

Chapter 8

Agriculture, Horticulture, Forestry and Sericulture

8.1: Diversity in Karnataka's Agriculture

1. Karnataka is one of the major agricultural states in India. The geographical area of the state is 190.50 lakh hectares, of which 30.63 lakh hectares are under legal forest. The state has a net sown area of about 107 lakh hectares and gross cropped area of about 120 lakh hectares. Apart from these, about 17.57 lakh hectares are remaining as un-cultivated lands (under various tree crops, as cultivable waste and permanent pastures). It has been observed that during the last five years, there is a tendency of declining gross cropped and net sown areas in Karnataka (averaging about -0.29 and -0.50 percent per year, respectively). The irrigated area constitute about 24 percent of the cultivated area, the rest being under rainfed agriculture. However, the irrigated area has been growing at an annual rate of about 1.00 percentage for the gross and net area under irrigation.

2. Agriculture in Karnataka has a wide diversity, from crop agriculture to plantations (e.g., arecanut, coffee, rubber, coconut etc.) sericulture, horticulture, livestock rearing, etc. The agricultural workers are of the order of 110 lakh (apart from another 6 lakh in agriculture related activities such as livestock rearing). They constitute about 57 percent of the total workers in the state.

3. For purposes of agricultural planning, the state has been divided in to ten agro-climatic zones, based on the topography, rainfall, soil type etc. It has been noted by agricultural scientists that out of these, about five zones comprise of dry lands, one each of the hilly tracks and coastal areas, and the rest are semi-arid areas. It should be noted that the agro-climatic factors delineate the potentials for raising the performance of the agricultural sector in general. However, within the potential of these zones, there is still lot of scope for improving land use pattern and reducing the extent of deprivation and disparity in different pockets.

4. Some of the major features of the agricultural sector at the state level are shown in Table 8.1. The agricultural performance at the taluka levels may differ for a variety of reasons. In the sections to follow, some of the major ones are analysed, to draw the necessary course of corrections, policy interventions and investment outlays.

Table 8.1: Some General Features of Agriculture in Karnataka

Item	Units	Totals
Geographical Area	Lakh Ha.	191.159
Rain fall (Normal-1901-70)	Mm	1139
Rainfed Area	Lakh Ha	82.791
Geographical Area	Lakh Ha.	191.159
Rain fall (Normal-1901-70)	Mm	1139
Rainfed Area	Lakh Ha	82.791
Gross Cropped Area	Lakh Ha.	120.06

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Item		Units	Totals
Net sown Area		Lakh Ha.	106.089
Other Cultivated Land*		Lakh Ha.	17.57
Area under Mulberry		Lakh Ha.	1.20
Area under Horticulture		Lakh Ha.	4.123
No. of Farms		Lakh	62.21 Total
			42.92: Small and marginal
Total No. of Land Holdings		Lakh	62.20
Total Area under Agri. holdings		Lakh Ha.	121.09
Av. size of holdings		Ha.	1.95
Main Agri Workers	Cultivators	Lakhs	59.156
	Agri. Labourers		50,000
Agri. Markets/sub-markets		No.	483
Net Area Under Irrigation	Canals	Lakh Ha.	9.241
	Wells	Lakh Ha.	8.311
	Tanks	Lakh Ha.	2.366
	Others	Lakh Ha.	3.381
	Total	Lakh Ha.	23.298

Note: Most of the data are referring to 1999-2000. *: This includes cultivable waste, permanent pastures and trees and groves. Source: Karnataka at a Glance (GoK); Directorate of Economics and Statistics.

8.2: Agricultural Marketing Facilities

5. Perhaps, next only to irrigation and credit, marketing facilities that can promote agricultural growth and reduce the imbalances in the agricultural sector. Consider the extent of regulated market yard facilities. As per the latest information (in 2000), there are 483 registered markets and sub-markets in the state as a whole. Of these, 264 are in the Northern Karnataka, and the rest in Southern Karnataka. But within North Karnataka, Gulbarga Division has just about 95 as against 169 in Belgaum Division. Clearly, there is a need for expanding the marketing facilities in the districts of Gulbarga Division. While the marketing facilities are lagging in South Karnataka, they are unevenly distributed between Bangalore Division (124) and Mysore Division (95). Therefore, one major step to be undertaken is to balance the market yard facilities base on the arrival pattern of commercial crops and food grains.

6. Some further analysis of marketing facilities are necessary to set up strategies for further development. The question is 'are there sufficient marketing facilities in every taluka or major market towns'? Table 8.2 shows the pattern of main and sub-markets along with the agricultural produce transactions. Out of the 175 talukas, in 142 talukas independent Marketing Committees have been established. As can be seen from the last column of the table, many districts (and hence talukas) are far behind the state level in terms of marketing facilities to handle the product arrivals.

7. Development of marketing facilities should be extended to each taluka level with market yard, grading centre, and wherever necessary even a cold storage needs to be provided. Apart from these, at the village, shandies are required. By now, as many as 139 have been completed. Others need to be expedited.

Table 8.2: Agricultural Marketing Structure (1999-2000)

District	Main Markets	Sub-Markets	Total Markets	Value of products Handled (Rs.Crs.)	No. of Markets per Rs. Billions of Product Handling
Bangalore Division	36	88	124	2376.88	5.09
Bangalore (U)	2	6	8	834.59	0.96
Bangalore (R)	3	11	14	37.81	37.03
Chitradurga	4	10	14	227.57	6.15
Davangere	5	8	13	254.76	5.50
Kolar	8	15	23	130.50	16.86
Shimoga	4	15	19	608.11	2.96
Tumkur	10	23	33	283.54	10.93
Mysore Division	38	57	95	1311.54	6.94
C. R. Nagar	3	4	7	58.82	11.90
C. Magalore	6	11	17	97.54	15.38
D. Kannada	5	3	8	361.97	1.93
Hassan	6	16	22	141.53	15.54
Kodagu	3	3	6	123.21	4.87
Mandya	4	9	13	162.17	8.02
Mysore	7	7	14	271.31	4.79
Udipi	4	4	8	94.99	8.42
Belgaum Division	42	127	169	1594.11	10.48
Bagalkote	5	15	20	158.55	12.61
Belgaum	10	33	43	252.94	16.60
Bijapur	3	13	16	168.06	9.52
Dharwad	5	12	17	269.54	6.31
Gadag	5	17	22	136.78	16.08
Haveri	6	12	18	321.16	5.60
U.Kannada	8	25	33	287.08	11.15
Gulbarga Division	26	69	95	1425.25	6.60
Bellary	6	14	20	219.49	9.11
Bidar	5	9	14	131.80	10.62
Gulbarga	7	22	29	185.63	15.62
Koppal	4	13	17	450.57	3.55
Raichur	4	11	15	437.76	3.43
N. Karnataka	68	196	264	3019.36	8.64
S. Karnataka	74	145	219	3688.42	5.75
State Level	142	341	483	6707.78	7.05

Note: For details of data at taluka level, see Appendix in Part VII of the Report. For taluka level indices see Chapter Six.

Source: Department of Agricultural Marketing

8. The performance of the regulated markets in terms of their volume of products handled, suggests that there are a number of districts that are lacking in these facilities. The districts that need additional regulated market facilities as compared to the state levels are: Raichur, Koppal, Haveri, Dharwad, Mysore, Kodagu, D. Kannada, Shimoga, Davangere,

Chitradurga, and Bangalore (U). This strategy however, has to be further exercised, at the Taluka level, and even at the major market town level. There are as many as 33 taluks that are not having any regulated market facilities, of which 12 in North Karnataka and 11 in South Karnataka. Secondly, in many towns within the taluks, there is an increasing need for sub-markets to deal exclusively with commodities such as potato, chilli, maize, mango and so on. Rough estimates are about 70 sub-markets, of which 30 in North Karnataka and the rest in South Karnataka. Thirdly, with growing marketisation, there is a need for transparency in market prices, arrivals, disposals and so on. Farmers are to be made aware of the price structure and about the arrival patterns over the preceding weeks. This is indeed possible with the modernisation of the market yards with the introduction of IT system. HPC was informed by some of the leading IT establishments in the state that they will be too glad to set up such an information network for all the markets in the state. The estimated additional investments required to cover these deficiencies is of the order of Rs. 100 crore (with government land made available for the markets). Additional costs on modernization and introduction of IT network can come from the private sector as one time investment, but the service costs to be borne by the market authorities.

9. The marketing facilities should be linked to the exporting prospects as well. Warehousing and cold storage facilities are to be expanded on a massive scale if the share of agricultural exports from Karnataka (which is about 14% of Indian total) can be expanded to about 20% by the year 2005, if such facilities are made available. Merchandise storage and processing facilities (including cold storage) be installed in each district head quarters or major agricultural marketing centres within the district.

10. As will be discussed in a later chapter on Strategy for Development, Commodity Boards with adequate credit facilities are to be set up in the state at selected major marketing and export-linked centres. The Commodity Boards can then guide the farmers regarding marketing facilities, export prospects and also act as a cushion on the price front. Another major advancement required on the agricultural front is regarding crop and animal insurance schemes. Though the Government has introduced these schemes since 2000, the full benefits of the scheme has not reached all the farmers. As of May 2001, only 78 talukas and 335 out of 745 hamlets have been notified under this scheme. The scheme at present covers only four crops, namely ragi, jawar, groundnut and tur pulses.

11. Since substantial area is still rainfed, the scheme should be extended to other crops such as cotton, sugarcane, rice and wheat.

8.3: Agricultural Credit Facilities

12. The role of credit is to enable the farmers to get on to the business of farming as and when it is required and efficiently. Timely availability of credit is therefore most important. Both the regional rural banks and agricultural credit societies have been playing some important role in Karnataka, to assist the farmer. There are 4393 agricultural co-operative societies in Karnataka, of which 2351 are in North Karnataka and the rest in South Karnataka. If one goes by per capita bank advances (commercial plus agricultural), the state average is about Rs. 3460 in the year 2000, with the average for North Karnataka of about 3073 and Rs. 3750 for South Karnataka. As compared to these advances, the per capita agricultural (and allied activities) credits have been very minimal. They are Rs. 486 per capita at the state level, Rs. 508 for North Karnataka, and Rs 470 for South Karnataka. If one considers only the rural population, then these are 737, 705 and 746, respectively. Clearly, as

compared to other sectors, the credit flows to the agricultural sector are quite low. Further more, as many as 5 districts in North Karnataka and 8 districts in South Karnataka are lagging behind the state level in terms of per capita credit availability, or, 4 and 10 districts, respectively in terms of number of agricultural cooperative societies.

13. Initially, Karnataka was in the lead in establishing a separate Bank for Agriculture and Rural Development, as back as in the 1980s. Even with the growth of commercial banks, agricultural co-operatives and Grameen Banks, it was subsequently assessed that the credit shortage was of the order of 50%. With the new Agricultural Policy statement in 1995, and following the clues from NABARD, Karnataka Agricultural Development Finance Corporation was set up in 1997-98. Although Karnataka was in the lead in the country in this venture, it is shocking to note that as on 31st March 2001 no advances were disbursed by this holding company, where as many states like Andhra Pradesh and Tamil Nadu, though were later comers have advanced substantial amounts to the farmers.

14. HPC FRRI therefore, urges the Government to look into this matter urgently and activate this finance company. Such a measure, if pressed immediately would help agricultural development, especially in North Karnataka. Additionally, given the length and breadth of the state, it is not feasible for the farmers to get the full benefit of the existing Agricultural Development Finance Corporation located at Bangalore. HPC FRRI is of the opinion that one more such finance corporation be established at Gulbarga or Bijapur for the benefit of farmers of North Karnataka.

Table 8.3: Agricultural Credit Facilities

District	Agri. Credit per Capita Rural Popl. (Rs)	No. of Agri. Coop. Societies per Lakh of Rural Popl.	No. of Bank Branches per Lakh Popl.	Bank Advance per Lakh Popl.(Rs)
Bangalore Division	513.44	10.71	8.72	1997.54
Bangalore (U)	221.15	4.24	11.33	1194.57
Bangalore (R)	291.48	10.61	5.70	1587.30
Chitradurga	482.31	10.35	7.61	2952.55
Davangere	986.91	13.39	6.98	3338.20
Kolar	471.86	9.85	7.17	919.30
Shimoga	943.12	14.40	9.33	5286.06
Tumkur	330.63	10.71	7.33	1801.93
Mysore Division	1041.49	11.27	11.26	6489.03
C. R. Nagar	293.71	10.29	5.91	1999.10
C. Magalore	2968.43	12.54	11.50	9244.37
D. Kannada	30.66	9.50	15.98	9850.97
Hassan	1024.10	11.22	9.18	4292.52
Kodagu	4501.94	14.47	20.17	12613.10
Mandya	685.91	14.40	7.27	3195.22
Mysore	774.23	11.65	8.95	6282.08
Udipi	367.15	5.76	18.30	7933.53
Belgaum Division	792.89	17.78	8.37	3598.83

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District	Agri. Credit per Capita Rural Popl. (Rs)	No. of Agri. Coop. Societies per Lakh of Rural Popl.	No. of Bank Branches per Lakh Popl.	Bank Advance per Lakh Popl.(Rs)
Bagalkote	922.54	16.37	7.26	3465.40
Belgaum	880.86	16.71	7.75	3664.73
Bijapur	551.60	15.71	6.86	2998.78
Dharwad	888.87	21.47	11.16	5715.87
Gadag	870.33	23.65	8.33	4000.19
Haveri	782.58	20.19	6.61	3089.83
U.Kannada	587.23	16.57	12.27	2102.57
Gulbarga Division	589.56	10.16	6.13	2350.33
Bellary	879.25	10.84	7.75	4077.66
Bidar	815.43	14.69	6.13	4199.09
Gulbarga	334.34	9.66	5.44	1160.32
Koppal	466.94	7.94	6.03	27.16
Raichur	638.13	7.89	5.52	2482.20
North Karnataka	705.39	14.50	7.43	3072.72
South Karnataka	764.03	10.98	9.71	3746.60
State Level	736.72	12.62	8.74	3458.71

Note: For taluka level details, see Appendix Tables in Part VII of the Report; for taluka level indices see Chapter Six.

15. At present the total agricultural credit gap in Karnataka is estimated to be of the order of Rs. 2500 crore per annum. HPC has made some preliminary estimates of total credit requirements to be about Rs. 5000 crore per annum. As against this background the total Kisan Credit Cards distributed as of end June 2001 were 596751 with sanction of Rs. 1661 crore only. In order to meet the credit gap through institutional financing, additional bank facilities are to be created. HPC FRRI is of the opinion that there is a need for as many as another 5 Grameen Banks in the state, almost one in each district. Some details of banking requirements are presented in a chapter on Banking and Regional Imbalance. It is therefore suggested that the credit facilities be further enhanced in all the districts except perhaps those of Belgaum Division. Table 8.3 depicts some details of these, while the same at the taluka level are given in an Appendix to Part VII of the main Report. They are also used in deriving the Composite Development Indices at the Taluka levels, as shown in Chapter Six.

8.4: Land and Water Linked Rural Development Programmes So Far

16. Before going in to the analysis of disparity in agricultural development in Karnataka, it may be useful to take a brief look at the efforts that have gone in to redress such imbalances and disparities. In the past, under panchayat raj institutions and otherwise, special attention was given to rural development in Karnataka, with several programmes designed for the benefit of backward areas of the state. The major ones that were taken up during the Fourth Five Year Plan were DPAP, SFDA, MFAL and IRD. The talukas identified under DPAP programme, for special assistance are listed in Table 8.4. As many as 40 talukas from North Karnataka and 28 from South Karnataka were covered under this programme. Additionally, small farmers in all the talukas were brought under the SFDA and MFAL programmes. In the Fifth Five Year Plan period, these two programmes were merged into

one only. Since then, all the taluks in the state were covered for the benefit of small farmers. IRDP programme, which was initiated during 1978-79 with the objectives of growth with social justice and employment covered 103 taluks of the state. It also emphasized on the utilization of local resources, targeting the landless labourers, SC and ST population, rural artisans and so on. The list included 43 taluks from North and 60 from South Karnataka. Apart from these, the Government also considered yet another programme exclusively for the hill areas. Western Ghat region of the state was covered under this programme. As many as 40 taluks fall under this category. Further, for the benefit of the tribal population and pockets, yet another special programme was initiated in the Fifth Five Year Plan (under Tribal Sub-Plan), covering as many as 7 taluks initially upto 1978-79. Subsequently, all the taluks falling in the four identified tribal districts, namely Kodagu, Mysore, C. maglur and D. Kannada were included. Coverage of the Taluks under these various programmes are shown in Table 8.4.

Table 8.4: Taluks Covered Under DPAP, IRDP And Other Programmes

District	Taluks under DPAP	Taluks under IRDP	Taluks under Hill Area Dev.	Taluks under Tribal Area Dev.
Bangalore Division				
Bangalore (U)		Bangalore South, Anekal,		
Bangalore (R)	Kanakapur Doddaballapur	Doddaballapur, Nelamangala		
Chitradurga	Challakere, Chitradurga, Hosadurga, Molakalmuru Hiriyur	Challakere, Chitradurga, Hiriyur, Molakalmuru, Holalkere		
Davangere	Jagalur, Harapanahalli	Jagalur, Channagiri		
Kolar	Bagepalli, Kolar, Bangarpeth, Mulbagal, Chintamani, Shidlaghatta, Shrinivasapur, Gudibanda	Bagepalli, Kolar, Bangarpeth, Mulbagal, Chintamani, Shidlaghatta, Shrinivasapur, Gudibanda Gouribidanur, Malur, Chikaballapur		
Shimoga		Bhadravati,	Sagar, Hosanagar, Tirthahalli, Shikaripura, Shimoga	
Tumkur	Koratagere, Madhugiri, Pavagadha, Sira, Gubbi, C.N.Halli	Koratagere, Madhugiri, Pavagadha, C.N.Halli		
Mysore Division				
C. R. Nagar	Gundlupeth	Kollegal, Yelandur, C.R.Nagar		C. R. Nagar, Gundlupeth, Kollegal, Yelandur

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District	Taluku under DPAP	Taluku under IRDP	Taluku under Hill Area Dev.	Taluku under Tribal Area Dev.
C. R. Nagar	Gundlupeth	Kollegal, Yelandur, C.R.Nagar		C. R. Nagar, Gundlupeth, Kollegal, Yelandur
Chikmaglur	Chikmaglur, Kadur	Kadur, Mudigere	Koppa, Sringeri, Mudigere, C. Magalore, N.R.Pura	Koppa, Sringeri, Mudigere, C. Magalore, N.R.Pura, Kadur, Tarikere
D. Kannada		Beltangadi, Sulya	Beltangadi, Sulya,	Beltangadi, Sulya, Puttur, Bantwal, Mangalore
Hassan	Arasikere, Channarayapattana	Belur, Sakaleshpur, Hassan, Cannarayapattana, Arasikere, Alur	Sakaleshpur, Belur, Hassan, Alur	
Kodagu		Virajpet	Somwarpeth, Madikeri, Virajpeth	Somwarpeth, Madikeri, Virajpeth
Mandya	Nagamangala	Mandya, S.R.Patna, Nagamangala, Pandavapur, Malavalli		
Mysore		H.D.Kote, Hunsur, Periyapatna, K.R.Nagar, Mysore, Nanjangud, T.Narasipura,	Gundlupeth, H.D.K	H.D.Kote, Hunsur, Periyapatna, K.R.Nagar, Mysore, Nanjangud, T.Narasipura,
Udipi			Udipi, Karkal, Kundapur	Udipi, Karkal, Kundapur
Belgaum Division				
Bagalkote	Badami, Bagalakote Bilgi, Hungund, Jamakhandi, Mudhol,	Mudhol, Bilgi		
Belgaum	Athani, Gokak, Raibag, Ramdurga, Soundatti	Bailhongal, Chikodi, Hukkeri, Soundatti, Ramdurga, Gokak	Khanapur, Hukkeri, Belgaum, Bailhongal, Soundatti	
Bijapur	Bagewadi, Bijapur, Indi, Muddebihal, Sindgi	Indi		
Dharwad	Kundgol,	Navalgund, Kundgol	Dharwad	
Gadag	Mundargi, Ron, Shirhatti, Nargund	Gadag, Naragund, Ron		

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District	Taluks under DPAP	Taluks under IRDP	Taluks under Hill Area Dev.	Taluks under Tribal Area Dev.
U.Kannada		Mundgod	Supa, Karwar, Yellapur, Ankola, Sirsi, Kumta, Siddapur, Honnavar, Bhatkal	
Gulbarga Division				
Bellary	Hadagali, Kudlgi, Bellary	Hadagali, Kudlgi, Hospet, Bellary, Hagaribommanahalli, Sandur, Siraguppa		
Bidar	Aurad	Bidar, Aurad, Basvakalyan, Bhalki		
Gulbarga	Shahapur, Shorapur, Yadgir, Afzalpur, Jevargi, Chitapur, Sedam	Chincholi, Afzalpur, Gulbarga, Chitapur, Sedam, Jevargi, Sedam, Aland		
Koppal	Kushtagi, Koppal, Yelburga	Gangavati, Koppal, Kushtagi,		
Raichur	Lingasur, Devadurga	Raichur, Devadurga, Lingasur, Manvi, Sindhanur		
North Karnataka	40 Talukas	43 Talukas	15 Talukas	
South Karnataka	28 Talukas	60 Talukas	25 Talukas	29 Talukas
Karnataka	68 Talukas	103 Talukas	40 Talukas	

Source: Sixth Five Plan Document of Karnataka Government.

17. As compared to these identified backward talukas, HPC FRRI has now carried out an independent exercise of identifying the backward talukas, as presented in Chapter Six. Out of the 114 talukas so identified now, a large number of them overlap with the IRDP and DPAP talukas identified during the Fifth and Sixth Five Year Plan periods.

18. The experience over the plan periods with these programmes reveal that such sector-specific programmes did not redress the problems of imbalances very much. Though well conceived, they were more of the departmental programmes, rather than peoples' programmes. In 1979, with the intention of integrating the resources and people, a holistic programme under the title Command Area Development Programme came up with a statutory status exclusively on water resource management. Five Command Area Development Authorities (CADA) were created. They are:

- Tungabhadra Command Area Development Authority
- Malaprabha-Ghataprabha Command Area Development Authority
- Cauvery Basin Project Command Area Development Authority
- Upper Krishna Command Area Development Authority
- Bhadra Command Area Development Authority

The main objectives of creating the CADA are:

- Development of irrigation water to the fullest extent under each of the major water resource basins in Karnataka,
- Creating infrastructures such as canals, channels and distribution head works, to get best utilization of the water resources,
- Proper co-ordination of all the line departments (such as agriculture, irrigation, co-operation etc.) and involving the people of the region, so that the hardship to the farmers is minimized.

19. With these objectives, the following functions were assigned to the Command Area Development Authorities:

- To formulate and implement schemes for the comprehensive development of the command area;
- To prevent soil erosion and water logging;
- To improve soil fertility and regulate cropping pattern;
- To ensure efficient maintenance of field channels and drains through the farmers;
- To localise and delocalise the lands for various crops;
- To ensure supply of inputs, credit and other services;
- To develop marketing, processing, and storage facilities and to provide communication system;
- To organise agricultural co-operative;
- To arrange for proper use of surface and groundwater; and
- To set up agricultural demonstrations and promote extension.

20. Unfortunately, CADA could not fulfill these objectives for want of adequate funds. The farmers do not seem to have gained much as far as the issues of disparity and imbalances are concerned. Secondly, the success rates differ between the programmes, further aggravating the disparity among the different regions. Under an amendment of CADA Act, though the commercial banks did provide loans to CADA, the latter ended up as defaulters on repayments, thereby choking the bank credit flows. One way to improve the delivery at the CADA level is to allow, under a further amendment of CADA Act, to let them retain about 50% of the recovery strictly for undertaking the necessary development works such as drainage, land development, roads etc.

The talukas falling under these CADA are shown in Table 8.5.

Table 8.5: Talukas under CADA Projects

Project	District	Taluks
Tungabhadra Project	Bellary	Bellary, Siraguppa, Sandur, Hospet
	Raichur	Manvi, Sindhanur, Devadurga, Raichur
	Koppal	Koppal, Gangavati
Malaprabha and Ghataprabha Project	Dharwad	Hubli, Navalgund
	Gadag	Gadag, Ron, Naragund
	Belgaum	Bailhongal, Ramdurg, Soundatti, Athani, Raibag, Chikodi, Gokak, Hukkeri
	Bagalkot	Badami, Bagalkot, Bilgi, Jamkhandi, Hungund, Mudhol
Cauvery Basin Projects	Mandya	Mandya, Malavalli, Maddur, Nagamangala, Pandavapura, Srirangapatna, K.R.Pet
	Mysore	Mysore, T-Narasipur, H.D.Kote, Nanjangud, Periyapatna, K.R.Nagar, Hunsur
	C.R.Nagar	C.R.Nagar, Kollegal, Yelandur,
	Hassan	Hassan, Holenarasipur, Arkalgud, C.R.Patna
	Kodagu	Somvarpet
Upper Krishna Project	Gulbarga	Shorapur, Shahapur, Jewargi
	Bijapur	Indi, Sindhagi, Muddebihal
	Raichur	Lingsugur, Devadurga, Raichur
Bhadra Project	Shimoga	Shimoga, Bhadravati,
	Davanagere	Channagiri, Honnali, Harihara, Harapanahalli
	Chikmagalur	Tarikere

8.5: Land Productivity

21. Among many indicators of agricultural development, land productivity can be taken as the ultimate and a major indicator. As back in 1987 a study was carried out by the Agricultural department regarding identifications of districts and taluks which are low in productivity. But no specific programmes or actions followed the study. Similar study was also not carried out subsequently.

Table 8.6: Land Productivity of Major Crops in Karnataka (1998-99)

District	Land Productivity (Kgs/Ha)								
	Total Cereals	Total Pulses	Ground-nut	Sugar-cane (tonnes)	Cotton	Paddy	Ragi	Jowar	Maize
Bangalore Division									
Bangalore (U)	2259	510*	1010*	94050*	NA	3084	2252	NA	3106
Bangalore (R)	1877	400*	1020*	94050*	NA	3091	1774	NA	3175
Chitradurga	2088	500* ¹	NA	NA	NA	3280	1681	1657	3315
Davangere	3073	NA	NA	NA	NA	3483	1811	2380	3892
Kolar	2176	340*	810	91200*	2100*	3016	1982	NA	3543
Shimoga	2658	330*	1260*	133000*	1320*	2809	1571	1822	4078
Tumkur	1778	410*	640*	98800*	1390*	3076	1555	1718	2735
Mysore Division									
C. R. Nagar	2446	390*	1030*	106400*	2250*	3383	1600	1610	3949
C. Maglur	1948	440*	1430*	110200*	1210*	2597	1797	1300	3586
D. Kannada	2188	330* ²	NA	NA	NA	2295	NA	NA	NA
Hassan	2035	530*	1080*	107240*	1310*	2494	1938	1257	3468
Kodagu	2416	120*	NA	94000*	2140*	2442	1771	NA	4084
Mandya	2478	490*	610*	110200*	2130*	3243	2031	1802	3684
Mysore	2555	390* ³	NA	NA	NA	3201	1738	1501	4493
Udipi	1952	NA	NA	NA	NA	2055	NA	NA	NA
Belgaum Division									
Bagalkote	2024	NA	NA	NA	NA	1410*	NA	2292	2956
Belgaum	2146	310*	780*	89300*	1680*	2305	868	1603	3028
Bijapur	1042	NA	410* ⁴	102600*	1570*	1410*	NA	2078	3107
Dharwad	2427	310* ⁵	660*	57000*	120*	1735	720*	2163	3714
Gadag	2488	NA	NA	NA	NA	3215	1771	1653	3794
Haveri	2527	NA	NA	NA	NA	2284	869	1971	3412
U.Kannada	1984	330*	120*	55100*	1260*	2089	1811	1773	3586
Gulbarga Division									
Bellary	2244	280*	620*	70300*	1370*	3435	939	1460	3276
Bidar	1583	90*	500*	68400*	570*	3096	NA	1721	3319
Gulbarga	698	280*	610*	81700*	3010*	2146	1300*	663	3143
Koppal	2155	180* ⁶	460*	94050*	910*	3585	NA	1003	3742
Raichur	1708	NA	NA	NA	NA	3644	NA	887	3500
State Level	2030	300	680*	93890*	1260*	2982	1811	1195	3457

Notes: *Figures relate to the year 1997-98. ; Chitradurga includes Davanagere ;² Dakshin Kannada includes Udipi;³ Mysore includes C.R.Nagar;⁴Bijapur includes Bagalkot;⁵ Dharwad includes Gadag and Haveri;⁶ Koppal include Raichur

Source: Department of Agriculture

22. Table 8.6 shows the patterns of productivity in different districts of the state in the recent year. Highest cereal yield rates are observed in the districts of Davangere, Haveri, Gadag, Dharwad, Mysore, Mandya, Kodagu, and C.R. Nagar. Cereal yield rates in the districts of Raichur, Bidar, Gulbarga, U. Kannada, Bijapur, Bagalkot, C. magalur, Udipi, Tumkur and Bangalore (R) are below the state average. The districts with quite high yield rates in pulses are: Bangalore (U and R), Chitradurga, Tumkur, Hasan, Mandya and C. magalur. Major pulse growing areas such as Gulbarga, Bidar, Dharwad and Belgaum have been showing quite low yield rates. Paddy yield rates in the dry land areas (mainly in North Karnataka) and also in the rain fed agricultural districts such as Udipi and D. Kannada are quite low. Invariably, the districts with large potential for ground nut such as Dharwad, Gulbarga, Tumkur, Belgaum, Bijapur, Bellary, Koppal have shown very low yield rates.

Sugarcane yield rates are invariably low in North Karnataka, and more so in Dharwad and U. Kannada districts. Irrigation is the main bottleneck for raising the yield rates of both cereal and pulses. The districts having good irrigation potential have switched to sugarcane in a big way.

23. The development of agriculture is therefore, some what imbalanced, reflecting upon unequal infrastructural developments.

24. The Department of Agriculture of Karnataka Government has recently identified three cluster of zones as **High Productivity Zone, Low Productivity but High Potential Zone and Low Productivity Zone**. They are based on rainfall, irrigation potential, other input availability etc. Table 8.7 shows these. HPC FRRI is of the opinion, that unless the necessary inputs and infrastructural amenities are provided, mere identification of such productivity zones remains purely as an academic exercise. Therefore, development of marketing and credit facilities, assured price support system and price information system (which is taken up in the Chapter Twenty Eight on Strategy for Development), insurance scheme for agricultural households, assured irrigation and timely availability of seed and fertilizer are all to be properly ensured.

Table 8.7: Districts with Different Productivity Ranges

Zone	Main Features of the region	District
High Productivity Zone (11 districts)	High rainfall, irrigation. Cropping intensity can be increased. New technology can be introduced. Improve irrigation and input use efficiency. Conjunctive use of nutrients and reclaim problematic soils.	D. Kannada, Udipi, U. Kannada, Hassan, Shimoga, Kodagu, C. magalur, Mandya, Raichur, Koppal and Bellary
Low Productivity and High Potential Zone (2 districts)	Increase gross irrigated area Increase crop intensity Improve input delivery system Improve pest management system Opportunity to harvest ground water Introduce crop diversification	Belgaum , Bidar
Low Productivity Zone (14 districts)	Mainly rainfed agriculture. Dry land farming. High fluctuations in productivity due to draughts and deficit rainfall. Watershed approach Improve ground water recharge Effective crop insurance scheme	Kolar, Bangalore (U), Bangalore (R), Tumkur, Chitradurga, Davangere, Mysore, C.R. Nagar, Dharwad, Gadag, Haveri, Gulbarga, Bijapur, Bagalkot

8.6: Training And Farmer Contacts

25. Two other important infrastructural services necessary for balanced agricultural development are Farmers Training and Contact Facilities. Table 8.8 shows these at the district level. They are expected to cater to the farmers requirements of the talukas identified under each of them. But, with the growing demand for knowledge on agricultural technology, these facilities are not sufficient to meet the requirements of all the farmers in the state.

Table 8.8: Training Facilities in the State

District	No of Hamlets	No. Farmer Contact Centres	Agricultural Schools	Rural Dev. Centre	Farmers Training & Edn. Centres
Bangalore Division					
Bangalore (U)	17	16	***		
Bangalore (R)	35	35			@
Chitradurga	22	22			@
Davangere	24	24	***		
Kolar	53	47	***; ***		%
Shimoga	40	40	***		@
Tumkur	50	50	***		@
Mysore Division					
C. R. Nagar	16	16			
C. magalur	32	30	***		
D. Kannada	17	17			%
Hassan	38	30	***		%
Kodagu	16	16	***	\$	@
Mandya	31	31	***	\$	@
Mysore	33	33	***		
Udipi	9	9	***		
Belgaum Division					
Bagalkote	18	18		\$	
Belgaum	35	35			@
Bijapur	18	18	***	\$	@
Dharwad	14	14		\$	@
Gadag	11	11			
Haveri	19	19	***		
U.Kannada	35	35	***; ***		@
Gulbarga Division					
Bellary	27	27	***		%
Bidar	30	30	***		
Gulbarga	46	46	***		%
Koppal	20	20			
Raichur	37	37	***	\$	@
N. Karnataka	312	314	8	4	7
S. Karnataka	433	416	12	2	9
State Level	745	730	20	6	16

Notes: ***: Presence of one school; \$: Presence of Rural Dev. Training Centre; @: Existing Farmers Training & Edn. Centres; %: New Training Centre being established.

Source : Department of Agriculture

26. Clearly, the extension services, training centres and farmer help groups are quite low in many backward regions of the state. For instance, there are only two Rural Development Training Centres in South Karnataka, or only 7 Farmers Training Centres in North Karnataka. HPC FRRI recommends atleast one Farmers Training Centres in each

district, and six more Rural Dev. Training Centre in the state. The number of additional Farmers Training Centres required in North and South Karnataka are five and six respectively. The rough estimated cost of additional Farmers Training Centres is Rs. 25 crore.

8.7: Disparity in Infrastructure and Agricultural Performance

27. Two aspects of agricultural development are to be considered to redress the level and extent of regional imbalances. They are the extent of infrastructural development and productivity linked performances.

28. With this in mind, the HPC has gone in to the details of the infrastructural development in the agricultural sector. The major ones are:

- Irrigation facility,
- Availability of fertilizer,
- Farm mechanization: Tractorization
- Marketing and storage facilities,
- Agricultural training and extension services, Farmers Contact centre,
- Agricultural credit facilities,
- Price support and information services

29. While writing this report many of these detailed data at the taluka levels were not forthcoming, while some were available at the district levels. Against these infrastructural development aspects, one would have liked to analyse taluka-wise crop productivities under major crops. Since such detailed data were not forthcoming, as an alternative for productivity, agricultural performance in the form of area under food crops, horticultural crops, and commercial crops are analysed.

30. The following specific indicators at the taluka level are utilised for the analysis of the infrastructural development and their linkages with agricultural development:

On Agricultural Infrastructure

- Fertilizer consumption in kg per hectare of total cropped area
- Number of tractors per 1000 hectare of area sown
- Number of livestock units per lakh of population
- Per capita bank credit to agriculture in Rs.
- Ratio of net area irrigated to net area sown
- No. of regulated markets and sub-markets per lakh of population

On Agricultural Performance

- Ratio of total cropped are to net area sown (%)
- Ratio of area under food crops to total cropped area (%)
- Ratio of horticultural crops total cropped area (%)
- Ratio of area under commercial crops to total cropped area (%)

31. These indicators (standardized to state average) are presented in Chapter Six. In order to get an aggregative picture, composite indices of infrastructure and performance were constructed using a statistical method of Factor Analysis. The taluks are grouped in to four categories based on the composite index of infrastructure and agricultural performance as:

- Below state average on both infrastructure and performance,
- Below state average on infrastructure but better on performance,
- Above state average on infrastructure but below in performance,
- Above state average on both infrastructure and performance.

Tables 8.9:-A-D show these grouped talukas along with their relative composite indices (relative to the state average index, also in increasing order of infrastructural indices). The major observation that can be offered are:

- As many as 37 talukas are lagging behind the state average *in respect of both infrastructure and performance*, whereas 58 taluaks are much above the state averages.
- In between are 80 talukas with lagging *either in infrastructure or performance*.
- At the state level, the number of taluks lagging behind the state average in infrastructure are 80, of which 49 taluks are from Northern Karnataka.
- Similarly, at the state level, 74 taluks are behind the state average in performance, of which 34 talukas are from North Karnataka.
- When it comes to infrastructure, specifically, irrigation water, credit facility, marketing yards and storage facilities are the most important factors.

Against these findings the infrastructural developments can be reviewed further.

Table 8.9.A: A Clustering of Taluks According to Levels of Agricultural Infrastructure & Production

<i>Group</i>	<i>Both Infrastructure & Performance below State Average</i>	
	<i>Infrastructure</i>	<i>Performance</i>
<i>Taluk</i>		
Gadag	0.63	0.87
Muddebihal	0.65	0.85
Hunagunda	0.65	0.85
Basavanabagevadi	0.66	0.94
Afzalpur	0.67	0.97
Sindagi	0.69	0.88
Lingsugur	0.70	0.87
Basavakalyan	0.78	0.93
Sira	0.82	0.39
Pavagada	0.82	0.09
Chamarajanagar	0.84	0.66
Yelburga	0.86	0.69
Challakere	0.86	0.29
Hiriyur	0.86	0.66
Savanur	0.87	0.89
Devadurga	0.88	0.80
Shirahatti	0.89	0.75
Hosadurga	0.89	0.81
Tiptur	0.90	0.76
Rona	0.90	0.94

Contd...

<i>Group</i>	<i>Both Infrastructure & Performance below State Average</i>	
<i>Taluk</i>	<i>Infrastructure</i>	<i>Performance</i>
Chikkanayakanahalli	0.92	0.78
Molakalmuru	0.93	0.46
Kushtagi	0.93	0.91
H.D.Kote	0.94	0.78
Shiggaon	0.94	0.91
Madhugri	0.94	0.53
Hadagalli	0.94	0.76
Haveri	0.95	0.97
Koppal	0.95	0.94
Jagalur	0.97	0.82
Mundargi	0.97	0.52
Bailhongala	0.97	0.60
Holalkere	0.97	0.93
Kudligi	0.97	0.48
Kadur	0.98	0.89
Gundlupete	0.99	0.91
Gowribidanur	0.99	0.73
Total No. of Taluks	North Karnataka	S. Karnataka
	21	16

Table 8.9.B: Clustering of Taluks According to Levels of Agricultural Infrastructure & Production

<i>Group</i>	<i>Infrastructure Above State Average & Performance Below State Average</i>	
<i>Taluk</i>	<i>Infrastructure</i>	<i>Performance</i>
Kanakapura	1.02	0.89
Chintamani	1.04	0.93
Koratagere	1.06	0.58
Turuvekere	1.07	0.90
Hunsur	1.07	0.87
Hagaribommanahalli	1.07	0.99
Malavalli	1.07	0.99
Sandur	1.09	1.00
Siddapur	1.09	0.97
Raichur	1.10	0.89
Kollegal	1.11	0.84
Tarikere	1.12	0.99
Sulya	1.13	0.70
Chikkodi	1.14	0.45
Bagepalli	1.20	0.42
Shorapur	1.21	0.96

Contd...

<i>Group</i>	<i>Infrastructure Above State Average & Performance Below State Average</i>	
<i>Taluk</i>	<i>Infrastructure</i>	<i>Performance</i>
Chennarayapatna	1.23	0.68
Hukkeri	1.24	0.51
Athani	1.27	0.95
Siruguppa	1.31	0.83
Jamakandi	1.31	0.78
Bellary	1.35	0.81
Gudibande	1.39	0.75
Khanapura	1.43	0.87
Belur	1.54	0.95
Chickmagalur	1.58	0.57
Madikeri	1.61	0.38
Yellapur	1.62	0.95
Mudigere	1.66	0.27
Virajpet	1.69	0.42
Sakleshpura	1.70	0.35
Koppa	1.71	0.45
Somavarpeta	1.72	0.46
Narasimharajpura	1.98	0.69
Sringeri	2.02	0.93
Raybag	2.04	0.85
Thirthahalli	2.05	0.99
Total No of Taluks	North Karnataka	S. Karnataka
	13	24

Table 8.9.C: Clustering of Taluks According to Levels of Agricultural Infrastructure & Production

<i>Group</i>	<i>Infrastructure & Performance Above State Average</i>	
<i>Taluk</i>	<i>Infrastructure</i>	<i>Performance</i>
Gulbarga	0.49	1.19
Karwar	0.53	1.35
Dharwad	0.61	1.29
Chitapur	0.61	1.23
Bijapur	0.65	1.09
Mysore	0.66	1.23
Jewargi	0.68	1.11
Hubli	0.68	1.23
Bhatkal	0.69	1.33
Aland	0.69	1.14
Mangalore	0.72	1.72
Bidar	0.73	1.10
Bhalki	0.73	1.43
Bangarapete	0.76	1.19

Contd...

<i>Group</i>	<i>Infrastructure & Performance Above State Average</i>	
	<i>Taluk</i>	<i>Infrastructure</i>
Sedam	0.77	1.32
Chincholi	0.77	1.30
Aurad	0.78	1.22
Humnabad	0.80	1.10
Chitradurga	0.81	1.13
Udupi	0.81	1.77
Mulabagal	0.82	1.45
Kumta	0.82	1.27
Indi	0.83	1.07
Ankola	0.84	1.32
Haliyal	0.84	1.28
Belgaum	0.85	1.22
Tumkur	0.86	1.03
Gubbi	0.89	1.00
Yadgiri	0.90	1.31
Kundagol	0.91	1.15
Bagalakote	0.91	1.11
Kundapura	0.92	1.56
Srinivasapura	0.92	1.47
Malur	0.92	1.41
Navalgunda	0.93	1.37
Badami	0.95	1.03
Nanjangud	0.96	1.07
Soundatti	0.97	1.08
Anekal	0.97	1.37
Kolar	0.97	1.44
Ranibennur	0.98	1.10
Shahapur	0.99	1.01
Bantval	0.99	1.65
Total No of Taluks	North Karnataka	S. Karnataka
	28	15

Table 8.9.D: Clustering of Taluks According to Levels of Agricultural Infrastructure & Production

<i>Group</i>	<i>Infrastructure & Performance Above State Average</i>	
	<i>Taluk</i>	<i>Infrastructure</i>
Arasikere	1.01	1.10
Harappanahalli	1.01	1.08
Ramanagaram	1.01	1.26
Belthangadi	1.02	1.59
Byadagi	1.02	1.28
Supa	1.04	1.30

Contd...

<i>Group</i> <i>Taluk</i>	<i>Infrastructure & Performance Above State Average</i>	
	<i>Infrastructure</i>	<i>Performance</i>
Puttur	1.05	1.54
Hassan	1.06	1.50
Honnavar	1.06	1.21
T.Narasipur	1.08	1.09
Shidlagatta	1.09	1.17
Gokak	1.10	1.07
Hirekerur	1.11	1.11
Kunigal	1.12	1.15
Channapattana	1.13	1.11
Ramadurga	1.14	1.08
Chikkaballapura	1.15	1.37
Doddaballapur	1.17	1.16
Sirsi	1.18	1.09
Mundagod	1.18	1.35
Bangalore(North)	1.19	1.35
Hangal	1.19	1.10
Maddur	1.22	1.01
Kalaghatagi	1.22	1.11
K.R.Nagara	1.23	1.33
Magadi	1.24	1.26
Mudhol	1.26	1.06
Holenarisipur	1.27	1.34
Chennagiri	1.27	1.17
Nagamangala	1.28	1.19
Hosakote	1.30	1.23
Karkal	1.30	1.76
Bilagi	1.32	1.03
Bangalore(South)	1.34	1.47
Krishrajpet	1.36	1.39
Arakalgud	1.40	1.20
Manavi	1.40	1.01
Yelandur	1.44	1.04
Nelamangala	1.45	1.26
Honnali	1.46	1.19
Bhadravathi	1.46	1.17
Shikaripura	1.47	1.22
Gangavathi	1.50	1.45
Devanahalli	1.51	1.24
Periyapatna	1.53	1.07
Shimoga	1.54	1.16

Source: HPC's own model estimation

32. The most seriously backward taluks in both agricultural infrastructure and development require some immediate attention. They are about 21 in North Karnataka and 16 in South Karnataka. Many of them also appear in the list of Most Backward, More Backward and Backward taluks identified in Chapter Six. The special development package on agriculture and allied activities are to be specifically addressed to these taluks.

8.8: Voiceis of people in General

33. HPC has held very close interactions with people of different districts and taluks at various levels. A large number of suggestions have emerged out of the discussions with them. Some of the major recommendations that can be immediately implemented are already mentioned in the individual subject based sections. Additional suggestions of both backlogs and of the nature of functional deficiencies are listed below. A careful review these reveal that they are very much in order to redress the regional and functional deficiencies.

**Table 8.10: Information Gathered from the Districts
Regarding Agri. Dev. Problems**

District	Agriculture	Irrigation
Chitradurga		De-silting of tanks;Extend U. Bhadra canal to Chitradurga and Challakere talukas;Lining of feeder channels;water from Tungabhadra dam to Molakalmuru taluka.
Davangere	Price support	Watershed dev.;implement Tunga Thiruvu Yojane in Davangere and Chitradurga areas.
Kolar	Agri. Extension Services	De-silting of tanks;Completion fo Chikavati dam;Shortage of power for pumping;Check dams for recharging of ground water.
Shimoga	Arecanut research station; price support for arecanut and sugarcane	Minor Irri. Dept at Shimoga; Another dam on Sharavati at Ambaikodli in Sagar taluka; De-silting of tanks in Sorab and Shikaripur talukas.
Tumkur	Watershed developments	De-silting of tanks.
C. R. Nagar	Agri. Extension Services needed; DPAP be extended to other talukas; Better pricing for turmeric and jowar	Watershed programmes
C. magalore	Agri. Price support programmes should help the farmers.	De-sliting of tanks; Kadur and Tarikere need irrigation; Minor irrigation projects in C. Magalur taluka.

Contd...

District	Agriculture	Irrigation
D. Kannada		Lift irrigation projects should be undertaken.
Hassan	Crop insurance should be effectively introduced.	Irrigation tanks are silted; Lift irrigation schemes in Alur taluka; ground water management in Arsikere and C.R. Patna; Holenarsinhpur and Arkalgud to be covered under watershed programmes;
Kodagu	More of Extension Programmes needed; Soil conservation schemes required.	
Mandya	Extension service required; Seed processing units involving small and medium farmers required;	De-slitting of tanks a must; Construction of irrigation tanks in Keshtur of Maddur taluka; Alagudu lift irrigation schme for Srirangapatna and Mandya talukas;
Mysore	District s not benefited by DPAP programmes; Support Pricing of tobacco necessary.	Salinity and water logging problems; Lift irrigation schemes should be completed; Watershed development programmes; Completion of Kabini channel, and Varuna canal.
Udipi		Several irrigation projects are incomplete.
Bagalkot	Wastelands dev. programmes; watershed dev. Programmes; Dev. Of medicinal plantations; agri based industries; More sugar factories needed.	
Bijapur	Agro-based industries;	
Dharwad	Drip irrigation should be explored; Dryland farming; Pulse and oilseed dev. Stations to be established.	Tank irrigation should be encouraged; Mahadai project be linked to Malaprabha river project; watershed programmes be carried out.
Gadag	Onion and chilli processing units be established;	Water harvesting structure required; NGOs should be involved.

Cont...

District	Agriculture	Irrigation
Haveri	Chilli, cotton, maize research stations required.	U.Tunga project be completed soon; Malati irrigatin dam is required; Many tanks to be de-silted; More minor irri. Works needed.
U.Kannada	Wastelands dev. Programme required; Support pricing for coconut and arecanut; horticulture and honey making be encouraged.	
Bellary	Promote dryland agriculture; Fertilizer distribution centres required in small towns;	De-silting of tanks; watershed dev.; back waters of Tungabhadra dam for H.B. Halli and Hospet.
Bidar	Watershed dev.;	Karanja project be completed; percolation tanks required; watershed dev.;Need for percolation tanks in Aurad taluka.
Gulbarga	Tur Dev. Board be established;	Many on-going irr. Projects be completed;Bhima water should be available to Gulbarga; De-silting of tanks; Chincholi and Yadgir talukas need canal water; Jevargi taluka still not getting irr. Water.
Koppal	Dryland agri. To be encouraged; Need a gr. Research station at Bevoor; promote watershed projects.	Ground water be explored; watershed dev.
Raichur	Price fixation	De-silting of tanks;Lingsur taluka is deprived of water;

34. These views have been reviewed by HPC. The general issues raised by most of the people are on the lines of burning redressal issues identified by HPC. The major question that emerges out of these suggestions is about prioritization of them. Clearly, HPC is of the view that matters related to irrigation, be it ground water exploitation, minor irrigation, tank irrigation or medium ad major irrigation, are to be addressed as a priority. The dry land areas of the state are to be taken as most vulnerable to succumb to the deprivation of basic needs. Therefore, various alternatives such as horticulture, providing proper training (e.g., in bee keeping), and promoting sericulture in the regions identified by HPC, establishment of research and training centres for chilli, maize, tur etc., providing proper and timely veterinary services and many such recommendations already made by HPC are absolutely necessary to redress the voices of the people.

8.9: Direction of Redressal on in Agriculture

35. In the individual sections of this agricultural sector, various views and opinion form HPC have already been aired. The major issues on providing regulated marketing facilities and modernizing them, providing proper training opportunities to the farmers in agriculture, storage and processing etc., are also identified in terms of backlog areas and taluks and the required investments to clear them.

36. Additionally, some specific directions and attention to be given are on minor irrigation, credit facilities, and power supply. These are elaborated further here.

37. Minor irrigation has to be expanded further, by taking into watershed development as one of its arms. This way, problems of remote areas, areas deficient in major irrigation, Malnad regions, dry land regions of Hyderabad-Karnataka qualify for expansion under minor irrigation schemes. Both ground water and variety of surface water programmes can be introduced under this scheme, in hamlets and villages. Our Estimated potential is 0.45 million hectare meters in the state, with a total investment costs of Rs. 100 crore.

38. Bank and co-operative society credits to agriculture is one of the most important pre-requisite for development. Gulbarga Division has just about 582 bank branches (including RRBs), as against 1609 in Bangalore Division. On per capita basis, however, they will have to be enhanced in Belgaum and Gulbarga Divisions. In the irrigation belt of North Karnataka, atleast five more regional banks are to be set up, with branches spread in every taluka to assist the farmers. In the Chapter on Banking and Infrastructure, these will be dealt in some more detail.

39. Another major infrastructural input required for the development of agriculture is assured supply of electricity. As discussed in the section of Power Sector, as against 27066 villages and 28178 hamlets in the state, only 26751 villages and 10563 hamlets are electrified. The deficiency in rural electrification has been found substantially in Mysore Division, followed by Belgaum, Bangalore and Gulbarga Divisions. Particularly, in the western ghat and Malnad regions, a large number of hamlets are not covered at all. This makes agricultural development quite lopsided.

8.10: Development of Horticulture

8.10.1: District Level Scenario

40. Karnataka enjoys a prominent position in the horticultural map of India. Karnataka is the first state in the country to set up a separate Department of Horticulture within the Ministry of Agriculture. The sector covers all crops such as spices, cashew, cocoa, vegetables, floriculture, mushroom, medicinal and aromatic plantations. Once again, being very labour intensive, this sector has tremendous employment potential at the rural levels. At present about 1.3 million hectares of area is under horticulture with an annual production of over Rs.4,300 crore. All the Zilla Panchayats have been encouraged to go in for this activity and promote the productivity.

41. Horticultural products such as flowers, mango, grapes, pepper, gherkins, cashew nuts, chilly, onion etc., are being exported from the state. It is one sector in which the private sector can come in a big way. But being an infant industry, this requires some support from the state government. KAPPEC is at present acting as the nodal public sector agency for promoting the export of the horticultural products. Apart from this, Horticultural Producers Co-operative Marketing and Processing Society (HOPCOMS) has been established in 1959, to promote production of quality seeds, agro-products, and to provide marketing facilities and information. In view of its growth potential, HOPCOMS should open its outlets in all the divisions of the state, and also possibly in major horticultural centres.

42. The districts and talukas having the potentials of promoting this sector are: Bangalore (Rural), Dharwad, Haveri (floriculture), Mysore, Bijapur (lime, grapes and pomogranade), Chitradurga (for pomogranade), Kolar (for mango and onion), Belgaum, Udipi and D. Kannada (Cashew), Kodagu and C. Magalore (cocoa and spices, mushroom).

Table 8.11: Taluks With Percentage Of Area Under Horticultural Crops to Total Cropped Area below the State Average

Name of the District	Name of the Taluk
Bangalore Division	
Bangalore (U)	None
Bangalore (R)	Kanakapura (2.54), Magadi (2.33)
Chitradurga	Hosadurga (1.93), Molakalmuru (2.58)
Davanagere	Channagiri (2.79), Davanagere (1), Harihara (1.54), Honnali (2.41)
Kolar	Gudibanda (3.3)
Shimoga	Bhadravati (0.77), Shikaripura (1.72), Shimoga (2.42)
Tumkur	C.N.Halli (0.57), Koratagere (2.13), Madhugiri (1.74), Pavagada (0.91), Sira (0.48), Tiptur (1.04), Turuvekere (0.74)
Mysore Division	
C.R.Nagar	C.R.Nagar (1.28), Kollegal (0.64), Yelandur (1.31)
C.Magalore	C.Magalore (3.01), Kadur (1.09), Mudigere (1.42), Narasimharajapura (1.58), Sringeri (2.2)
D.Kannada	None
Hassan	Arakalgod (1.84), Arasikere (1.11), Channarayapatna (1.33), Holenarasipura (2.3), Sakaleshpur (2.21)
Kodagu	Somwarpet (2.87), Virajpet (3.4)
Mandya	Krishnarajpet (3.2), Maddur (2.07), Malavalli (2.33), Mandya (0.63), Nagamangala (2.55), Pandavapura (2.5)
Mysore	H.D.Kote (0.27), Hunsur (1.09), K.R.Nagar (1.01), Mysore (2.5), Nanjangud (0.75), Periyapatna (0.37), T.Narasipur (2)
Udipi	None
Belgaum Division	
Bagalkot	Badami (1.53), Bilagi (2.38), Hungund (1.46), Jamakhandi (1.52), Mudhol (2.33)

Contd...

Name of the District	Name of the Taluk
Belgaum	Athani (0.84), Bailhongala (1.7), Chikkodi (0.73), Gokak (2.63), Hukkeri (0.84), Khanapur (2.63), Raibagh (0.82), Ramdurg (0.31), Soundatti (3.08)
Bijapur	B.Bagawadi (2.11), Bijapur (2.67), Indi (3.27), Muddebihal (0.46), Sindgi (1.07)
Dharwad	Kalaghatagi (3.09)
Gadag	Mundaragi (1.49), Naragund (0.99), Shirahatti (2.9)
Haveri	Haveri (2.21), Hanagal (1.47), Savanur (1.84), Shiggaon (1.1)
U.Kannada	Haliyal (1.97), Mundagod (1.95), Siddapur (1.13), Yellapur (2.46)
Gulbarga Division	
Bellary	Bellary (0.61), Hadagali (2.85), Kundlgi (1.99), Sandur (2.21), Shirguppa (0.27)
Bidar	Aurad (0.2), Basvakalyan (0.69), Bhalki (0.13), Bidar (1.08), Humnabad (1.35)
Gulbarga	Afzalpur (1.9), Aland (1.31), Chincholi (0.57), Chitapur (0.23), Gulbarga (1.93), Jevargi (0.28), Sedam (0.37), Shahapur (0.44), Shorapur (0.25), Yadgiri (0.83)
Koppal	Gangavati (0.34), Koppal (1.13), Kushtagi (0.7), Yelbarga (0.55)
Raichur	Devdurga (0.56), Lingasur (0.31), Manavi (0.32), Raichur (0.36), Sindanur (0.1)
Average for North Karnataka	2.16
Average for South Karnataka	5.16
State Average	3.35

Note: Figures in brackets show the percentage of area under horticultural crops as compared to total cropped area.

Source: Department of Horticulture

43. Against this background, the talukas and districts found to be lagging behind the state level in terms of area under horticulture are shown in Table 8.11. The reasons for their falling backward are many, however. HPC is of the opinion that horticulture is going to be the next best alternative to crop agriculture in Karnataka. It also has enormous employment potential as well as forward and backward linkages in terms of regional development. Therefore, this potential be exploited to the maximum by introducing horticultural training as part of agricultural extension training. Secondly, some of the barren and revenue wastelands be devoted to horticultural development. Finally, private sector be encouraged in each district to take up such activities on a regular basis. Horticultural development requires fast transport and cost storage facilities. Elsewhere, HPC has already referred to the need for setting up cold storage facilities for fish, flower, fruit and vegetable crops. There should be atleast one major cold storage centre in each district. Further more, if proper airlinks are established between Bangalore and major cities such as Hubli, Belgaum, Gulbarga, Mysore, Shimoga and Mangalore, the transportation of horticultural products can be streamlined without much of losses in transit.

8.10.2: Productivity of Flowers

44. Within horticulture, floriculture is particularly an emerging industry in the country. Karnataka has already shown its vast potential on this. As compared to the all India acreage of 52417 ha, Karnataka is the leading state with 15243 ha. The production of flowers in Karnataka in 1995-96 was 112420 tonnes. The leading flower producing districts are Kodagu, C. Magalur, Kolar, Tumkur, Mysore, D. Kannada, Belgaum, Shimoga, Dharwad and several others. There are about 20 floriculture companies exporting cut-flowers.

45. As compared to the state average, the districts lagging in the flower productivity are: Kodagu, D. Kannada, Raichur, U. Kannada, Dharwad, Bijapur, Belgaum, and Tumkur.

46. The major problem for the promotion of horticulture is with its infrastructure development. The infrastructural requirements for the promotion of this sector are:

- Collection centres,
- market yards specifically designed for these products,
- cold storage,
- and transport vehicles with cold storage facility.

47. With high cost of electricity, the private sector is unable to bear the cost of refrigeration and storage. Secondly, there are severe environmental regulations binding on the farmers at the time of production (e.g., pesticide controls, use of organic manure etc.). The state government may have to support the private sector taking up a lead in establishing cold storages, transport vehicles, supply of organic manure and seeds etc. through its outlets such as HOPCOMS and KAPPECS. A budgetary provision of Rs.50 crore may be earmarked for this sector's development, as a backlog for adding cold storage to the regulated markets, quick cold chamber transport facilities and also information system to link with the export sector.

Table 8.12: Productivity of flowers in Karnataka (1995-96)

District	Area (Ha)	Production (Tonnes)	Productivity (T/Ha)
Bagalore(U)	1389	8204	5.91
Bangalore(R)	1158	6855	5.92
Chitradurga	971	5735	5.91
Kolar	1376	8095	5.88
Shimoga	1522	8995	5.91
Tumkur	698	3813	5.46
Belgaum	1421	8320	5.85
Bijapur	616	3598	5.84
Dharwad	2265	13267	5.86
U.Kannada	297	1686	5.68
Bellary	1031	6070	5.89
Bidar	338	2024	5.99
Gulbarga	242	1462	6.04
Raichur	428	2474	5.78
C.Magalore	832	4947	5.95
D. Kannada	1098	6409	5.84

Contd...

District	Area (Ha)	Production (Tonnes)	Productivity (T/Ha)
Hassan	1107	6520	5.89
Kodagu	142	787	5.54
Mandya	604	3598	5.96
Mysore	1626	9557	5.88
State	19161	112420	5.87

Note: This data is available only at the level of older districts. No attempt is made to split them into the new districts.

Source: Prof. P.G. Chengappa, Department of Agricultural Marketing & Cooperation, UAS, Bangalore.

8.10.3: People's Voice on horticultural development

47. Views expressed by the people in different districts need to be considered for redressing the problems associated with this sector.

- Invariably, people have expressed the need for special training in horticulture. They also need some facilities such as refrigerated transport system, export avenues etc. This should be particularly taken up in district such as Bellary, Raichur, Bidar, Gulbarga, Belgaum, and Gadag;
- Extension services can also include horticultural activities in relevant districts such as Kolar, Bellary etc.
- Districts such as Mysore, C.R. Nagar, and Shimoga should have facilities to export bananas;
- HOPCOMS network should be expanded to all the districts with potentials for horticulture;
- Coconut research should be extended to Hassan and Tumkur districts;
- Floriculture can be encouraged in C.R. Nagar, C. Magalur, and Kodagu;
- Districts like C.R. Nagar, Kodagu, Mysore have good prospects for fruit crops such as sapota, mango, orange etc.; Also Bijapur and several districts of Gulbarga division for grapes;
- Cashew growth can be encouraged in D. Kannada, U. Kannada, and Udipi districts.
- Gulbarga district (particularly talukas such as Aland, Afzalpur, and Gulbarga) have good potentials for vegetable and horticulture. Special training programmes are require for this.

8.10.4: Lines of Redressal

48. HPC feels that many of these suggestions are the most demanding ones. While developing the sector, these demands and views should be given specific attention. Many of these deficiencies and suggestions were already referred in the recommendations HPC already. Apart from setting up export outlets for floriculture, training centres in places such as Gulbarga, Kodagu, C. R. Nagar and C. Magalur be established on processing of cut-flowers, packaging and marketing.

49. In order to meet the establishment of facilities for horticultural development (including cold storage etc.) and to meet the special requirements to promote floriculture, a total sum of Rs. 100 crore be earmarked for the next five years.

8.11: Development of Sericulture

8.11.1: Historical Development

50. Karnataka is the premier mulberry silk producing state in India. Rearing of silkworms and commercial production of cocoons and silk in Karnataka dates back to the 18th century, when sericulture was patronised by the rulers of the erstwhile Mysore State. Sericulture is practised both under rain-fed and irrigated conditions. Sericulture seems to have started almost 300 years back in Channapatna, at present one of the most backward talukas of the state. The Department of Sericulture was opened in 1913-14 and a Silk Farm established in Channapatna in 1914.

51. Starting from the First Five Year Plan, there has been consistent growth in the sector. By the Ninth Five Year Plan period, as many as 6.65 lakh families are employed in this industry, with over 200 chawkies and touching cocoon production of over 10,000 tonnes. Today Karnataka produces 9000 MT of mulberry silk out of a total of 14000 MT produced in the country, thus contributing nearly 70% of the country's total mulberry silk production. It has the largest area under mulberry cultivation in the country. As much as 1.4 lakh hectares are under mulberry cultivation in this State alone. Unlike the other States, the Department of Sericulture has fully developed infrastructural facilities required to meet the demand of silkworm eggs, through organised seed cocoon growing areas, not only of the State but also of some of the neighbouring states. The State is producing nearly 20 crores of silkworm eggs enabling the farmers to produce about 48,000 MT of cocoons annually.

52. Because of the introduction of new technologies, sericulture, which was earlier confined to a few districts, has now spread to other areas. New varieties of mulberry and new silkworm races have made sericulture more profitable than other crops. The Karnataka Sericulture Project was set up from 1980 to 88 and aimed at establishment of project infrastructure and services. Its performance was said to be satisfactory and it is said to have accelerated the growth of Karnataka's raw silk production from 2900 tonnes in 1980-81 to 4700 tonnes in 1986-87. Today, there are nearly 8 lakh families employed in the sericulture industry in the State. Despite such heavy investment to develop the infrastructure and other technological aspects of the industry, little or no attention has been paid to the growing incidence of child labour in the sericulture industry in the State.

8.11.2: Silk Productivity

53. The main silk regions in the State are the four talukas of Channapatna, Ramanagaram, Kanakapura and Magadi in Bangalore Rural district; and Kollegal taluka of Chamrajnagar district. The current production of silk, area under mulberry are shown in Table 8.13, with some observations below: Specific Talukas with potential on sericulture as identified by HPC FRRI are listed in Table 8.14:

- 54. Major Mulbary producing districts such as Tumkur, Chitradurga and Chamarajnagar lack sufficient Chowki rearing centres. The districts lagging behind the state average in mulberry (cocoon) production are: Bangalore(R), Davangere, Shimoga, C. R. Nagar, C. Magalore, D. Kannada, Kodagu, Udipi, Bagalkot, Belgaum, Bijapur, Dharwad, Haveri, Gadag, U. Kannada, Bidar, Koppal. Gulbarga, and Raichur.

Table 8.13: Silk Production in the State (2000-01)

District	Area Under Mulberry (ha)	Cocoon Production (Tonnes)	Cocoon Productivity (Tonnes/ha)	Raw Silk Production (Tonnes)	Chawki Rearing Centres
Bangalore Division					
Bangalore (U)	1893	15518.44	8.20	166.52	-
Bangalore (R)	21625	1347.18	0.06	1918.22	14
Chitradurga	3340	1715.05	0.51	212.00	-
Davangere	212	84.33	0.40	10.42	21
Kolar	32492	23099.47	0.71	2853.66	21
Shimoga	184	47.08	0.25	5.82	32
Tumkur	11015	6088.38	0.55	752.58	10
Mysore Division					
C. R. Nagar	14004	5020.17	0.36	620.54	1
C. Maglur	158	36.66	0.23	4.53	6
D. Kannada	172	35.12	0.20	4.34	5
Hassan	2012	1046.33	0.52	129.34	26
Kodagu	134	28.93	0.22	4.13	5
Mandya	10349	6506.09	0.63	804.21	12
Mysore*	8698	4200.84	0.48	519.26	-
Udipi	148	19.34	0.13	53.20	6
Belgaum Division					
Bagalkote	303	83.26	0.27	10.29	28
Belgaum	500	205.25	0.41	25.38	36
Bijapur	259	90.59	0.35	11.20	23
Dharwad	136	49.46	0.36	6.11	8
Gadag	163	39.37	0.24	4.87	20
Haveri	208	69.20	0.33	8.53	24
U.Kannada	317	68.72	0.22	9.80	25
Gulbarga Division					
Bellary	541	292.93	0.54	36.21	-
Bidar	75	25.11	0.33	3.10	11
Gulbarga	278	122.12	0.44	15.09	40
Koppal	164	38.99	0.24	4.82	26
Raichur	138	27.65	0.20	3.42	-
N. Karnataka	6121	1724.45	0.28	141.23	270
S. Karnataka	106436	64793.41	0.60	8058.77	159
State Level	112557	66517.86	0.46**	8200	429

*In Mysore district, 29 Chawki rearing centres are added under Mysore Seed Area.
3039 hectares of area under Mulberry is added under Mysore Seed Area.
611.79 MTs of Cocoon production is added under Mysore Seed Area.
53.20 MTs of Raw Silk production is added under Mysore Seed Area.

** : The state average is excluding Bangalore(Urban district)

Source: Department of Sericulture

Table 8.14: Specific Talukas with Potential for Sericulture

Name of the District	Name of the Talukas
Belgaum Division	
Belgaum	Belgaum, Khanapur, Hukkeri, Bailhongal, Soundatti
Dharwad	Dharwad
Uttar Kannada	Bhatkal, Yellapur, Karwar, Ankola, Supa, Sirsi, Kumta, Siddapura, Honnavar, Haliyal, Mundagod
Bangalore Division	
Bangalore (U)	Anekal
Shimoga	Shimoga, Sagara, Hosanagara Thirtahalli, Shikaripura, Soraba
Mysore Division	
C.Magalore	C.Magalore, Mudigere, Shringeri Koppa, Narasimharajapura
Dakshin Kannada	Sulya
Hassan	Hassan, Alur, Belur, Sakaleshpura
Kodagu	Madikeri, Somavarapet, Virajpet
Mandya	K.R.Pet

8.11.3: People's Voice

55. During HPC's close interactions with people of the regions directly associated with sericulture, several major suggestions emerged. They are:

- Establishing training centres in several districts such as Bellary, Koppal (in Yalburga taluka), Mysore, C.R. Nagar;
- Cocoon Centre may be revived in Malvalli taluka of Mandya district;
- Subsidy required for housing cocoon rearing and for multi-basins; This can be considered initially for five years of starting the venture in newer areas.

56. While exploring the potentials of developing sericulture in the talukas mentioned in Table 8.14, the above views of people also be kept in mind. Rough estimate indicates that Rs. 100 Crores be earmarked for the development of the this sector over the next five years.

8.12: Development of Forest Resources

8.12.1: District Level Situation

57. The forest area of Karnataka is of the order of 30.63 lakh hectares, which is about 16.01% of geographical area of the state. The forest rich district of the state are Uttara and Dakshina Kannada, Udipi, Shimoga, C.R. Nagar, C. Magalur and Kodagu. Next come other districts such as Belgaum, Bellary and Dharwad. The forests however are not equally protected and preserved in the state. Table 8.15 shows the categorisation of forests etc.

Table 8.15: Forest areas and types in Karnataka (Thousand hectares)

District	Legal forest area	Dense Forests	Open Forests	Total forest	Total Wastelands
Bangalore Division					
Bangalore (U)	3.30	16.7*	51.5*	68.2*	152.82*
Bangalore (R)	81.27	*	*	*	*
Chitradurga	73.72	3.8*	29.4*	33.2*	195.67*
Davangere	89.92	*	*	*	*
Kolar	70.32	1.2	40.0	41.2	96.82
Shimoga	276.86	402.6	88.8	491.4	69.96
Tumkur	44.98	1.9	38.5	40.4	277.03
Mysore Division					
C. R. Nagar	275.61	*	*	*	45.65
C. Magalur	200.48	295.0	37.7	332.7	83.20
D. Kannada	128.48	276.8*	88.6*	365.6*	55.07
Hassan	54.04	85.4	17.9	103.3	57.13
Kodagu	134.60	327.8	6.3	334.1	11.72
Mandya	24.77	0.6	25.2	25.8	46.73
Mysore	62.85	183.0	163.2	346.2	29.17
Udipi	99.20	*	*	*	29.45
Belgaum Division					
Bagalkote	81.13	*	*	*	*
Belgaum	190.42	91.5	16.8	108.3	144.93
Bijapur	1.98	-*	3.4*	3.4*	217.01*
Dharwad	35.24	39.4*	34.1*	73.5*	24.28
Gadag	32.61	*	*	*	51.37
Haveri	47.45	*	*	*	49.14
U.Kannada	815.06	737.5	42.6	780.2	76.28
Gulbarga Division					
Bellary	97.02	12.3	57.5	69.8	166.39
Bidar	25.09	0.5	4.0	4.5	40.55
Gulbarga	68.76	9.4	9.1	18.5	68.88
Koppal	29.45	*	*	*	*
Raichur	18.17	-*	-*	-*	94.58*
N. Karnataka	1442.38	891.5	167.5	1058.2	933.50
S. Karnataka	1620.39	1594.0	587.1	2182.1	1150.42
State Level	3062.77	2485.5	754.6	3240.3	2083.92

Note :1. Bangalore includes Bangalore (U) and Bangalore(R); Mysore includes C.R. Nagar also;Dharwad includes Haveri and Gadag also;Dakshina Kannada includes Udipi also;Raichur includes Koppal also; Bijapur includes Bagalkot also; Chitradurga includes Davangeri also.

Source: State of Indian Forests (GoI), Karnataka at a Glance (GoK)

58. The satellite data from FRI shows forest cover of the order of 32 lakh hectares, which is more than the legal forest area (according to GoK). The Economic Survey of Karnataka for the year 2000-2001 states the well wooded forest cover to be only 11%, the remaining being degraded. The estimated wastelands including degraded forest lands, grasslands etc., is of the order of 21 lakh hectares. It is this aspect of growing wasteland that needs to be given special attention, to redress the deprivation and disparity in respect of availability of fodder, biomass, fuelwood etc. The wastelands are substantially visible in South Karnataka. HPC FRRI is of the opinion that there is ample scope for promoting wastelands development programmes, some of which have already come to Karnataka under the World Bank supported programmes.

59. Several projects and programmes have been taken up in the past for the development of the forest regions. The Hill Area Development Programme as well as Tribal Area Plans are applicable for the development of these districts. Recently, under financial support from ODA of UK, a major project was undertaken under Western Ghat Development Project. About 61,200 hectares of forest area have been covered under this programme. Under the Joint Forest Management (JFM) Schemes, as many as 1300 Village Protection Committees have been set up in Karnataka covering about 128,00 hectares of forest areas. Conversion of forest area for agriculture, road building, hydel projects, railways, mining etc. have reduced the forest cover in Karnataka by over 10%. The social forestry schemes however, have been continuing, covering degraded forest areas, rehabilitation programmes, and wastelands programmes.

60. Apart from the JFM, the eco-development projects in Nagarhole and in many other areas are essential to protect the rich biodiversity of the state. The ancient methods of protecting forests by the villagers as Devara Kadu and Pavitravana (particularly in Kodagu, C. Magalur districts) are to be encouraged.

61. Forests of Karnataka are also rich in a variety of medicinal and herbal plants. It is time to encourage the private and corporate sectors, particularly involved in pharmaceutical industry to come in a big way and invest on the promotion of such species, protect them, regenerate them. The emphasis on these lines have been minimal so far. Companies such as Arya Vaidya Shala of Kottakal (on senna, vakuchi, Shatawari, coscinium herbs), EID's Parry's (on neem), and Himalaya Drug Co (on Aloe vera, rauwolfia, brahmi, senna etc.) have shown some interest already. Wastelands belonging to the government can be leased to such companies for raising herbal and medicinal plants. One such venture has already come up with Indian Herbs and Horticultural Department of Karnataka Government. Such afforestation programmes will have both employment at the rural level, but also down stream secondary benefits.

62. Tourism linked to the forests in Karnataka has enormous potential, both as income and employment avenues for the local people. Since, forest rich regions are not suitable for any alternative industrial development, the people of such regions need to be provided with some alternative opportunities based on forest resources. As many as 100 additional tourist resorts can be constructed in the forest regions of Malnad. Private sectors can also be encouraged to set up water sports, camping adventure camps etc.

63. It is now realized that till such time when the local communities have not been given their usufruct rights to use forest resources, the regional development would continue to be imbalanced. When the people of Uttara Kannada have asked the HPC to provide wood for burning dead bodies or to provide electric crematoriums (as not much wood is available), it tells the real story of deprivation of the hill areas.

8.12.2: People's Voice

64. HPC has been able to gain some insights into the deprivation of the people from availing NTFP produce from the forests. Some of the major points that need to be considered for the strategy of forest development are:

- Dry taluks such as Nanjangud , K.R. Nagar, Periyapatna of Mysore district can be developed further with better forest cover;
- Social forestry can be still useful in Mysore, C.R. Nagar and Gulbarga districts;
- Agro-forestry be encouraged in C.R. Nagar district;
- Cess on arecanut and forest income can be used to develop forests in Uttara Kannada district;
- Special component plan is required in U. Kannada district for forest conservation;
- In Kolar district, forests can be developed in Bagepally taluka;
- Koppal district can have better forest development;

8.12.3: Direction of development

65. HPC feels that the development of tourism around the forest areas, promoting agro-forestry, and ploughing back part of the cess collections from plantation activities for the development of those regions is worth considering. The scope for forest development should also be based on promoting forest development with participation of the locals. Joint Forest Management, though has been accepted as one possible policy direction, it is heavily dependent upon the external sources of fundings. HPC is of the opinion that, the state can also develop the plantation and regeneration programmes with the assistance and cooperation of the people of the forest region. A sum of Rs. 100 crore be earmarked for this community oriented programme and to develop forest related tourism.