lowest one with 50 percent.

9.20 Additional coverage during the period 2012-13 is 7.33 lakh people. The whole additional coverage is reported from rural coverage supplemented by 14 additional Single Panchayat Schemes 11 Multi Panchayat Schemes and one urban water supply scheme. This rural additional coverage is reported from 9 districts and the remaining 5 districts viz. Alappuzha, Ernakulam, Palakkad, Kannur and Kasaragod have been reported as zero additional coverage for the period of 2012-13. Kottayam has the highest additional rural coverage of 2.33 lakh people, followed by Kollam as 1.57 lakh people.

Fig 9.9

Coverage of Water Supply Schemes in Kerala

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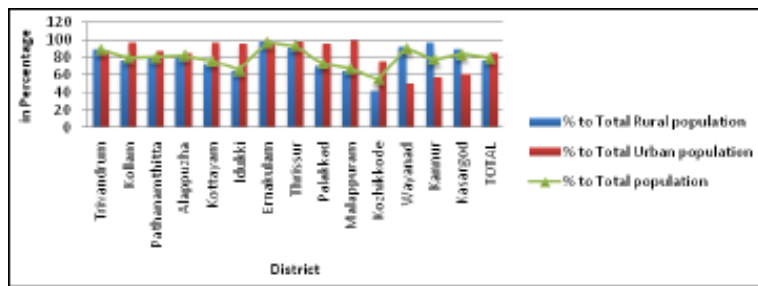
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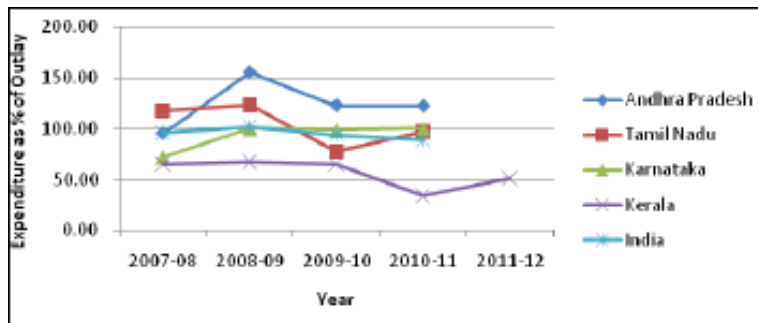
Source:Kerala Water Authority

Plan Fund Utilization Pattern

9.21 Kerala is getting financial assistance from State government, Central government, Assistance from NABARD, External Aided fund through Jananidhi / JICA Projects, Local Self government and community development programmes. Unfortunately, domestic private investment on drinking water in Kerala is diminutive. Apart from that, the utilization of the available resources for innovative programme is also negligible. Plan fund is the major source of investment in Kerala. The utilization pattern of the Plan fund as compared with other states in India is lower than desirable level. Our neighbouring states have been utilizing almost the entire amount and even more than the released amount. Kerala is the only state which disappointingly under utilizes the available plan funds among south Indian states. When our neighbouring states utilize more than 95 per cent of their plan funds we utilize is only 56.58 per cent which is nearly 40 per cent lower than the national average. Unawareness of the urgency of water preservation, non-availability of professional expertise to initiate innovative programmes and administrative hurdles are the major reasons of this laggard approach.

Fig 9.10

State wise Plan fund utilization



Source: Planning Commission, GoI.

Water Management

1.10 Kerala's density of population as per 2011 census is 860 persons / sq. km. It is much higher than that of India (382). Thiruvananthapuram is the most densely populated district (1508) while, Idukki is the least densely populated district (255). Density of population has increased in all districts compared to 2001 census but for Pathanamthitta (-16) and Idukki (-4), it has declined.

9.22 Developed nations and other high income countries are projected to reduce their overall water consumption across sectors by 2050 through better water management measures and reduction in per capita water consumption. Yet no initiative has been undertaken in Kerala to reduce water consumption. Nearly 30 per cent of water produced by Kerala Water Authority is to be considered as distributional loss due to the fact that the pipes are very old and tend to leak. We are lagging in integrated water resource management by means of coordinated use by location and use. Ensuring sufficient water in entire system to support various uses and distributed across districts is a pre requisite one. Kerala needs effective methods on demand side management through competitive price, training of recycling and reuse of water and cost benefit analysis by proper assessment of opportunity costs. Rain water harvesting is an effective process to utilize the natural gift. Rainwater harvesting has made mandatory in all new buildings having a specific area in the states of Delhi, Andhra Pradesh, Madhya Pradesh, Uttar Pradesh, Tamil Nadu, Haryana, Rajasthan, Maharashtra and Gujarat but in Kerala it is still not a mandatory.

Box 9.3

UK Model of Water Use Efficiency

In the UK, water companies have a statutory duty to promote the efficient use of water and as a result, water companies carry out a range of water efficiency activities with the purpose of promoting water efficiency to their customers. This water

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efficiency activity has been a duty under the Water Industry Act. The date wise targets for water savings have been set by water companies themselves. These targets can be achieved by either targeting domestic or industrial customers, but the targets must be met year on year. The main features are An annual target to save an estimated one litre of water per property per day through water efficiency activity, during the period 2010–11 to 2014–15, requirement to provide a minimum level of information to consumers on how to use water more wisely and the requirement that each company actively helps to improve the evidence base for water efficiency. In addition to target setting, number of NGOs focussing on decreasing water consumption, water conservation, promotes the efficient use of water resources and provides information and guidance on best practice in water use.

Water Supply Programmes

Jalanidhi

9.23 Jalanidhi is a World Bank aided rural water supply and Sanitation project. It is based on the cardinal concept of sector reform like demand responsiveness, community ownership and sustainability of investment through cost recovery. Kerala Rural Water and Sanitation Agency (KRWSA) is the implementing agency functioning under the Department of Water Resource, Govt. of Kerala. Activities under Jalanidhi are Small Water supply schemes, comprehensive water supply scheme, construction of latrine, ground water recharge, EMP and drainage works. Jalanidhi – II is targeted to complete the entire project within 5 ½ years from 01-01-2012 to 30-06-2017. Physical target of the scheme is to cover about 18 lakh rural people for water supply and sanitation services. The project will cover 200 Grama Panchayat of Kerala. The Grama Panchayat has been selected from the neediest 8 district of Kerala. Physical achievements of Jalanidhi is given in the (Appendix 9.5 and 9.6)

JBIC Assisted Kerala Water Supply Project

9.24 The JBIC assisted Kerala Water Supply Project currently known as JICA assisted Kerala Water Supply Project envisages the implementation of five water supply projects at Thiruvananthapuram, Meenad, Cherthala, Kozhikode and Pattuvam at a revised estimated cost of ` 2987.40 crores. There are 23 contract packages primarily planned. Of which 11 are International Competitive Bidding (ICB) packages and 12 are Local Competitive Bidding (LCB) packages. Out of these 23 contracts 21 were awarded and the construction activities are under progress. The remaining two contract packages are the rehabilitation of existing components of Thiruvananthapuram and Kozhikode water supply schemes which are in the stage of finalization. Duration of the scheme is 2003 to 2015. The status of work completion as on 31.08.2013 stands at 93.53 per cent in Thiruvananthapuram, 92.46 per cent for Meenad, 100 per cent for Cherthala, 82.09 per cent for Kozhikode and 94.07 per cent for Pattuvam. Tender formulation for package 3 balance works and Package 5 rehabilitation works of Thiruvananthapuram and Kozhikkode. are under finalization.

Accelerated Rural Water Supply Programme

9.25 Accelerated Rural Water Supply Programme (ARWSP) was introduced in 1972 to assist states and union territories to implement drinking water supply schemes in villages. The entire programme was given a Mission approach when the Technology Mission Scheme on Drinking Water Management, called the NDWM was introduced in 1986. NDWM was renamed as Rajeev Gandhi Rural

Drinking Water Mission. As per the guidelines of National Drinking Water Programme, Government of India has strictly instructed the state government to share the total project cost of the ongoing/ new schemes under ARWSP approved by the State Level Sanctioning Committee (SLSC) in the ratio 50:50 between the centre and the state governments. Objective of the scheme is to meet the emerging challenge in the rural drinking water sector related to availability, sustainability and quality of water. Components pertaining to the State under this programme are coverage, sustainability, quality, natural calamities, operation and management (O&M) and support activities. The funding pattern will be 47 per cent for coverage, 20 per cent for water quality, 15 per cent for O&M, 10 per cent for sustainability, 5 per cent for support activities and 3 per cent for water quality monitoring and surveillance (WQM&S). For coverage, O&M and quality the cost sharing is 50:50 basis and for sustainability, support activities and WQM&S it is 100 % grant in aid from Central Government. There are 153 ongoing ARWSP schemes sharing central-state funds.

Varsha- Rain Water Harvesting

9.26 The scheme is to collect rainwater from the rooftop and store it in a tank from where water will be drawn by the beneficiaries. After completion, the project shall be handed over to the beneficiaries. Kerala Water Authority has completed 4532 units of Varsha in the districts of Thiruvananthapuram, Alappuzha, Kottayam, and Ernakulam. In the SLSSC, 1500 double family units of Varsha schemes amounting ` 540.00 lakh had been sanctioned for Idukki and Kottayam districts.

For more details in performance of Kerala Water Authority, refer [Appendix 9.7](#), [9.8](#), [9.9](#), [9.10](#), [9.11](#), [9.12](#), [9.13](#) and [9.14](#)

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<ul style="list-style-type: none"> • Even if a good portion of fund is flowing into the drinking water sector through state, central and external aided projects, the household water supply connection is very low as compared with other parts of the country. Even the north eastern states which have almost similar topography have more tap water supply connections than Kerala. 	<ul style="list-style-type: none"> • Maximum priority should be given to users, involving them in the planning and decision making process and giving them first rights over the benefits of the project. Considering the financial constraints and managerial limitations of governments, private sector involvement could be encouraged in drinking water development and management of the projects. Public and Private Partnership (PPP) model and a mix of public and private financing for the provision of services and infrastructure may be considered.
<ul style="list-style-type: none"> • Universal presence of bacterial and chemical contamination is a common observable fact across the state. A number of studies show that existence of faecal contamination in wells of Kerala is high. 	<ul style="list-style-type: none"> • Urgency of water audits may considered for quality aspects. Continuous water supply is essential to maintain the pressures in the pipes which block the deposits of effluents in the pipes. Direct disposal of liquid and solid wastes into rivers and reservoirs should be banned. Scientific waste management practices are to be strictly adopted to minimize pollution threats from urban centers.
<ul style="list-style-type: none"> • Schemes are designed for a minimum per capita supply of 40 lpcd. But the actual availability of water at the end user is far less than this level. Majority of water supply schemes are running without proper operation and maintenance. 	<ul style="list-style-type: none"> • Systematic approach for identification and reduction of leakage and preventive maintenance should be promoted to save quantities of treated water and increase revenues to make systems self-sustaining.
<ul style="list-style-type: none"> • There are number of hour based water supply schemes existing in Kerala, most of it working unsatisfactorily. Comprehensive Regional Rural Water Supply Schemes covering more than 2 Grama Panchayats are designed for 24 hours operation, but it is not functioning at the desirable level due to the non availability of power during the peak hours from 6 to 10 pm. 	<ul style="list-style-type: none"> • 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. Comprehensive plan for participatory groundwater management based on aquifer understanding of domestic water security, food and livelihood security and eco-system security, equitable distribution of drinking water across all stakeholders.
<ul style="list-style-type: none"> • Water is used for the purposes of irrigation, industry, generation of hydel power and recreation (tourism) etc. But there is no specific norm for the utilization of distributional water in Kerala. The result is a quantum of drinking water is used for the non drinking purposes. It reflects the inefficiency of management of available water resources in Kerala. 	<ul style="list-style-type: none"> • Since groundwater is the basic source of drinking water in Kerala, a participatory approach to sustainable management of groundwater based on aquifer mapping is essential. The exercise of aquifer mapping will provide a foundation to this effort by enabling local planners to gain an understanding of the groundwater recharge areas, assessment of each individual aquifer in terms of groundwater storage and transmission characteristics, including the aquifer storage capacity and ground water balance.
<ul style="list-style-type: none"> • Depletion of lake area, changing in land use pattern and modification of Lake water, increased pollution, aggressive growth of water weeds, continuous dredging operations and other developmental interventions have led to substantial decline in species diversity and population diversity of flora and fauna. 	<ul style="list-style-type: none"> • Construction of subsurface dykes along the downstream of narrow valleys up to the basement to raising the ground water tables and preventing the depletion in surface water level. Check dams can be used to save the floodwater that routinely drains into the sea and the impounded surface water can be utilized directly for many purposes.
<ul style="list-style-type: none"> • More than 80 per cent of the people in Kuttanadu are reported to be relying on the contaminated canal water for their daily needs. For Vembanadu Kayal, the rapid shrinkage of flood carrying capacity of the Lake reached by 78 per cent, it happened due to the reduction in its area and depth. 	<ul style="list-style-type: none"> • Protecting traditional ponds is an excellent way to conserve aquatic biodiversity and filling up of these valuable ponds would adversely affect the recharging capacity of the soil.

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- Inadequate technical support for integrated water resource planning at Local Self Governments.

Outlook

Water, which was till recently considered a free good, has become scarce and unless carefully managed, can become a highly priced economic good in future. All efforts should be made to ensure that the basic human entitlement of safe and adequate drinking water is available to all. Top priority should be given to sound water management through active participation of all users and effective regulation by government.

State Planning Board Thiruvananthapuram, Kerala, India.

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