Chapter 9

Animal Husbandry and Fisheries Development[1]

9.1 Animal Husbandry

9.1.1 Livestock Development

1. The livestock population in Karnataka is of the order of 307 lakh in 1997, as against 186 lakh in 1956. On the same lines the poultry sector has grown from 77 lakh to 214 lakh, respectively. Among the livestock, sheep and goats have shown higher growth rates. According to the 1991 Census, in the state as a whole about 617 thousand workers are engaged in livestock and allied activities as the main source of income. State as a whole, has an average of about 48,212 standard cattle units per lakh of rural population in 1997. The result is increased milk, egg, meat and wool productivity. Milk production in Karnataka was 64.40 lakh tonnes, or an average yield of 425 liters per cattle per year. The milk growth rate during 1979 to 2000 was highest with 6.1%, where as the same for eggs was 5.1% and 4.1% for wool production, respectively. The state has emerged as the third largest state in milk production in the country. Several steps were taken in the past to develop this sector. The notable ones are:

- Key Village Centre schemes for cattle development, as a joint venture between the Central and State governments in about 15 centres during 1956-61 period;
- Setting up of several government dairies in urban centres such as Bangalore City, Dharwad and Kudige in the second Plan period, which have multiplied to almost all districts by now;
- Sheep breeding stations at Anagwadi in Bijapur district, at Suttatti in Belgaum district, Guttal in Dharwad district, Kutikuppi in Bellary district, and Munirabad in Raichur district are notable ones towards the development of the wool sector;
- A large number of poultry training centres established adjunct to veterinary hospitals (about 8 in the state);
- The formation of Karnataka Dairy Development Corporation in 1974 gave a boost to cattle development in the state, which was converted in to Karnataka Milk Federation in 1984;
- Establishment of about 7271 milk producing cooperatives spread all over the state, with over 92% of them making profits; Total daily milk procurement touching about 19.52 lakh litres;
- Establishment of Milk Unions in as many as 13 districts.

[1] This section heavily draws upon the data and information provided in a note 'Development of Animal Husbandry in Karnataka' by Dr.H.B. Shetty.

- The Department of Animal Husbandry has undertaken a number of programmes (4497 in total) in different districts and talukas under Special Component Planning, Tribal Sub-Plan, and Spec. Animal Breeding Dev. Programme, Western Ghat Dev. Programme etc.

2. There is a concept of carrying capacity when it comes to the development of livestock sector. There is considerable degree of variation in the livestock population and their productivity in different talukas, districts, and regions, depending upon (a) topographical conditions, and (b) infrastructural conditions. The development of the livestock sector requires three basic infrastructural developments. They are (a) sufficient supply of fodder (and of course water), (b) access to veterinary facilities and amenities for cross breeding, and (c) marketing of milk, collection centres, cold storage or milk chilling plant, etc.

3. Treating the wastelands of all categories including the grasslands, as the relevant area representing the fodder supply, it can be seen that 9 districts such as Hassan, Shimoga, Kodagu, Mandya, Mysore, Udipi, Dharwad, Bidar and Gulbarga are below the state average. However, districts such as Kodagu may be able to make up for the fodder requirements by using the forest biomass. But the districts in the plains of Karnataka require additional schemes to develop fodder supply. Against this back ground, the designated area for fodder development in Karnataka are shown in Table 9.1. Given the livestock population, the area designated for fodder development is not at all sufficient. Mysore, Shimoga, Udipi, Bidar and Gulbarga districts specifically require much more demarcation and development of fodder areas. The wastelands development programme could take up developing more of fodder areas. This aspect of animal husbandry has not received much attention, because of which some marked disparities are visible.

4. Similarly, one can identify the necessary veterinary institutions. Table 9.2 shows the shortage of veterinary institutions at the district levels, with comments about specific taluks, if any.

5. Karnataka as a whole has 3775 veterinary institutions, comprising of 294 hospitals, 1052 dispensaries, 1856 primary vet. centres, 400 A.I. centres, and 173 mobile vet. clinics. On average, there is one veterinary institution per every 4458 cattle units. Using the same norm, districtwise and taluka-wise surpluses and shortages have been worked out and shown in Table 9.2. Significant shortages of veterinary infrastructure are noticed in 13 districts of Bangalore (rural), Chitradurga, Raichur, Koppal, Bidar, Bellary, Belgaum, Bagalkot, Udipi, Hassan, C.R. Nagar, Tumkur, and Shimoga. Of these, the deficiencies are severe in Belgaum, Raichur, Bangalore (Rural) and Bellary districts. At the taluka levels, as many as 83 taluks in the state are short in terms of veterinary institutions. By and large the shortages are more in the talukas of North Karnataka.

6. Apart from the shortages, even several of the existing veterinary units are functionally deficient. The main problems seem to be vacancies of staff to a tune of 30% in group B category, 20% in group C category. Additionally, it is time to create additional posts at group D category , one each at the district levels.

Table 9.1: Sustaining Livestock and Fodder Development

District	Total Livestock (000)	Total Wasteland (000 Ha)	Wasteland/livestock (Ha /Animal)	Area marked for Fodder development (Ha)
Bangalore Division	**17352**	**793**	**0.04**	**4055.84**
Bangalore (U)	1817	NA*	NA*	290.60
Bangalore (R)	4291	153	0.04	837.88
Chitradurga	2043	196	0.09	444.00
Davangere	1786	NA**	NA**	492.10
Kolar	2588	97	0.04	960.89
Shimoga	1894	70	**0.02**	420.00
Tumkur	2933	277	0.09	610.37
Mysore Division	**11390**	**358**	**0.03**	**3595.88**
C. R. Nagar	811	46	0.06	307.00
C. magalur	1041	83	0.08	884.50
D. Kannada	1533	55	0.04	1030.40
Hassan	1855	57	**0.03**	595.34
Kodagu	568	12	**0.02**	151.80
Mandya	2077	47	**0.02**	460.00
Mysore	2057	29	**0.01**	0.00
Udipi	1448	29	**0.02**	166.84
Belgaum Division	**10944**	**562**	**0.05**	**4580.00**
Bagalkot	1721	NA***	NA***	315.00
Belgaum	3475	145	0.04	1419.00
Bijapur	1480	217	0.15	357.90
Dharwad	744	24	**0.03**	970.00
Gadag	832	51	0.06	294.00
Haveri	1393	49	0.04	581.50
U.Kannada	1299	76	0.06	642.60
Gulbarga Division	**10244**	**371**	**0.04**	**1802.43**
Bellary	3164	166	0.05	290.27
Bidar	1321	41	**0.03**	481.63
Gulbarga	2845	69	**0.02**	553.40
Koppal	1450	NA$	NA$	531.50
Raichur	1464	95	0.06	235.90
N. Karnataka	**21188**	**933**	**0.04 (3)**	**6382.43**
S. Karnataka	**28738**	**1151**	**0.04 (6)**	**7651.72**
State Level	**49926**	**2084**	**0.04 (9)**	**14034.15**

Notes: Waste land is defined as the total of the following categories of lands.

*: Included in Bangalore (U); **: included in Chitradurga; ***: included in Bijapur; $:included in Raichur. Details at the taluka levels are presented in Appendix in Part VII of this report, as well as in Chapter Six.

Source: Wastelands Atlas: 2000 (NRSA) and Department of Animal Husbandry.

Table 9.2: Veterinary institutions and shortages

District	Cattle Units (CU)	No. of veterinary institutions VH, VD, PVC, AIC, MVCs			
		Required	Existing	Shortage	Surplus
Bangalore Division	**5183606**	**1160**	**1178**	87	104
Bangalore (U)	245402	55	126		70
Bangalore (R)	1073335	240	188	52	
Chitradurga	598035	135	131	4	
Davangere	647199	144	162		18
Kolar	784206	176	192		16
Shimoga	824297	184	155	29	
Tumkur	1011132	226	224	2	
Mysore Division	**4185842**	**941**	**1026**	43	128
C. R. Nagar	388818	88	75	13	
C. magalur	524031	118	134		16
D. Kannada	429082	96	105		9
Hassan	862578	194	184	10	
Kodagu	194426	43	74		31
Mandya	606204	137	194		57
Mysore	697405	157	172		15
Udipi	483298	108	88	20	
Belgaum Division	**4078375**	**977**	**982**	59	64
Bagalkot	545977	121	117	4	
Belgaum	1308832	293	238	55	
Bijapur	478722	108	121		13
Dharwad	327970	73	100		27
Gadag	341516	78	79		1
Haveri	784206	176	192		16
U.Kannada	564265	128	135		7
Gulbarga Division	**3377860**	**758**	**647**	129	18
Bellary	728783	164	99	65	
Bidar	470626	105	100	5	
Gulbarga	1163174	262	280		18
Koppal	393207	89	74	15	
Raichur	622070	138	94	44	
N. Karnataka	**7456235**	**1735**	**1629**	**188**	**82**
S. Karnataka	**9369448**	**2040**	**2146**	**130**	**236**
State Level	**16825683**	**3775**	**3775**	**318**	**318**

Note: **1.** The details of livestock units at the taluka level are given in Chapter Six;
2: @one institution for 4458 C.U;
3: Similar details on veterinary institutions at the Taluka level are given in the Appendix in Part VII of the Main Report, and Taluka level indices of livestock are given in Chapter Six.

Source: Department of Animal Husbandry

7. Then, there are specific problems due to geographical considerations. For veterinary services, transportation of sick animals is difficult. Particularly, in the hilly areas and Malnad areas, more of Mobile Van Clinics (MVC) should be established. Considering the fact that there are 13 districts or 61 Taluks in Malnad region, a norm of two MVC per taluka may be adopted. The additional MVC will be of the order of 30 as the bare minimum.

Some of the major recommendations for redressal of regional disparity are:

- Encouraging fodder cultivation along with leguminous varieties using wastelands, and also judicious crop rotation. Rough estimate is 20,000 hectares at the state level;
- Creating additional veterinary institutions as indicated earlier, about 318 at the state level, in different taluks;
- Increasing training in animal husbandry, mainly in North Karnataka,
- Developing community grazing,
- Progressive elimination of unproductive animals,
- Providing special assistance to sheep and goat rearers, as they generally are nomadic or come from poorer sections of the society,
- Creating well developed egg markets, with facilities for storage etc.,
- Encouraging more of co-op societies in poultry farming (as against about 67 existing now).

8. The shortages in veterinary services are already shown in Table 9.2. They are not only in terms of veterinary hospitals, but also in other facilities including vehicles for the animals. HPC feels that, the deficiency in North Karnataka to a tune of 188 such institutions (though milk production and dairying is one of the major activities) should not be neglected any longer. Accordingly, an estimated budget requirement for these redressal strategies is of the order of Rs. 70 crore. Development of animal husbandry in the state also requires a good set of veterinary colleges in the state. It is suggested to have one University of Veterinary Sciences established in Bidar, where there is already one veterinary college. An investment of about Rs. 30 crore should be earmarked for this purpose.

9.1.2: Dairy Development

9. Karnataka Milk Federation is at present the only public sector handling the entire operation of milk procurement and distribution in the state. As against a milk production of about 176 lakh litres per day (on average) during 2000-01 in the state, the procurement of milk for processing by KMF is of the order of 20 lakh litres per day. The rest of the milk is either directly consumed or procured by private dairies spread all over the state. There are 17 dairies under KMF with a total capacity of 23.2 lakh litres per day. With a membership of 15.32 lakh members, in 7271 milk producers cooperatives, and 13 Milk Unions, and 42 milk chilling plants, the co-operative sector has proved it to be a productive and profitable venture. But they are not sufficient for meeting the growing demand on milk and milk products. The

capacity of the cooperative sector can be increased atleast by another 100 percent, making way for livelihood for another 15-20 lakh people. Secondly, as pointed out by the World Bank team (in 1987), the throughput of the cooperatives can also be increased substantially. That will also create additional jobs, more efficiency and reduce the costs of the cooperative (or make them profitable).

9.1.3: People's Voice

10. The following additional observations and demands made by various agencies in different districts may also be noted.

- Animal husbandry as a secondary activity needs to be popularized.
- Veterinary hospital services be introduced in every taluka (About 33 centres required in Gadag, Haveri, Belgaum and Dharwad districts, Beltangadi Taluka, Hiriyur taluka, Hosadurga taluka). Also needed are their own buildings (more specifically in Mysore, Shimoga, Haveri and Hassan districts).
- Drug quota be increased in veterinary hospitals.
- Mobile van services for animals be introduced in all veterinary hospitals (e.g., Gadag district and Malnad areas).
- Poultry be encouraged in Raichur district.
- Veterinary college be established in Gadag district.
- Breeding facilities be increased (e.g., Bagalkot district).
- Dairying be encouraged in Bidar, Raichur and Gulbarga districts.
- Fodder development programme is needed.
- Cold storage and milk chilling plants be established in almost all talukas (e.g., Molakalmuru, Gulbarga district).

11. HPC has considered these views of the people and already made the necessary recommendations for establishing veterinary service centres, colleges and universities. Additionally, the development of dairying and poultry sectors is also equally important. Considering the views of the people, and on the basis of rough estimates, the estimated investment required in the development of the dairy sector is Rs. 100 crore.

9.2: Fishery Development

9.2.1: District Level Scenario

12. Karnataka is rich in both marine and inland fishing. The state is endowed with a coastal length of about 300 kms with a continental shelf area of 27,000 sq kms and Exclusive Economic Zone (EEZ) of 87,000 sq kms, and about 3 million hectares of water spread area for inland fishing. The marine fishermen population is about 2 lakh, of whom 85,215 are active fishermen (according to 1991 Census). The districts in which marine fishing is a major

activity are Dakshina Kannada, Uttar Kannada and Udipi. The marine fish production for the year 2000-01 was about 1.66 lakh metric tonnes. However, the estimated potential yield is about 4.5 lakh metric tonnes. Apart from marine sources, the state has about 8000 hectares of brackish water area, of which about 4200 hectares are suitable for shrimp farming.

13. When it comes to inland fishing, Karnataka has about 2000 perennial and about 30,000 seasonal tanks. The major tanks are about 6015 and minor ones are about 19,697. There are about 73 reservoirs with about 2.10 lakh hectares of water spread area. Districts which are prominent and having potential for inland fishing are Shimoga, Tumkur, Mysore and Bellary, and to some extent Belgaum. The inland fish production in the year 2000-01 was 1.26 lakh metric tonnes, as against a potential production of about 3 lakh tonnes. Table 9.3 shows some of the salient features of this sector.

14. Three characteristics of this sector are important to note, both for promotion and redressal of regional disparity in the state. First, fishery is very labour intensive. There are specific communities engaged in fishery over generations (traditional fishermen). Apart from them, newer generations have entered in the processing and trade in this sector. Second, the processing is very important in order to capture the international and domestic markets. Third, the product is perishable. Therefore, specific technical and infrastructural investments and training are required in this sector.

15. Fishery in Karnataka has to grow further, by resorting to processing in a big way. The options such as canned fish, Fish-meal and oil extractions, and quality exporting are the newer avenues of development in this sector. The districts of U. Kannada, D. Kannada and Udipi should have such facilities. Though the total canned fish production has increased, the number of canning companies has in fact declined from 13 in 1971-72 to 7 in 1998. The government may set up schemes to revive many more canning units in the private sector.

16. As far as exporting is concerned, there is the serious environmental regulations and Deep Sea Fishing Regulations that have been inhibiting the producers to go in for exporting on a larger scale. At present, out of 14 processors, only 4 have attained the EU standards, the total exports have gone up from 1281 tonnes in 1990 to 3879 tonnes in 2000. Some training in fish processing, and modernizing the fish transport system are essential for further growth.

17. The cold storages are charging quite high, because of which coastal fishermen go to Kerala for the same facility. This requires some intervention on the part of the Karnataka government, to assist the fishermen in the state.

Table 9.3: Fishery Production and Infrastructure (2000-01)

District	Major and Minor Tanks		Reservoirs		Estimated Fish Production (1999-2000)	Ice Plants		Cold Storage	
	No.	WSA (Ha)	No.	WSA(Ha)		No.	Capacity (M. tonnes)	No.	Capacity (M.Tonnes)
Bangalore Division	**12617**	**169643.62**	**25**	**58921.50**	**53132.58**	**9**	**69**	**6**	**829**
Bangalore (U)	668	9295.00	2	2922.00	4630.15	6	51	6	829
Bangalore (R)	1289	22417.00	3	1215.00	8100.98	-	-	-	-
Chitradurga	320	20540.88	3	9753.00	5263.02	-	-	-	-
Davangere	401	10522.90	2	3624.00	3300.09	2	13	-	-
Kolar	3833	48043.10	2	462.00	4768.54	-	-	-	-
Shimoga	4380	9848.00	9	37867.00	11711.21	1	5	-	-
Tumkur	1726	48979.74	4	3078.00	15358.59	-	-	-	-
Mysore Division	**8091**	**67845.24**	**18**	**48051.00**	**184088.00**	**107**	**1382**	**32**	**1810**
C. R. Nagar	356	7440.00	3	3885.00	1522.60	-	-	-	-
C. magalur	1517	10303.76	2	11634.00	4588.19	-	-	-	-
D. Kannada	108	35.14	0	0.00	81453.23	41	510	19	623
Hassan	3444	24609.00	4	8537.00	5324.21	-	-	-	-
Kodagu	689	446.00	2	1991.00	914.48	-	-	2	44
Mandya	846	15632.94	4	13419.00	8754.82	-	-	-	-
Mysore	1077	9318.12	3	8585.00	12356.37	7	36	2	12
Udipi	54	60.28	0	0.00	69174.1	59	836	9	1131
Belgaum Division	**3838**	**25942.43**	**9**	**52338.00**	**45477.02**	**68**	**938**	**16**	**1177**
Bagalkot	46	2184.99	0	0.00	366.09	-	-	-	-
Belgaum	374	3859.10	3	21728.00	4184.98	9	90	1	40
Bijapur	111	5434.92	1	13048.00	1902.17	3	18	3	30

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District	Major and Minor Tanks		Reservoirs		Estimated Fish Production (1999-2000)	Ice Plants		Cold Storage	
	No.	WSA (Ha)	No.	WSA(Ha)		No.	Capacity (M. tonnes)	No.	Capacity (M.Tonnes)
Dharwad	576	2605.06	1	490.00	1977.84	4	20	-	-
Gadag	249	1040.82	0	0.00	486.64	1	-	-	-
Haveri	1481	7521.79	0	0.00	2203.91	-	-	-	-
U.Kannada	1001	3295.75	4	17072.00	35165.39	51	810	12	1107
Gulbarga Division	**1166**	**29144.06**	**21**	**53746.50**	**23145.29**	**37**	**910**	**2**	**20**
Bellary	175	11289.20	4	40143.00	11489.07	3	18	1	10
Bidar	171	2883.00	3	6686.00	1284.65	2	10	-	-
Gulbarga	438	9518.77	8	6029.50	3329.13	28	862	-	-
Koppal	73	2083.81	4	396.00	3578.52				
Raichur	309	3369.28	2	492.00	3463.92	4	20	1	10
N. Karnataka	**5004**	**55086.49**	**30**	**106084.50**	**68622.31**	**105**	**1848**	**18**	**1197**
S. Karnataka	**20708**	**237488.86**	**43**	**106972.50**	**237220.58**	**116**	**1451**	**38**	**2639**
State Level	**25712**	**292575.35**	**73**	**213057.00**	**305842.89**	**221**	**3299**	**56**	**3836**

Source : Department of Fisheries

9.2.2: People's Voice

18. Some of the major issues raised by the people in different district meetings are summarised here:

- Inland fishery can be taken up in a big way in Raichur district, Sorab and Shikarpur talukas of Shimoga district;
- In districts like D. Kannada and U. Kannada, and Udipi, fishery provides lots of livelihood. For this several strategies are called for: Subsidised kerosene for 'Nadu Doni', preventing polluted water entering the tanks, reexamining the Coastal Zone Regulation in favour of fishermen, setting up of export processing units, cold storages in private sector;
- In Haveri district, tank fishing can be encouraged;
- In the command areas of the Major Irrigation Projects, as much as 63,000 ha. of land have become waterlogged. Traditional and cultured fishing can be encouraged to supplement the livelihood of the land less labourers of those areas.
- The potential for shrimp farming is still not fully exploited.

9.2.3: Towards redressal of hardship

19. Fishery is labour and employment intensive. It provides secondary employment to a large section of people in the regions where this activity is intensive. Karnataka is also a leading state in prawn culture and export of shrimps. There is a very high potential for this sector to grow. Considering these and the views expressed by the concerned people, HPC is of the opinion that, development of cold storages, inland fishery and prawn pond development in the districts mentioned above, promoting shrimp culture etc., would require Rs. 70 crore as additional budget allocation in the areas mentioned above during the coming five years.