			Hyptis suaveolens	*Rantulro*	Lamiaceae

Table 5-16: Mammals found in the Area of Influence of different components of the project

Sl. No.	Species	Common Name	Family	Conservation status as per IUCN	Schedule as per WPA-1972
1	*Canis aureus*	Golden Jackal	Canidae	LC	Sch. II, Part I
2	*Herpestes edwardsii*	Common Mongoose	Herpestidae	LC	Sch. II, Part I
3	*Suncus murinus*	House Shrew	Soricidae	LC	-
4	*Ratufa indica*	Squirrel	Sciuridae	LC	Sch. II, Part I
5	*Bos indicus*	Hallikar	Bovidae	-	-
6	*Canis familiaris*	Dog	Canidae	-	-

Table 5-17: Avifauna found in the Area of Influence of different components of the project

Sl. No.	Species	Common Name	Family	Conservation status as per IUCN
1	*Corvus splendens*	House Crow	Corvidae	Least Concern
2	*Columba livia*	Rock Dove	Columbidae	Least Concern
3	*Bubulcus ibis*	Cattle Egret	Ardeidae	Least Concern
4	*Ardeola grayii*	Indian Pond-Heron		Least Concern
5	*Merops leschenaulti*	Chestnut-headed Beeeater	Meropidae	Least Concern
6	*Accipiter badius*	Shikra	Colubridae	Least Concern

5.3 Socio-economic Environment

The latest available data has been complied to delineate the baseline socioeconomic profile in study area. The data base thus compiled from secondary sources of various official records, viz. Census records, District statistical abstract, Primary Health Centers etc. and primary data collection through field survey as well as the observations by survey team study period include:

- Demographic structure
- Infrastructure base road network, communication, electricity,
- Education
- Health Status
- Economic attributes
- Socio economic status with reference to quality of life
- Awareness and opinion of people about the proposed project

Demographic data (2011 census) of Raichur district is given below

- Total population : 19,24,773
- Percentage share of State population : 3.16%

- Male : 9,66,493
- Female : 9,58,280
- Population density : 228 per km^2
- Population growth (Decadal) : 15.51%
- Rural population : 13,37,359
- Urban population : 4,87,414
- Sex ratio : 992 females/1000 males
- Scheduled castes : 4,00,933
- Scheduled tribes : 3,67,071
- Average literacy : 60.46%

(Source: Census India 2011, www.census11.com)

There has been an increase in the number of households in Raichur district from 2001 to 2011 and the same in rural and urban areas show an increasing trend as well. The overall household size has decreased from 5.6 in 2001 to 5.3 in 2011. This trend of decrease in household size has been the same in all the five subdistricts viz., Lingsugur, Devadurga, Raichur, Sindhnur, Manvi. The sex ratio for adults for the Raichur district has increased in rural as well as urban levels, and for the five taluks coming under the purview of this project also the adult gender sex ration has increased from 2001 to 2011 census of India data. But the child sex ratio has a negative trend in all the five taluks from 2001 to 2011 Census of India data as evident from table 5.18 and 5.19.

The overall gender ratio has increased from 983 in 2001 to 1000 in 2011 census for the Raichur district. The rural gender ratio has increased from 992 to 1004 and the urban gender ratio has increased from 958 to 989 for the same period of time. The child sex ratio for Raichur district has decreased from 964 in 2001 to 950 in 2011 census.

Table 5-18: Demographic profile of five taluks of Raichur district

Name	Level	No. Of Household		Total Population		Male Population		Female Population		Gender Ratio		Household Size	
		2001	2011	2001	2011	2001	2011	2001	2011	2001	2011	2001	2011
Raichur	District	297775	363853	1669762	1928812	841840	964511	827922	964301	983	1000	5.6	5.3
Lingsugur	Taluk	54074	68478	321042	385699	162628	194363	158414	191336	974	984	5.9	5.6
Devadurga	Taluk	36709	48437	222457	280606	112245	140165	110212	140441	982	1002	6.1	5.8
Raichur	Taluk	81265	98867	435380	498637	220675	249556	214705	249081	973	998	5.4	5.0
Manvi	Taluk	59964	71599	330719	370670	166063	184163	164656	186507	992	1013	5.5	5.2
Sindhnur	Taluk	65763	76472	360164	393200	180229	196264	179935	196936	998	1003	5.5	5.1

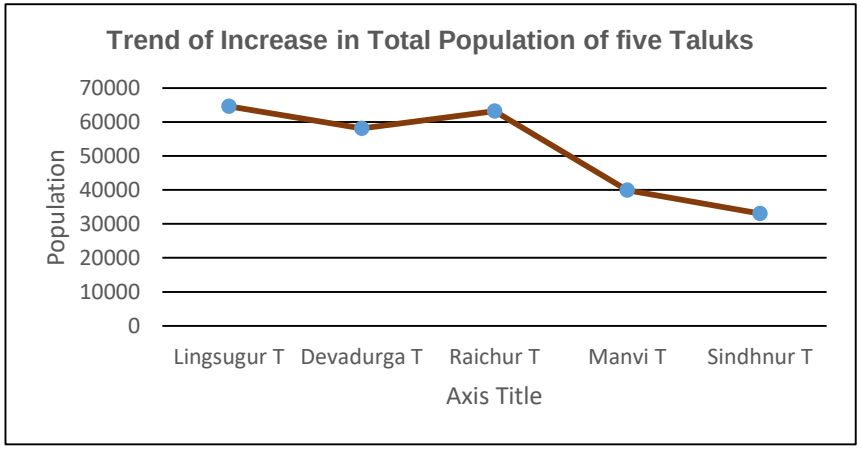

Fig 5.10: Trend of Increase in Total Population of five taluks

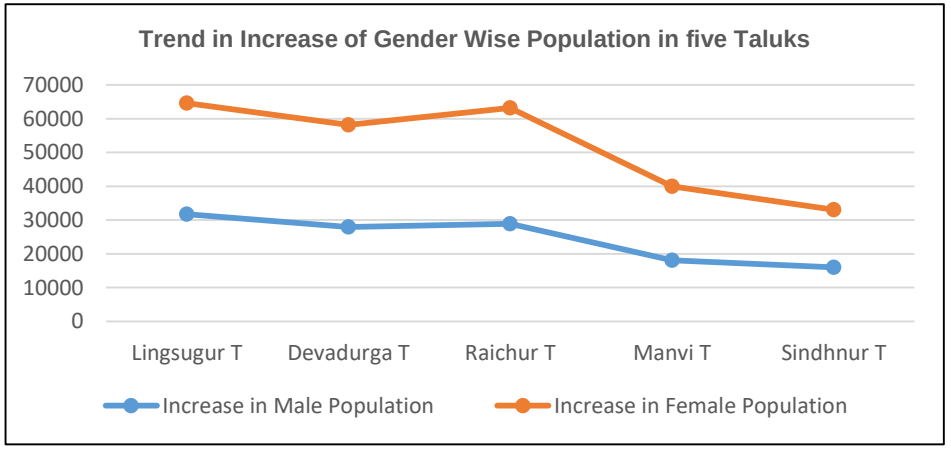

Fig 5.11: Trend of Increase in Gender wise Population of five taluks

Table 5-19: Child Sex Ratio of Raichur district

Level	Name	Population under 6 years		Population of Male under 6 years		Population of Female under 6 years		Child Sex Ratio	
		2001	2011	2001	2011	2001	2011	2001	2011
D	Raichur	**283068**	**283733**	**144097**	**145468**	**138971**	**138265**	**964**	**950**
T	Lingsugur	57107	59851	29233	30775	27874	29076	954	945
T	Devadurga	40747	46118	20687	23502	20060	22616	970	962
T	Raichur	65369	70440	33329	36189	32040	34251	961	946
T	Manvi	57460	53649	29159	27455	28301	26194	971	954
T	Sindhnur	62385	53675	31689	27547	30696	26128	969	948

Table 5-20: Vulnerable Population (Schedule Caste SC, Schedule Tribe ST) of Raichur District

Level	Name	Total Population		% of SC Population		% of ST Population	
		2001	2011	2001	2011	2001	2011
District	Raichur	1669762	1928812	19.00	20.79	18.15	19.03
Taluk	Lingsugur	321042	385699	21.31	23.25	15.99	17.01
Taluk	Devadurga	222457	280606	19.94	21.55	33.67	34.40
Taluk	Raichur	435380	498637	18.98	21.03	11.97	12.67
Taluk	Manvi	330719	370670	18.82	21.06	23.57	24.06
Taluk	Sindhnur	360164	393200	16.56	17.26	12.97	13.37

The SC population of the Raichur district formed 19.00% of the entire population of the district in 2001, which has increased to 20.79% of the entire population. The ST population formed 18.15 % of the entire population of the district in 2001, which increased to 19.03 % in 2011 census (**Table 5.20**).

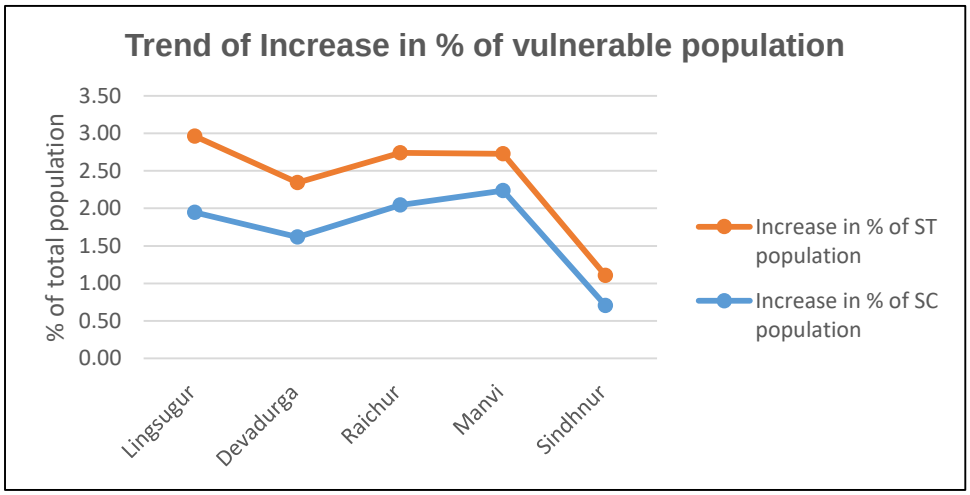

Fig 5.12: Trend of Increase in % of Vulnerable Population in five Taluks

Table 5-21: Literacy rates in rural and urban population of Raichur District

Level	Name	TRU	Total Literacy Rate		Male Literacy Rate		Female Literacy Rate	
			2001	2011	2001	2011	2001	2011
D	Raichur	Total	40.53	50.80	50.99	59.85	29.90	41.75
Taluk	Lingsugur	Total	41.94	51.65	53.80	61.47	29.77	41.67
Taluk	Devadurga	Total	31.27	41.36	40.87	50.33	21.48	32.40
Taluk	Raichur	Total	47.22	55.97	56.79	64.35	37.38	47.57
Taluk	Manvi	Total	34.97	46.77	44.97	55.77	24.89	37.90
Taluk	Sindhnur	Total	42.02	53.93	53.22	63.13	30.81	44.75

The total literacy rate in Raichur district has increased from 40.53% in 2001 to 50.80% in 2011, male literacy has increased from 50.99% to 59.85% and female literacy rate has increased from 29.90% to 41.75% for the same period (**Table 5.18**).

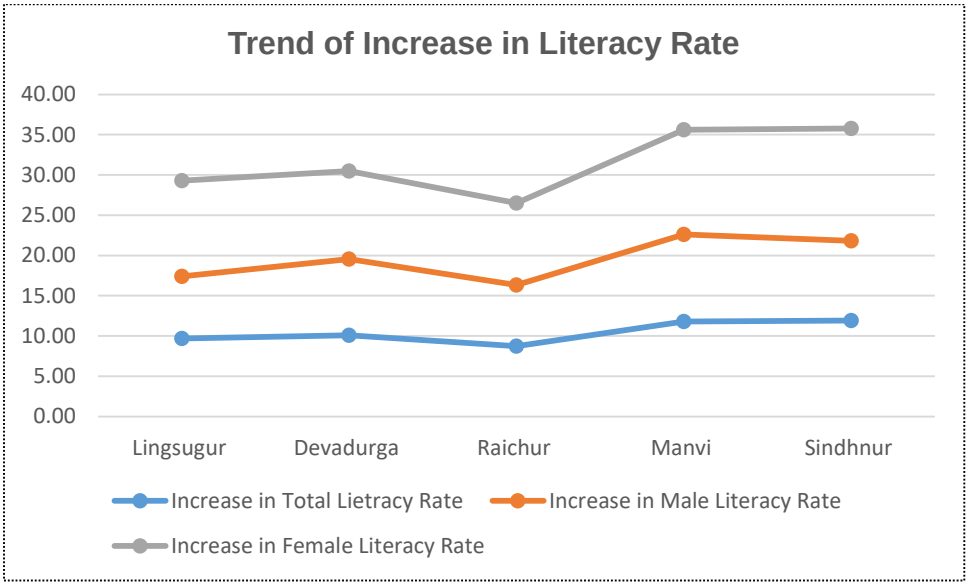

Fig 5.13: Trend of increase in literacy rates at taluk level

Table 5-22: Work Force Participation in Raichur district

Level	Name	% of Total Worker		% of Main Worker		% of Marginal Worker		% of Non-Worker	
		2001	2011	2001	2011	2001	2011	2001	2011
D	**Raichur**	**43.88**	**46.84**	**74.29**	**80.36**	**25.71**	**19.64**	**56.12**	**53.16**
Taluk	Lingsugur	42.69	44.44	64.68	75.29	35.32	24.71	57.31	55.56
Taluk	Devadurga	40.04	49.57	62.15	81.63	37.85	18.37	59.96	50.43
Taluk	Raichur	41.03	43.82	83.34	81.08	16.66	18.92	58.97	56.18
Taluk	Manvi	48.40	49.52	79.18	80.21	20.82	19.79	51.60	50.48
Taluk	Sindhnur	46.63	48.54	74.28	83.31	25.72	16.69	53.37	51.46

- The work force participation in Raichur district is given in table 5.22. The percentage of total workers has increased from 43.88% in 2001 to 46.84% in 2011, the increase in rural areas for the same period was from 47.99% to 50.54% and in urban areas it was from 31.70% to 35.98%.
- On one hand there was an increase in the percentage of main workers, on the other there was a decrease in percentage of marginal workers and non-workers from 2001 to 2011 census. In case of main workers, the percentage of agricultural labourers has increased from 2001 to 2011 and the percentage of cultivators, household workers and others has decreased from 2001 to 2011.
- In case of marginal workers, the percentage of agricultural laborer's has decreased from 2001 to 2011 and the percentage of cultivators, household workers and others has increased from 2001 to 2011 census.

Table 5.23 to **5.26** shows the status of infrastructure in Raichur district according to the 2011 Census of India.

Table 5-23: Education Facilities in Raichur District census 2011

Education Facilities in Raichur District census 2011	
Govt Primary School (Numbers)	1375
Private Primary School (Numbers)	308
Govt Middle School (Numbers)	883
Private Middle School (Numbers)	229
Govt Secondary School (Numbers)	239
Private Secondary School (Numbers)	140
Govt Senior Secondary School (Numbers)	73
Private Senior Secondary School (Numbers)	66
Govt Arts and Science Degree College (Numbers)	2
Private Arts and Science Degree College (Numbers)	5

Table 5-24: Medical Facilities in Raichur District census 2011

Family Welfare Centre (Numbers)	218
Maternity and Child Welfare Centre (Numbers)	0
T.B. Hospital/ Clinic (Numbers)	0
Dispensary/Health Centre (Numbers)	2
Hospital Allopathic (Numbers)	7
Veterinary Hospital (Numbers)	0
Nursing Home (Numbers)	7
Community Health Centre (Numbers)	4
Primary Health Centre (Numbers)	54
Primary Health Sub Centre (Numbers)	205

Table 5-25: Bank Facilities in Raichur District Census 2011

Nationalized Bank (Numbers)	45
Private Commercial Bank (Numbers)	13
Co-operative Bank (Numbers)	47
Agricultural Credit Society (Numbers)	83
Non-Agricultural Credit Society (Numbers)	231
Commercial bank	52

Table 5-26: Drinking Water Supply in Raichur District Census 2011

Tap	522
Uncovered Well	529
Covered well	81
Hand pump	786
Tube well	560
Tank	286

Water Supply Situation at Taluk Level:

The number and percentage of households having main source of water supply in the five taluks for this project is provided in table 5.27.

Table 5.27: Villages with drinking water supply in five taluks

Source: Census of India 2011

No. Of Villages With Drinking Water Supply								
Name	TRU	Tap Water		Well		Handpump	Botehole/Tube Wells	Tanks
		Treated	Untreated	Covered	Uncovered			
Lingsugur	Village	4	96	5	162	183	183	75
Devdurga	Village	42	143	19	131	169	91	20
Raichur	Village	225	259	78	171	468	253	128
Manvi	Village	39	120	20	108	158	96	69
Sindhnur	Village	12	75	7	80	130	109	73

Table 5.28: Number and Percentage of Households with main source of drinking water supply in five taluks

Source: Census of India 2011

No & % Of HH With Main Source Of Drinking Water Supply																
Name	TRU	No. Of HH	Tap Water from Treated Source		Tap Water from Untreated Source		Covered Well		Uncovered Well		Handpump		Tubewell/Borewell		Tanks	
			HH	%	HH	%	HH	%	HH	%	HH	%	HH	%	HH	%
Lingsugur	Rural	51402	7328	14.26	17894	34.81	493	0.96	6213	12.09	5434	8.07	1124	18.01	1204	1.79
	Urban	15931	13111	82.3	1673	10.5	45	0.28	231	1.45	5369	10.45	11601	22.57	1201	2.34
Devdurga	Rural	42505	8475	19.94	9871	23.22	687	1.62	4293	10.1	7798	18.35	7859	18.49	461	1.08
	Urban	4927	2438	49.48	607	12.32	28	0.57	107	2.17	1066	21.64	594	12.06	54	1.1

Raichur	Rural	47767	18880	39.53	12158	25.45	237	0.5	1832	3.84	6658	13.94	4313	9.03	1359	2.85
	Urban	50023	41020	82	6178	12.35	298	0.6	62	0.12	303	0.61	1142	2.28	430	0.86
Manvi	Rural	62011	16258	26.22	15938	25.7	628	1.01	2257	3.64	5784	9.33	9739	15.71	5810	9.37
	Urban	9161	5672	61.91	2382	26	43	0.47	37	0.4	360	3.93	397	4.33	124	1.35
Sindhnur	Rural	60589	13413	22.14	13314	21.97	266	0.44	1126	1.86	6183	10.2	5608	9.26	12.269	20.25
	Urban	15021	11559	76.95	1380	9.19	62	0.41	66	0.44	650	4.33	623	4.15	342	2.28

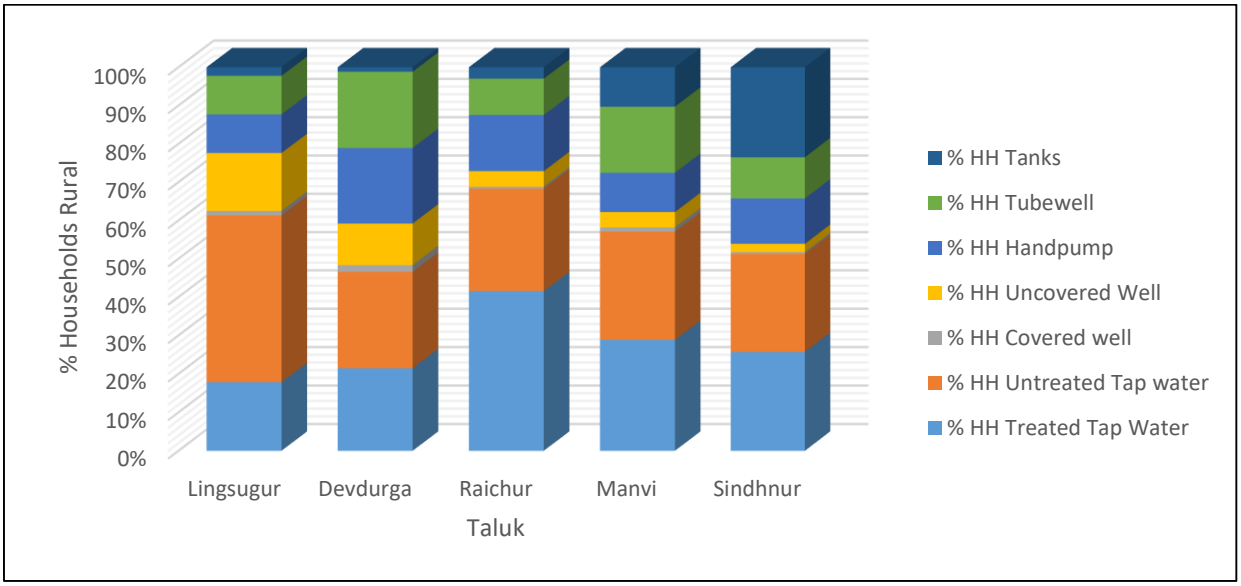

Fig 5.14: % Rural Households having different forms of Drinking Water Supply

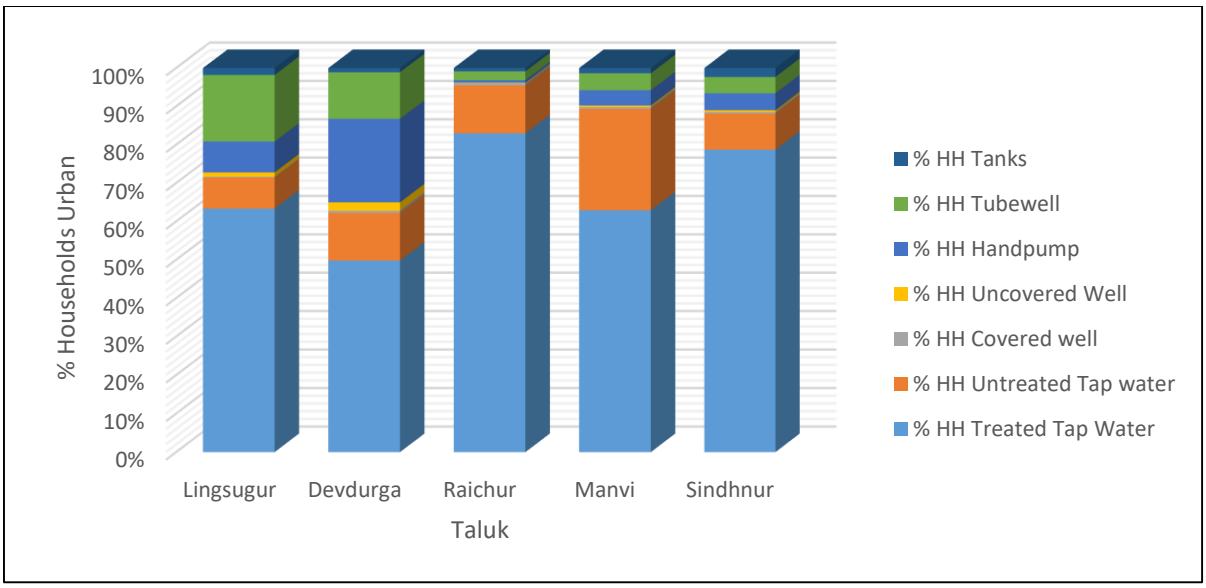

Fig 5.15: % Urban Households having different forms of Drinking Water Supply

Observation and Interpretation:

- In Lingsugur taluk, the number of villages that get treated and untreated tap water are 4 and 96 respectively, similarly the number of villages for untreated tap water in Devadurga, Raichur, Manvi and Sindhnur taluks are 143, 259, 120 and 75 respectively.
- The villages receiving treated tap water in these taluks are very smaller in number when compared to the number of villages receiving treated tap water. Similarly the number of villages having covered wells is much less than number of villages having uncovered wells (table 5.27).
- The number of villages having handpumps in Lingsugur, Devadurga, Raichur, Manvi and Sindhnur taluks are 183, 169, 468, 158 and 130 respectively, similarly for tanks the numbers are 75, 20, 128, 69 and 73 respectively.
- As evident from table 5.27, in rural Lingsugur untreated tap water forms the main source of drinking water supply and in case of urban Lingsugur, treated tap water forms the main source of drinking water supply.
- The primary source is similar in rural and urban Devadurga taluks as well. In Raichur, Manvi and Sindhnur taluks, for both rural and urban situations treated tap water forms the main source of drinking water supply (Figures 5.14 and 5.15).

6. SOCIO-ECONOMIC STUDY & NEED ASSESSMENT

The primary socio-economic study has been carried out within the study area to understand the social, cultural and economic condition of the people, social impact of the project and identification of social needs of habitants. The entire district was taken as the study area. The detailed socio-economic survey on village level along with the focus group discussions were done in 11 villages including Gonala, Kalamaal, Vatgal, Kannapurhatti, Adavibhavi, Kansavi, Karadhakal, Kesarhatti, Hirejavur, Wandali and Honnali within the study area. While sampling for the villages, care was taken to ascertain that the villages act as a representative of the total study area. The sample villages were decided on the basis of their proximity to the location of the water reservoir, forest area , and whether they are located on a govt. land or private land, as there may be indirect impact of the project.

The rationale for the project is the trend of safe drinking water crisis that the district faces regularly and its quality, thereby necessitating the establishment of a large-scale surface water treatment and supply facilities.

6.1 Study Method

6.1.1 Focused Group Discussion

Focused Group Discussion (FGD) with different groups of villagers were undertaken to understand the overall scenario of the villages, including the aspirations and desires of the community. An effort was made to cover participants across caste, gender, income and age, so as to get a comprehensive and complete picture of the area. In the FGD, major issues pertaining to health, nutrition, hygiene, livelihood, income generating activities, access to safe drinking water, education, menstrual issues faced by women etc. were covered.

6.1.2 Informal Discussion with the Villagers

Informal discussions were held in groups and individually with the villagers. It was planned to have at least two informal discussions in each surveyed village with different social groups. These meetings were generally held on a spontaneous basis in common areas where people gathered such as markets, temples, shops, chaupal, etc. Usually there were 5 -10 participants chosen at random in these meetings and there was no particular focus of the interaction. An attempt was made to identify the general problems of the villagers and community needs from these interactions.

6.1.3 Village Level Survey

A form was filled at village level in order to understand the overall socio-economic status of the village with respect to habitation, religion and social groups, agricultural practices, sources of water supply, sanitation facilities, availability of potential earning opportunities in the vicinity, community institutions (schools, anganwadi centers, health sub-centers, community centers, places of worship, etc.), availability of electricity, etc. For this project, 11 villages were surveyed to get a representative knowledge of the area. The villages chosen were a representative of the entire study area.

6.1.4 Discussion With the Chief officers of ULBs:

In many areas of the districts, Urban local bodies are responsible for supplying the water to the habitants. To understand the situation of the urban areas in the district, extensive discussions with the Chief officers were held on topics including the source of water supply, the quality and quantity of water, the condition of OHTs, the incidence of water-borne diseases, etc. The opinions of the

officers were also noted down to understand the way the project can improve the overall situation. For this, discussions were held at 3 different ULBs i.e. Sirwar, Kavital and Hatti to get an overview of the study area.

6.1.5 Discussion With the Government Officials of Raichur District:

The government officials have a very important role to play in protection of good quality of water supply, understanding the gaps and addressing the issues. The drinking water supply is directly or indirectly linked to different departments including the officials from Rural Water Supply & Sanitation, District Health & Family Welfare, Agricultural, Medical institutes including the community hospitals, educational institutes and the Karnataka Bhagya Jal Nigam Limited. Different Questionnaires were prepared to identify the issues faced by different departments in the district due to inadequacy of water supply. An overall view was gathered about the district and its water crisis from these discussions.

Figure 6.1: Study Method

Figure 6.2: Discussion with The Villagers

6.1.6 Analysis Of Data

The following procedure was adopted for the content analysis of the qualitative data.

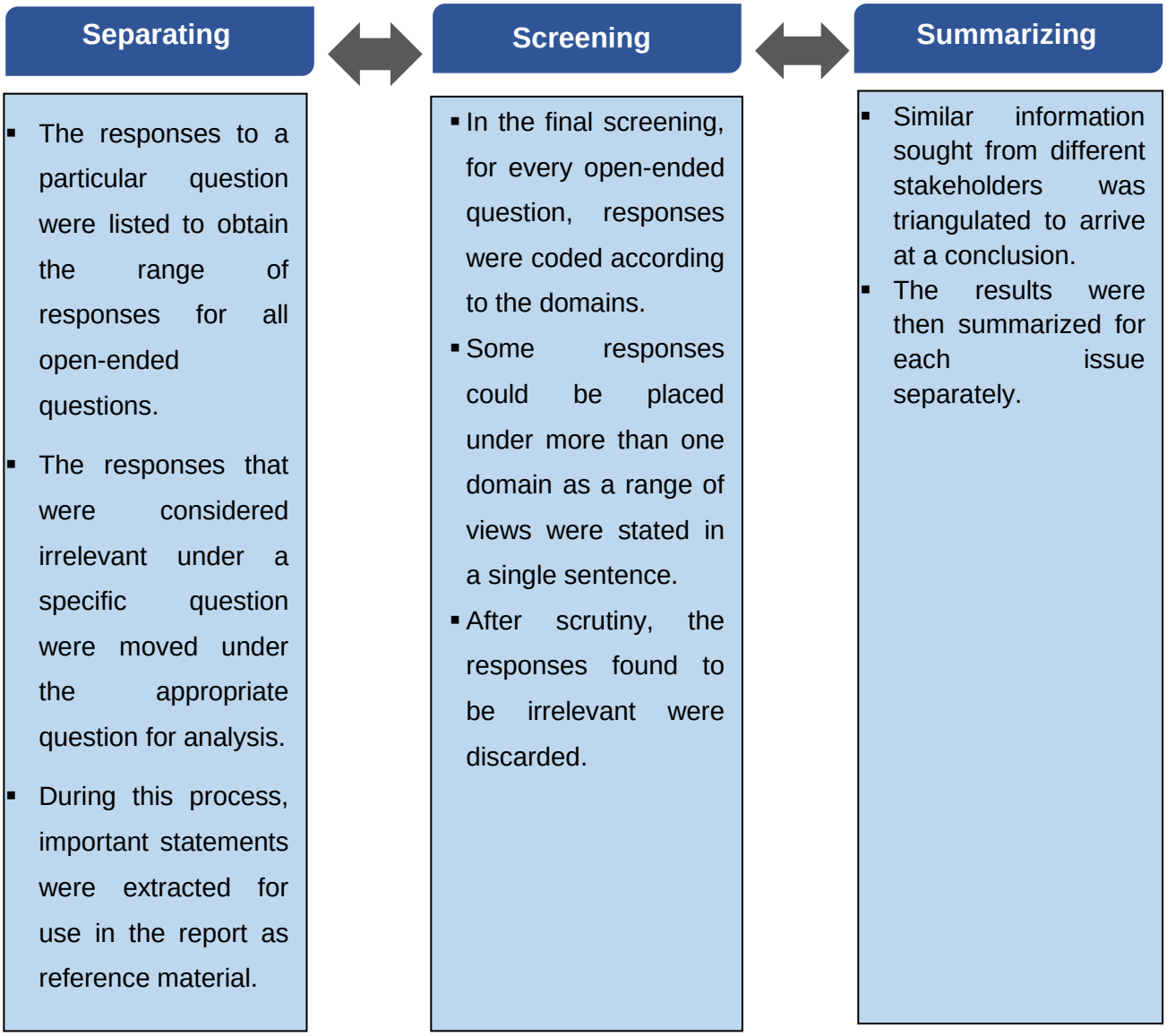

Figure 6.3: Analysis of Data

6.2 Socio-economic Features In District Level

6.2.1 Demographic Characteristics

The total population of the Raichur district is 19,28,812 and ranks as the 10th most populous district in the state. The rural population and the urban population are around 14,38,464 and 4,90,348 respectively. The district ranks 8th in terms of rural population and 13th in terms of urban population.

The sex ratio for the overall population of the 5 talukas in the district is 1000 females for 1000 males for the year 2011 and 983 females for 1000 male in 2001, which is higher than the national average of 940 females.

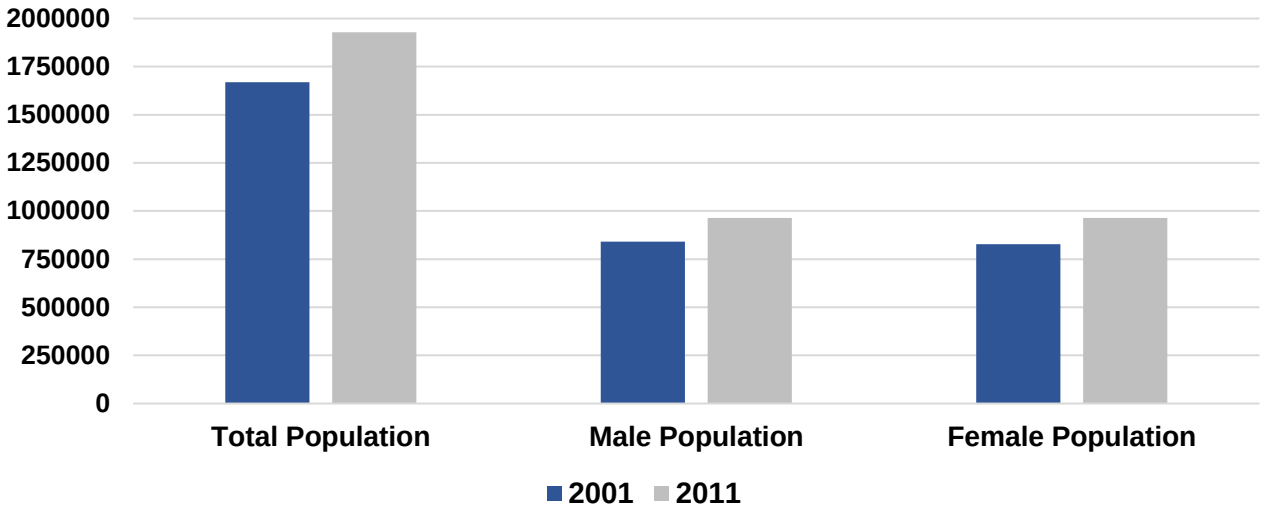

Figure 6.3: Demographic Characteristics

Source: Census 2011 & 2001

6.2.2 Household Details

1.

The average household size in the district is 5.3 in 2011 and 5.6 in 2011.

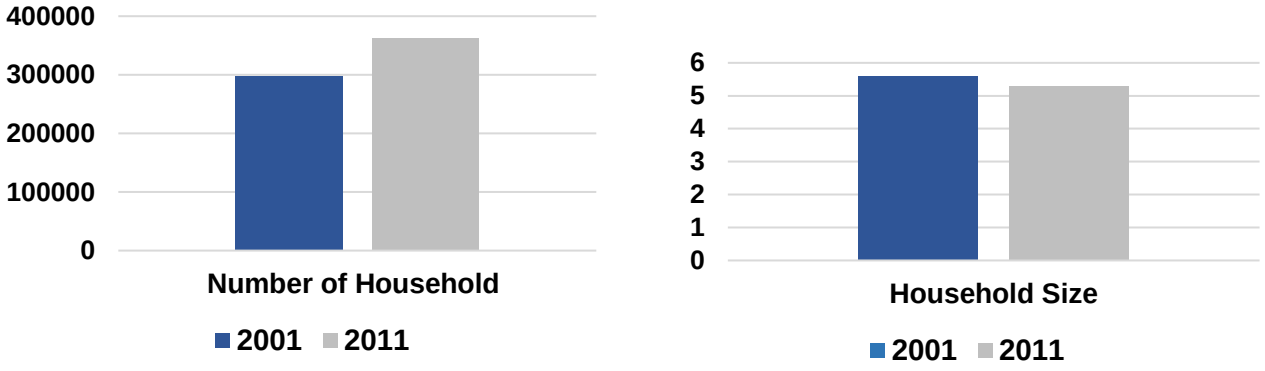

Figure 6.4: Household Details

Source: Census 2011 & 2001

6.2.3 Caste Structure

The total population of scheduled caste is 4,00,933 and for the scheduled tribe it is 3,67,061. An estimated 20.8% of the district comprises of scheduled castes, while scheduled tribes constitute of 19% of the population. The sex ratio among the scheduled caste and schedule tribe are 1001 and 1015 respectively in the district.

Table 6-1: Caste Structure of The District

Year	Total Population	SC Population	ST Population
2011	1928812	400933	367071
2001	1669762	317276	303042

Source: Census 2011 & 2001

6.2.4 Literacy Rate

One of the most alarming facts about Raichur district is that it is placed at penultimate rank in terms of literacy rate in the state at 59.6%, as per census 2011. The male-female literacy gap in the district is 21.8%, which is higher than the male-female gap registered by the state at 14.4%.

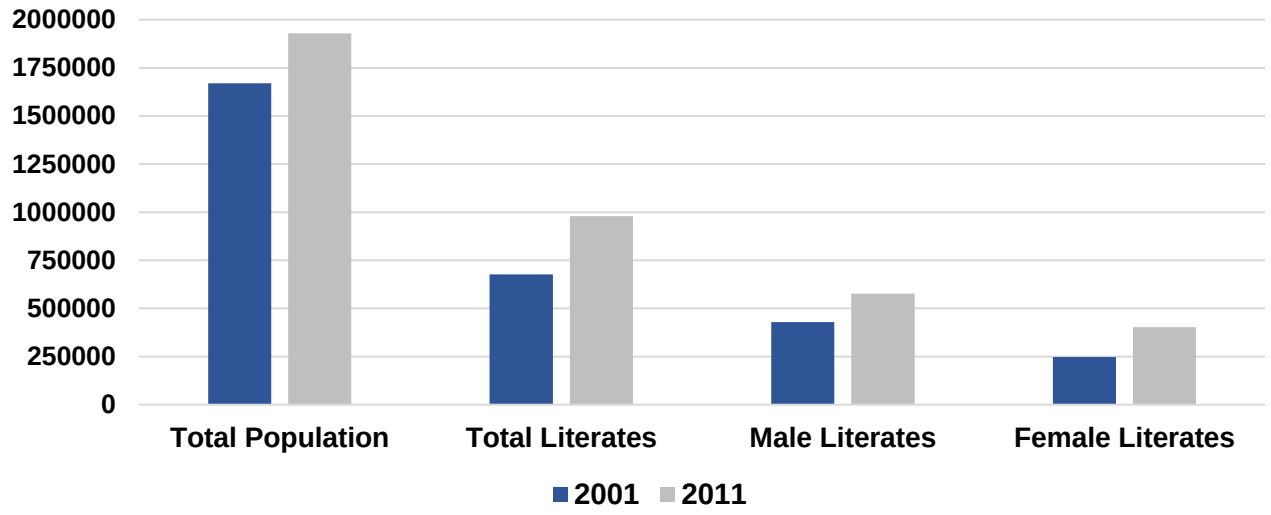

Figure 6.5: Literates of District

Source: Census 2011 & 2001

6.2.5 Occupational Structure

Agriculture is the major source of economy and employment for the people in the district. There are not many industries in the district but it has a good potential to emerge as a strong industrial base as it possesses abundant natural resources.

Workforce participation in Raichur is 46.8% overall. For male and female, the workforce participation rate is 55% and 38.7% respectively. Cultivators constitute 27.2% of the main work force in the district, while the agricultural laborer constitute 42.5%.

Table 6-2: Occupational Structure of The District

Year	Total Population	Total Workers Population	Total Non-workers Population	% of Total Workers	% of Non-workers
2011	1928812	903413	1025399	46.83	53.16
2001	1669762	732762	937000	43.88	56.11

Source: Census 2011 & 2001

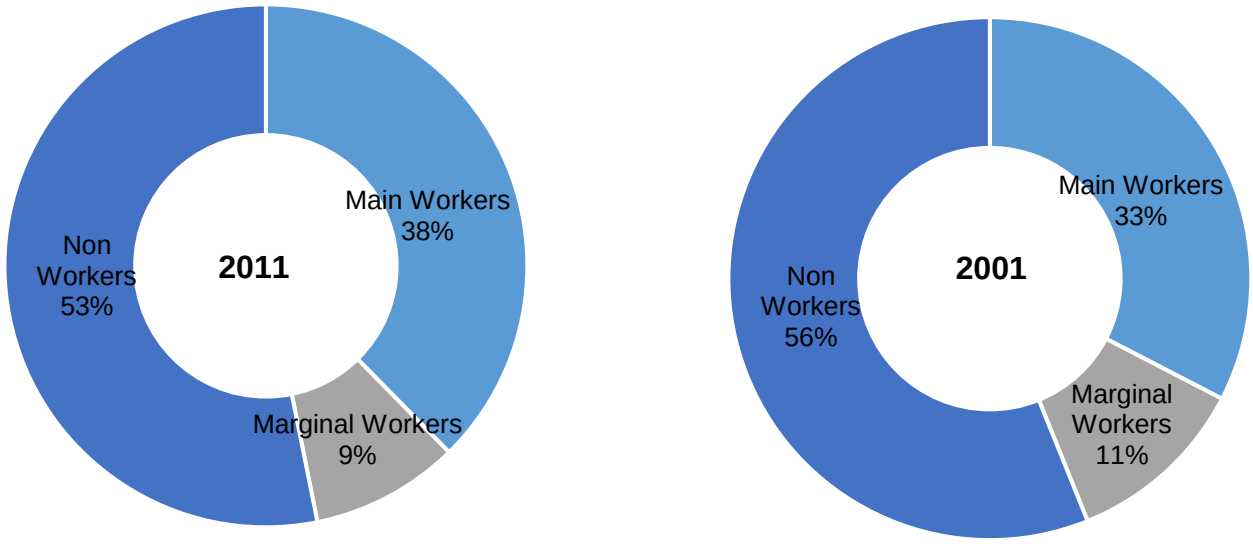

Figure 6.6: Main Workforce & Marginal Workforce Participation Rate

Source: Census 2011 & 2001

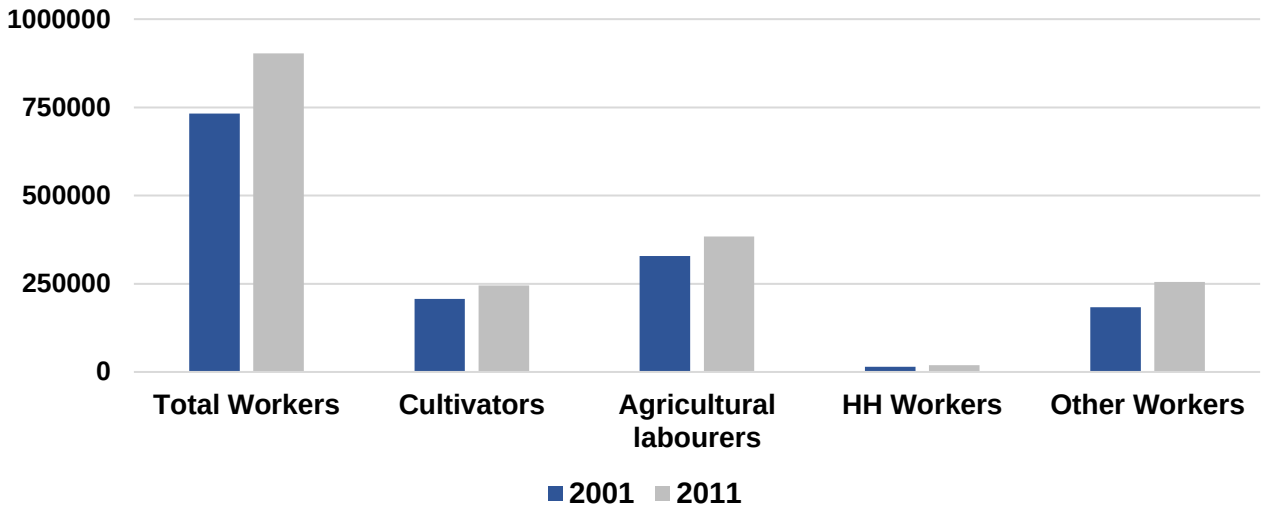

Figure 6.7: Types of Workers in the District

Source: Census 2011 & 2001

6.2.6 Infrastructure Facilities

Educational Facility

Education of the children plays a very vital role in the development of the society. The educated children will not only be able to look after themselves and their families but also will be able to bring change in the social environment by doing away with customary taboos that are actually a hindrance for the betterment of the society. The rural areas of India lag behind in educational status, not only because of lack of facilities but also indifference of people towards education. A number of factors such as poverty, children being engaged in various activities for earning a livelihood or household chores, girls being engaged in taking care of younger siblings, lack of awareness about value of education, social evils like child marriage, alcoholism, betting, etc. are responsible for aversion towards education.

It has been observed from NFHS (National Family Health Survey) that the educated females prefer going to doctors than availing traditional health services. Proper education can help improved child mortality rate, maternal health, nutritional intake etc of the people.

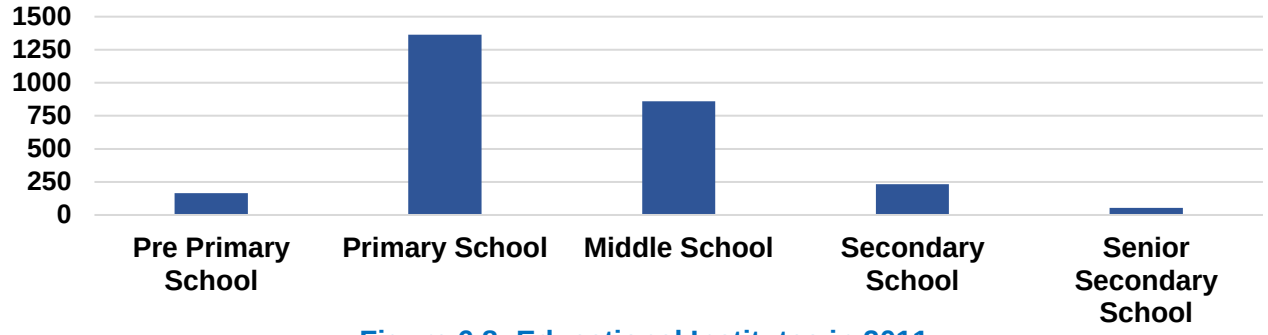

Figure 6.8: Educational Institutes in 2011

Source: Census 2011

Healthcare Facility

Provision of health care facilities and the extent of their utilization is one of the indices of human development. In this area it was found that the health facilities were not functioning properly and it was designated as one of the main problems of the area. The common diseases reported in the study area are stomach ailments, fever, malaria, dysentery, diarrhea, anemia (women) and breathing problems. Cases of tuberculosis are also reported, although of less frequency.

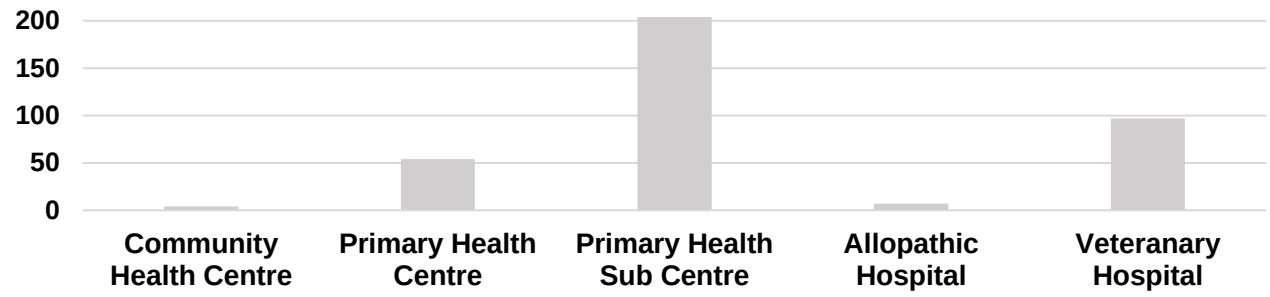

Figure 6.9: Healthcare Facilities in 2011

Source: Census 2011

6.3 Socio-economic Features In Taluka Level

6.3.1 Demographic Characteristics

There is total 5 talukas in the Raichur District i.e. Raichur, Lingsugur, Manvi, Devadurga and Sindhnur. According to the census 2011, the total population of the district is 1928812 and in 2001 is 1669762. Most of the population stays in the rural areas.

The distribution of the population is shown in the chart below:

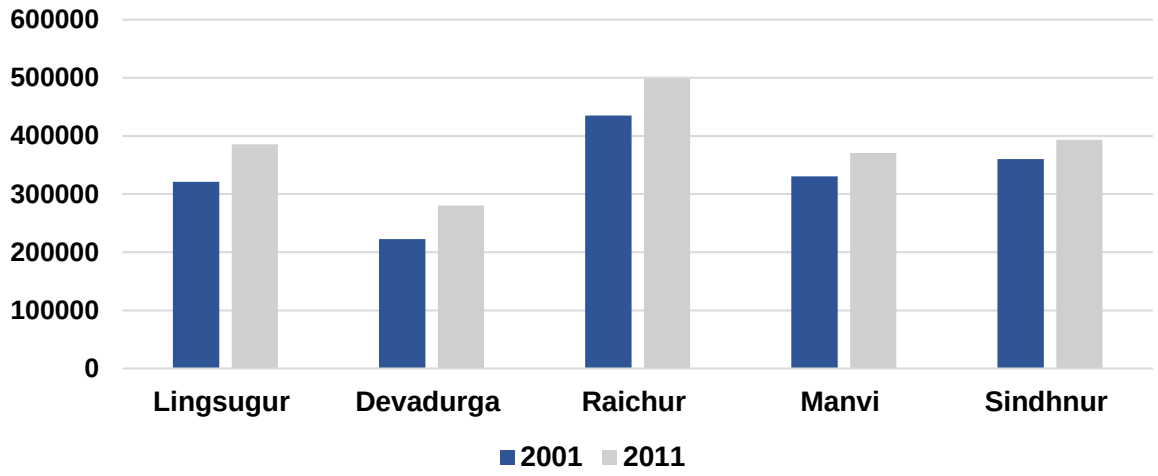

Figure 6.10: Total Population In 5 Talukas

Source: Census 2011 & 2001

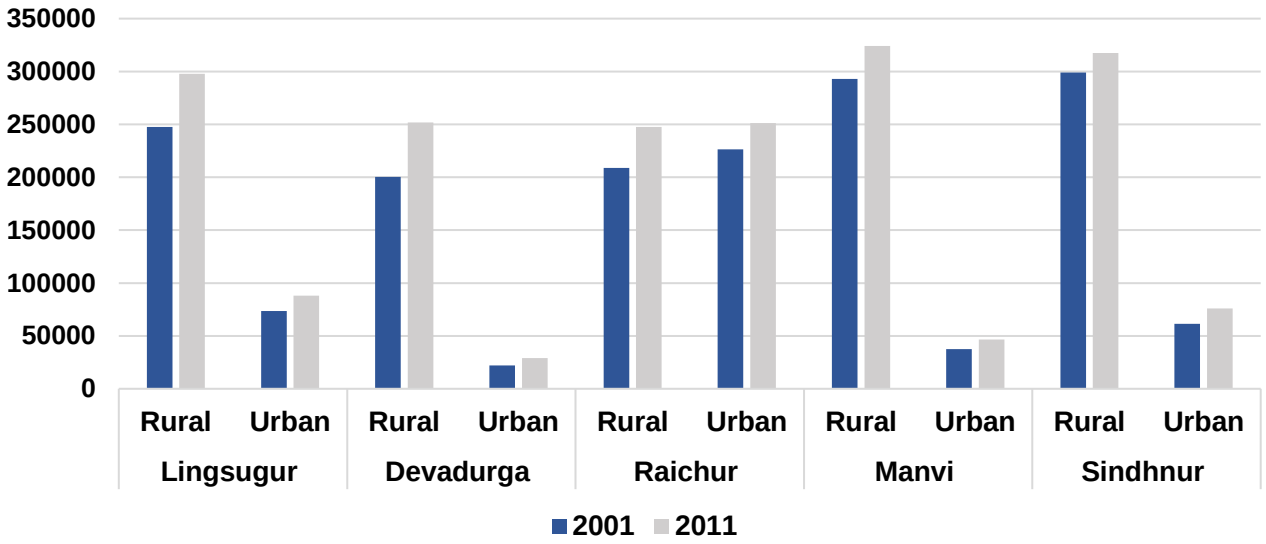

Figure 6.11: Urban & Rural Population In 5 Talukas

Source: Census 2011 & 2001

The male female ratio in the talukas are quite good. Among all the talukas, Raichur has the highest no of females followed by Sindhnur and Lingsugur. The average gender ratio in the all the 5 talukas are more than the national average i.e. 940 females per 1000 males.

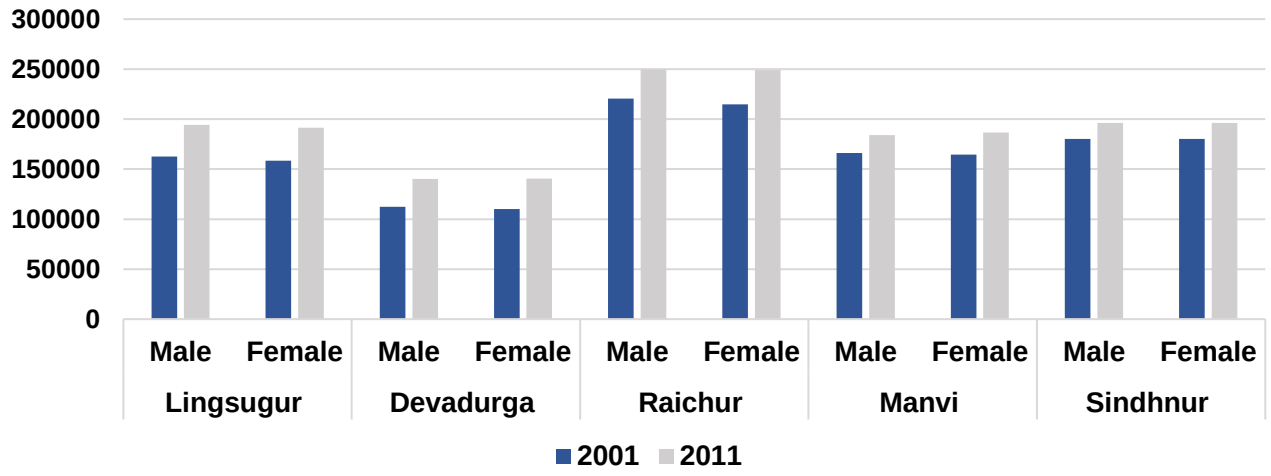

Figure 6.12: Male & Female Population In 5 Talukas

Source: Census 2011 & 2001

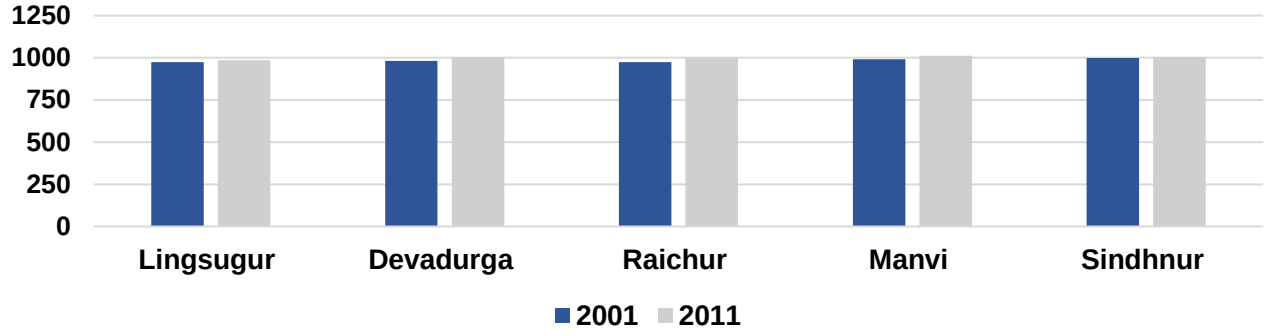

Figure 6.13: Gender Ratio In 5 Talukas

Source: Census 2011 & 2001

The child population in the district is 283733 in 2011 and 283063 in 2001. So there has not been much increase in terms of child population.

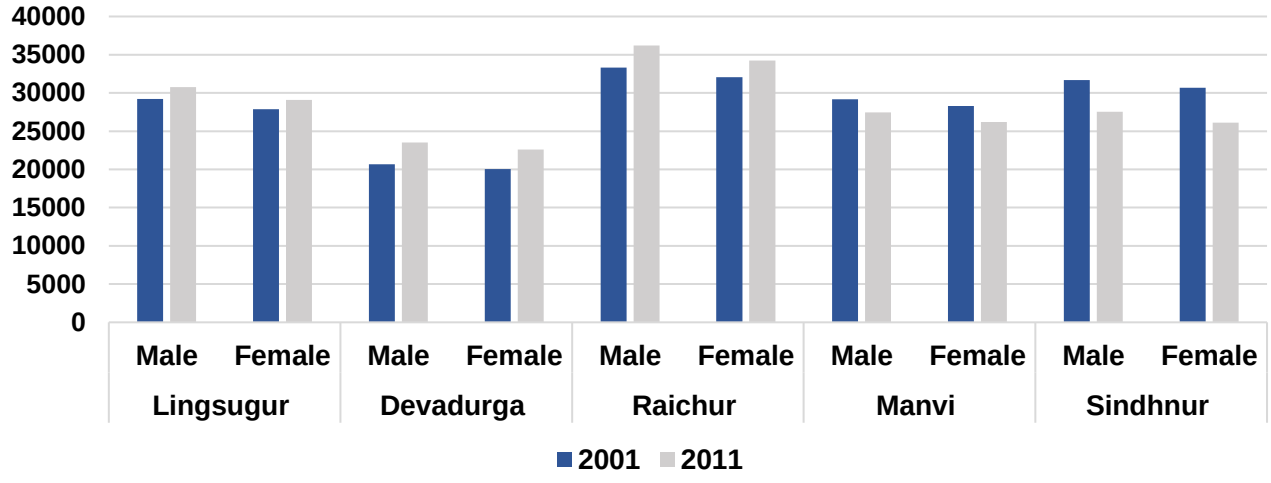

Figure 6.14: Male & Female Child Population In 5 Talukas

Source: Census 2011 & 2001

6.3.2 Household Size & Household Composition

The maximum no. of HH can be seen in Raichur followed by Sindhnur and Manvi. Devadurga has the least no. of household but the average HH size is highest among all the talukas.

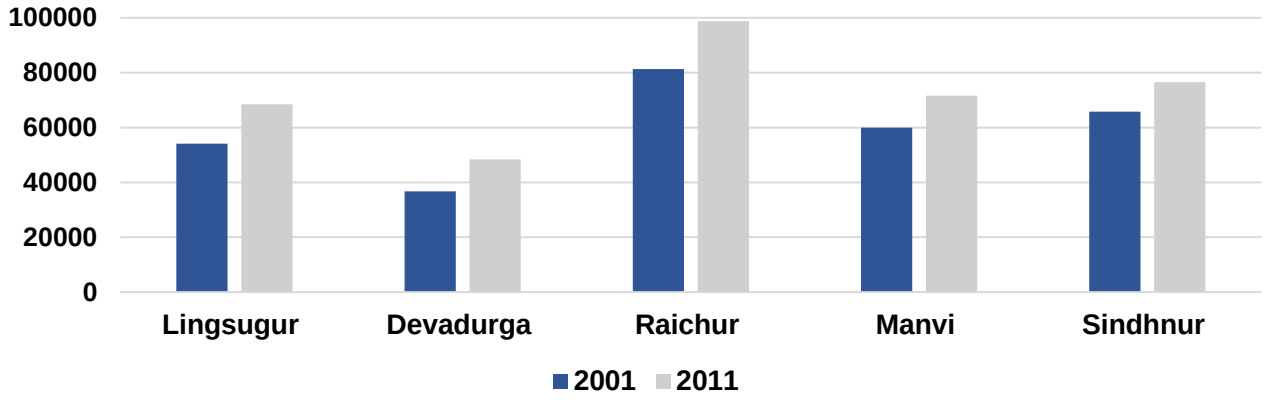

Figure 6.15: No. Of Household In 5 Talukas

Source: Census 2011 & 2001

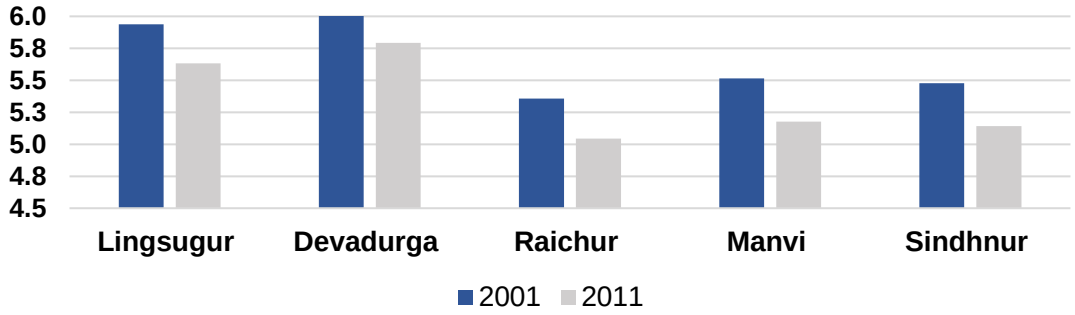

Figure 6.16: Household Size In 5 Talukas

Source: Census 2011 & 2001

6.3.3 Caste Structure

Among the 5 talukas, Raichur has the most no. of SC people and Devadurga has the most no of ST people. There has been an increase in overall %. of SC & ST population from 2001 to 2011.

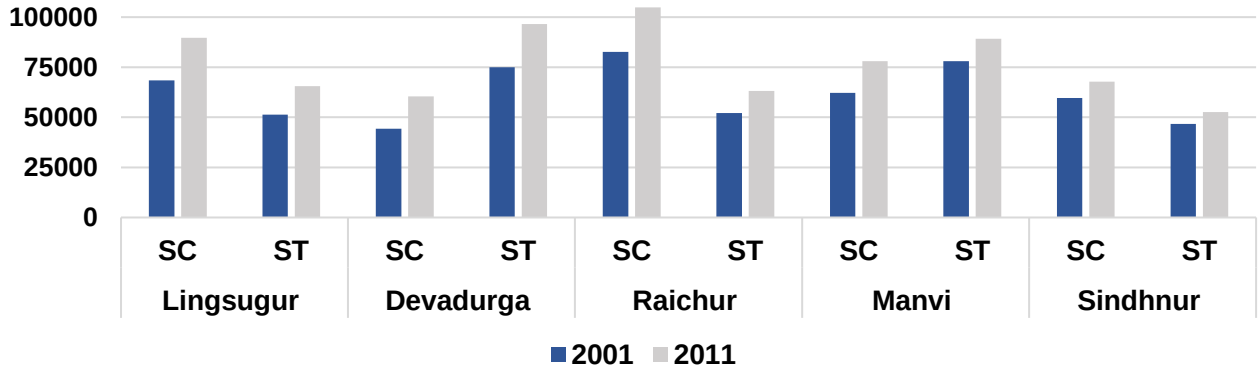

Figure 6.17: Vulnerable Population In 5 Talukas

Source: Census 2011 & 2001

6.3.4 Literacy Rate

An alarming fact about the district is its poor literacy rate. Raichur has the highest literacy rate according to 2011 i.e., 56.79%, followed by Sindhnur at 53.93% and Lingsugur at 51.65%. Devadurga has the poorest literacy rate. Raichur also has highest male as well as female literacy rate among all the talukas.

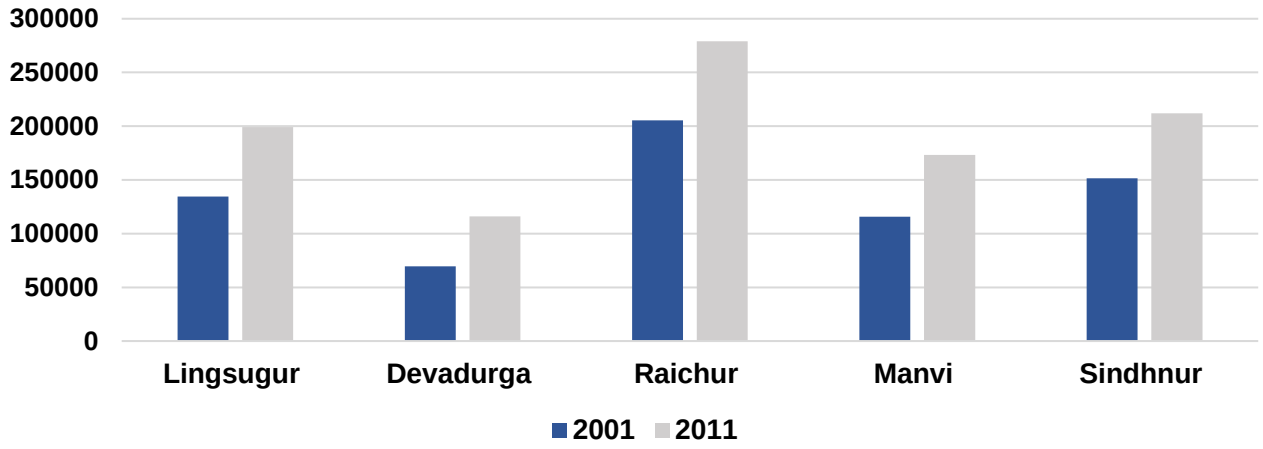

Figure 6.18: Literacy Rate In 5 Talukas

Source: Census 2011 & 2001

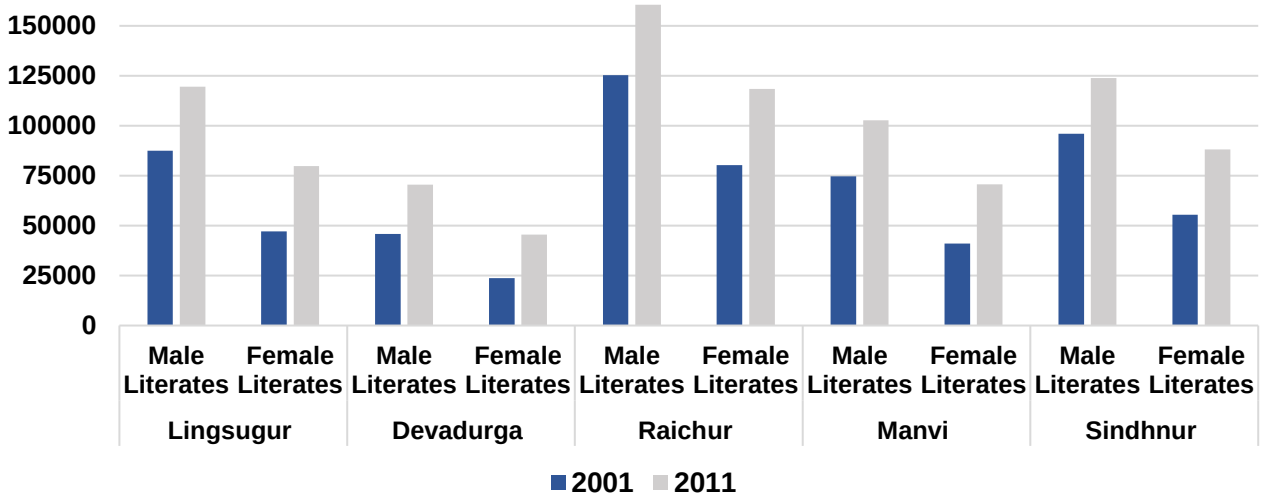

Figure 6.18: Male & Female Literates In 5 Talukas

Source: Census 2011 & 2001

6.3.5 Occupational Structure

Workforce participation is highest in Devadurga at 49.57% followed by Manvi at 49.52%. Raichur has the highest percentage of non-workers among all the talukas. Cultivators in Devadurga constitute 40.83% of the main work force which is highest among the 5 talukas.

Table 6-3: Workforce Participation Rate in 5 Talukas

Name	Total Worker		Main Worker		Marginal Worker		Non-Worker	
	2001	2011	2001	2011	2001	2011	2001	2011
Lingsugur	137050	171402	88642	129046	48408	42356	183992	214297
Devadurga	89069	139095	55352	113537	33717	25558	133388	141511
Raichur	178632	218491	148867	177158	29765	41333	256748	280146
Manvi	160076	183551	126742	147226	33334	36325	170643	187119
Sindhnur	167935	190874	124744	159018	43191	31856	192229	202326

Source: Census 2011 & 2001

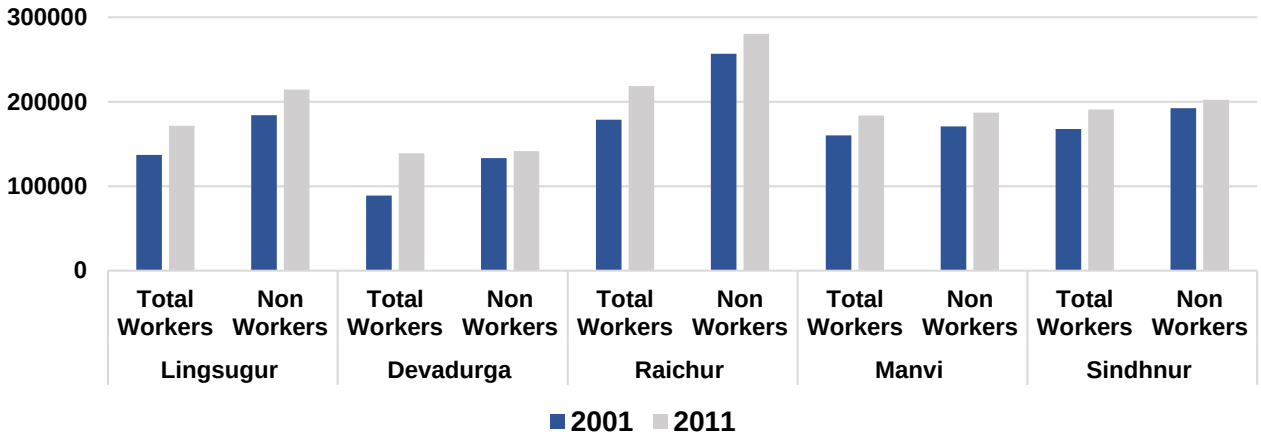

Figure 6.19: Workforce In 5 Talukas

Source: Census 2011 & 2001

It can be seen that from 2001 to 2011, the no. of workers has increased but the no. of non-workers also increased significantly. In all the 5 talukas, the no. of non-workers is greater than the workers.

According to Census 2011 Lingsugur has the highest no. of marginal workers at 42,356 but it got reduced from 2001, which was 48,408. In all the talukas, the no. of agricultural labourers got significantly reduced from 2011 to 2001. At the same time, percentage of other workers got increased significantly from 2001 to 2011.

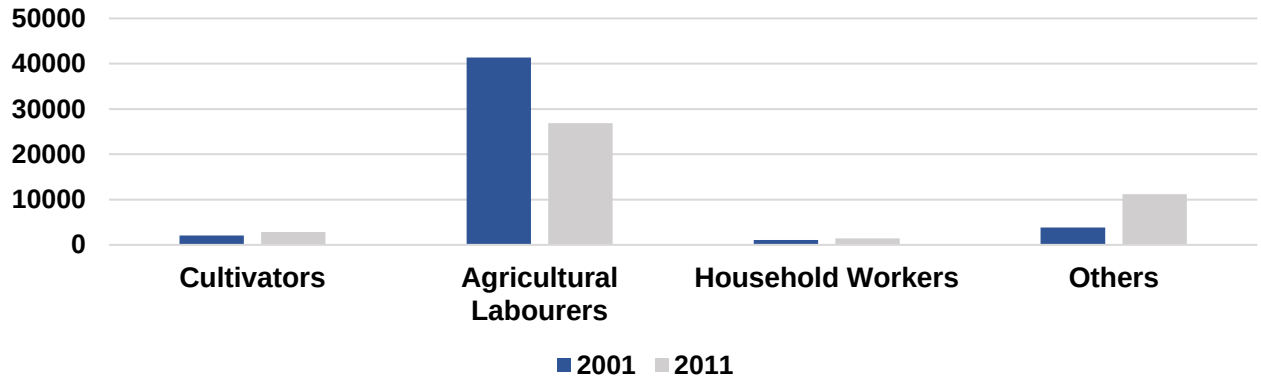

Figure 6.20: Marginal Workers in Lingsugur Taluka

Source: Census 2011 & 2001

Figure 6.20: Marginal Workers in Devadurga Taluka

Source: Census 2011 & 2001

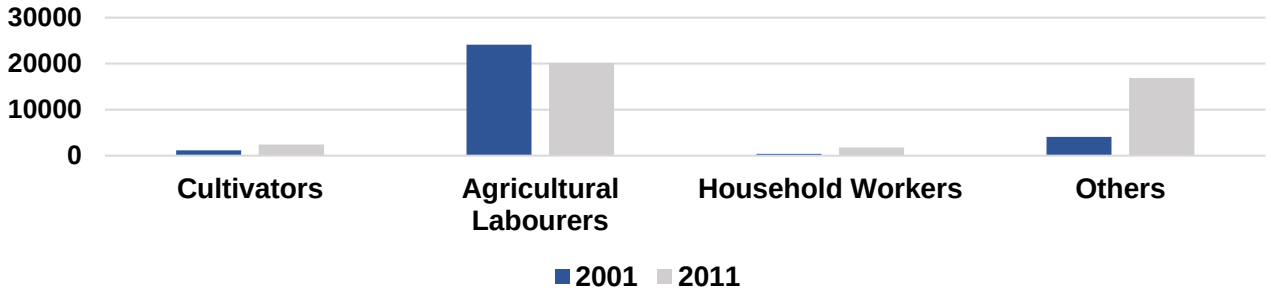

Figure 6.21: Marginal Workers in RaichurTaluka

Source: Census 2011 & 2001

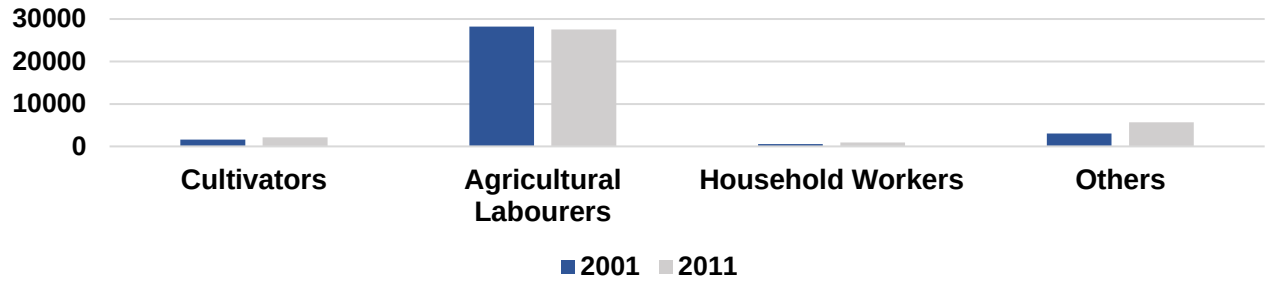

Figure 6.22: Marginal Workers in Manvi Taluka

Source: Census 2011 & 2001

Figure 6.23: Marginal Workers in Sindhnur Taluka

Source: Census 2011 & 2001

6.4 Socio-economic Features in Village Level

There are 11 villages within the study area where the detailed village level survey has been done in order to assess the condition of drinking water supply. The villages are **Gonala, Kalamaal, Vatgal, Kannapurhatti, Adavibhavi, Kansavi, Karadhakal, Kesarhatti, Hirejavur, Wandali and Honnali**. Village level survey, focused group discussions and consultation with the Gram Pradhans are done in these villages. However, the secondary baseline data collection as per Census 2011 was collected from Census of India as per the villages.

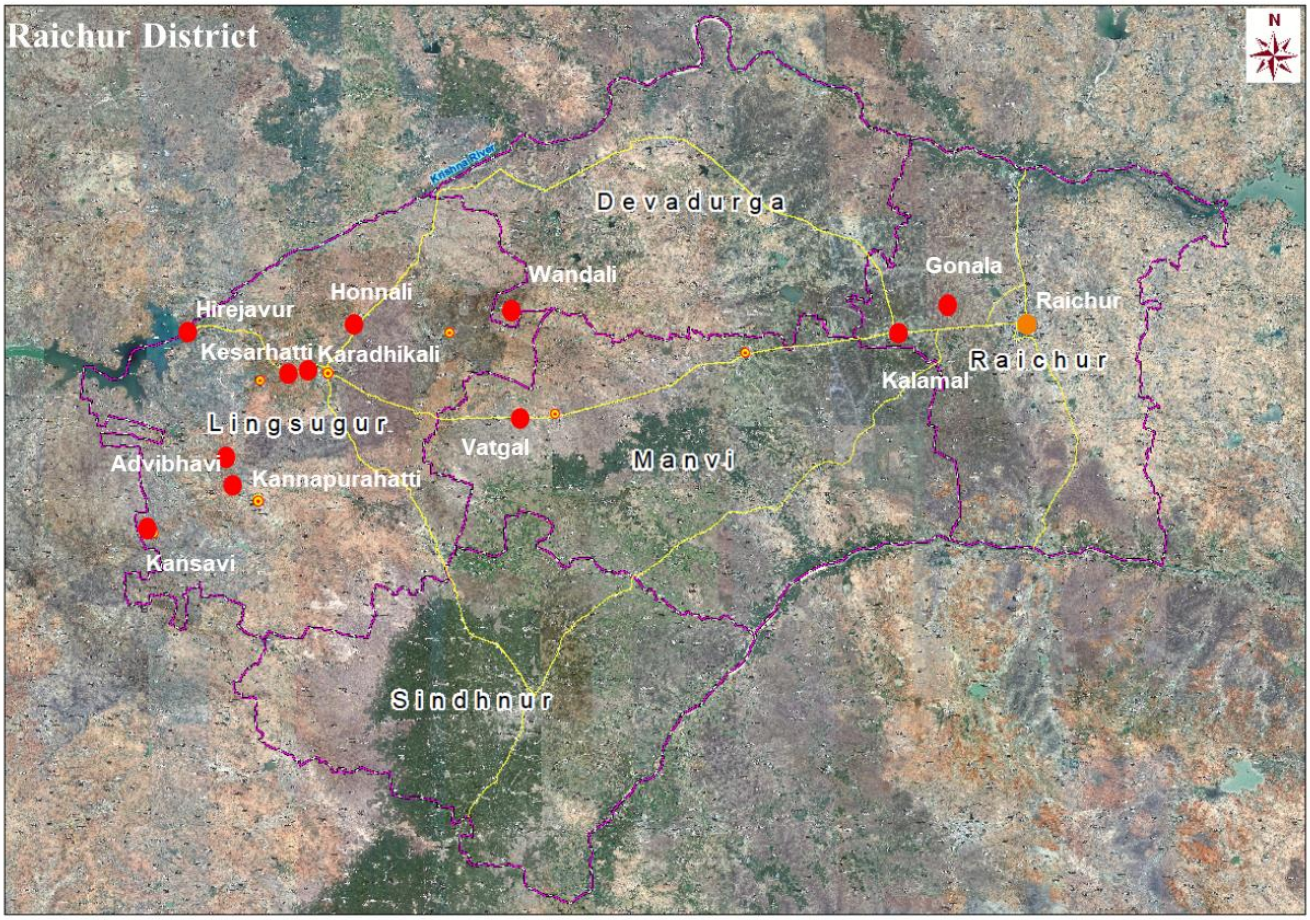

Figure 6.24: Location Of 11 Villages Surveyed

The Table 6-4 provides the salient features of the socio-economic condition of the 11 surveyed villages:

Table 6-4: Socio-economic Details Of the 11 Surveyed Villages

Sl No.	Description	Number	% To Total
1	**Total Population – Gender Wise**	**22425**	**100**
	Male	11275	50.28
	Female	11150	49.72
	Sex Ratio (No. of Females per 1000 males)	988	-
2	**Total Population (0-6 years) – Gender Wise**	**3328**	**14.84**
	Male	1710	51.38

	Female	1618	48.62
	Sex Ratio (No. of females per 1000 males)	946	-
3	**Total Population – Sector Wise**	**22425**	**100**
	Rural	22425	100
	Urban	0	0
4	**Total No. Of Households**	**3997**	**100**
	Average Household Size	5.6	-
	Lowest Household Size	4.66	-
	Highest Household Size	6.97	-
5	**Total SC & ST Population**	**7748**	**34.55**
	Total Population (SC)	5696	25.4
	Total Population (ST)	2052	9.15
6	**Total Literates – Gender Wise**	**11591**	**51.69**
	Male Literacy Rate (with respect to male population)	7037	62.41
	Female Literacy Rate (with respect to male population)	4554	40.84
7	**Total Literates – Sector Wise**	**11591**	**51.69**
	Rural (Number & % to total literates)	11591	51.69
	Urban (Number & % to total literates)	0	0
8	**Total Workers & Work Participation Rate**	**10772**	**48.03**
	Male (Number & Percentage to male population)	6057	53.72
	Female (Number & Percentage to female population)	4715	42.28
	Gender Gap In Workforce	-	11.44
9	**Total Main Workers & Percentage to Total Workers**	**9225**	**85.64**
	Male (Number & Percentage to male working population)	5462	90.18
	Female (Number & Percentage to female working population)	3763	79.81
a	Main Workers as Cultivators	3050	33.06
b	Main Workers as Agricultural Labour	4399	47.68
c	Main Workers as Household Industry Workers	141	1.5
d	Main Workers as Other Workers	1635	17.71
10	**Total Marginal Workers & Percentage to Total Workers**	**1547**	**14.36**
	Male (Number & Percentage to male working population)	595	9.82
	Female (Number & Percentage to female working population)	952	20.19
a	Marginal Workers as Cultivators	145	9.37
b	Marginal Workers as Agricultural Labour	748	48.35
c	Marginal Workers as Household Industry Workers	43	2.78
d	Marginal Workers as Other Workers	611	39.5

Source: Census 2011

6.4.1 Demographic Composition

According to Census of India 2011, the total population of the 11 survey villages is 22,425 in which 50.28% are males and 49.72% are Females. An average gender ratio of these villages is 988 females per 1000 males., Which is much better than national averages of 940 females per 1000 males. All the studied area comes under rural settlement except Raichur.

Approx 14.84% of the total population belongs to 0-6 age group. The sex ratio of this age group is 946 females per 1000 males. Children. The detailed breakup is given in the chart below:

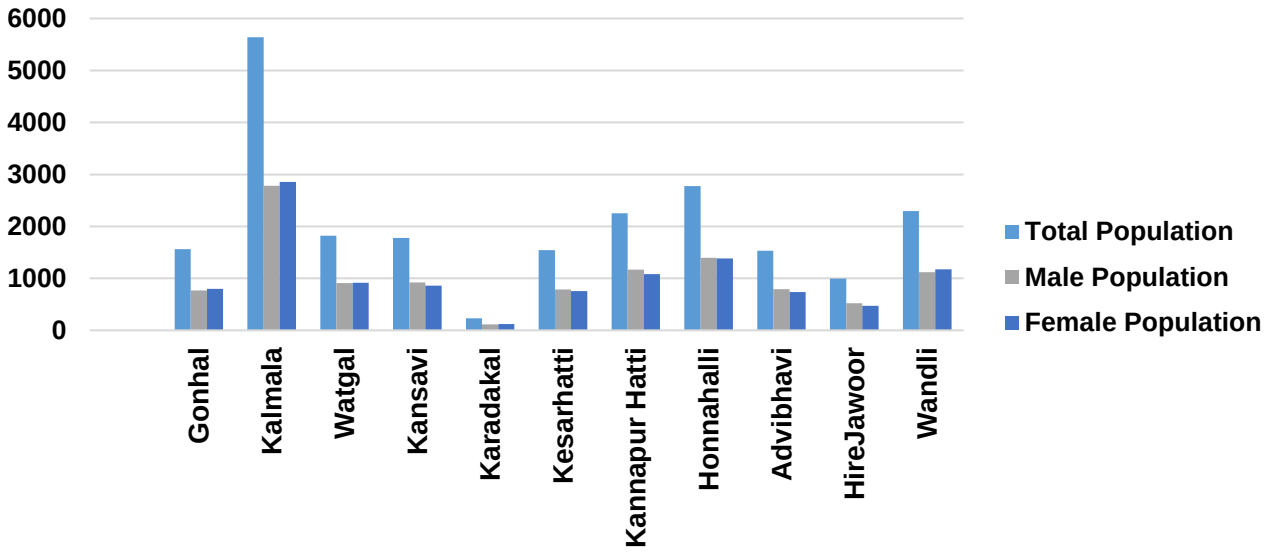

Figure 6.25: Population Of 11 Villages Surveyed

Source: Census 2011

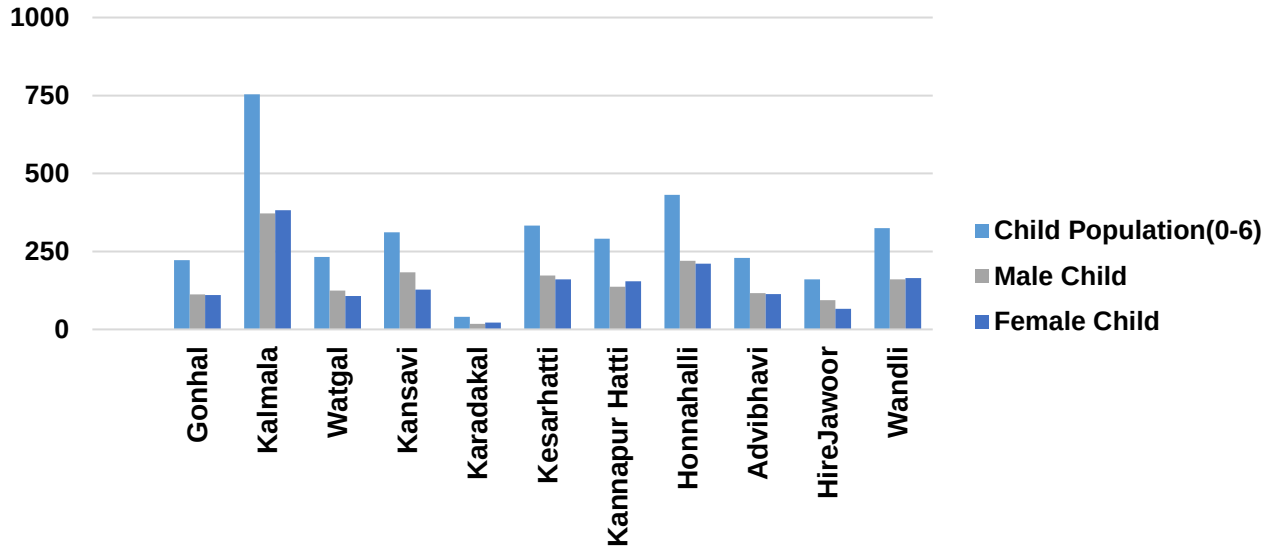

Figure 6.26: Population of Children (0-6 years)

Source: Census 2011

6.4.2 Household Size & Household Composition

The entire population of the study area has been grouped into 3997 households and the average size of the household is approx. 5.6/household.

During site visit, it was observed and noted that most of the houses in the villages are pucca or semi pucca and a very few houses are kutcha houses. Mostly people live in their own houses. Though most of the houses have toilet facilities but still many of them defecate outside due to lack of water or out of age-old social practices.

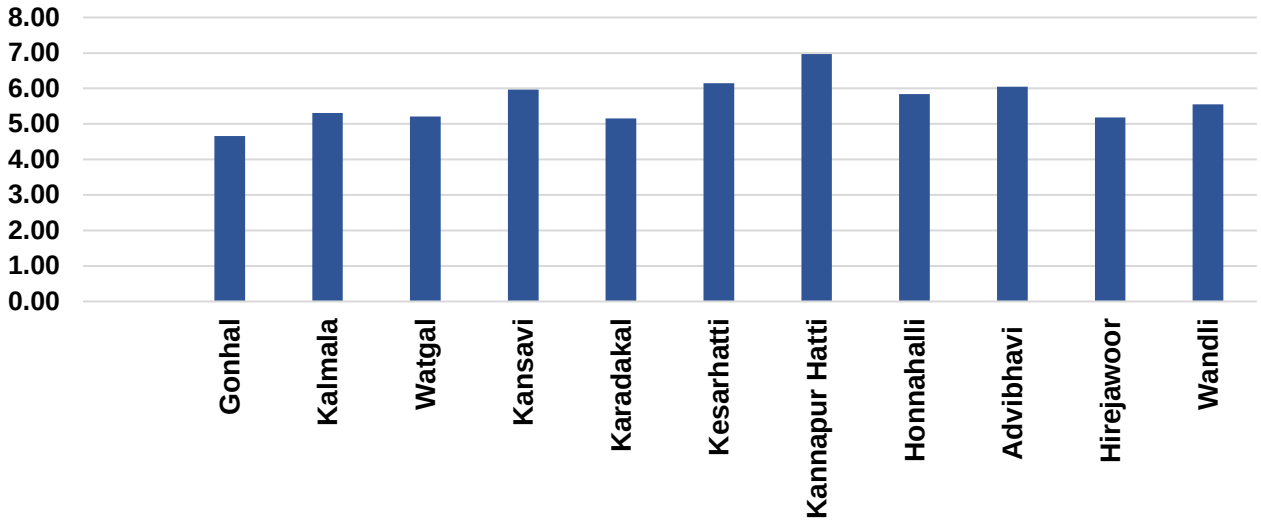

Figure 6.27: HH Size in the 11 Villages

Source: Census 2011

6.4.3 Caste Structure

Total population of Scheduled Caste in the surveyed villages were 5696 while population of Scheduled Tribes were 2052. All of them comes under the vulnerable category. Their livelihood depends on the agriculture or agricultural related activities.

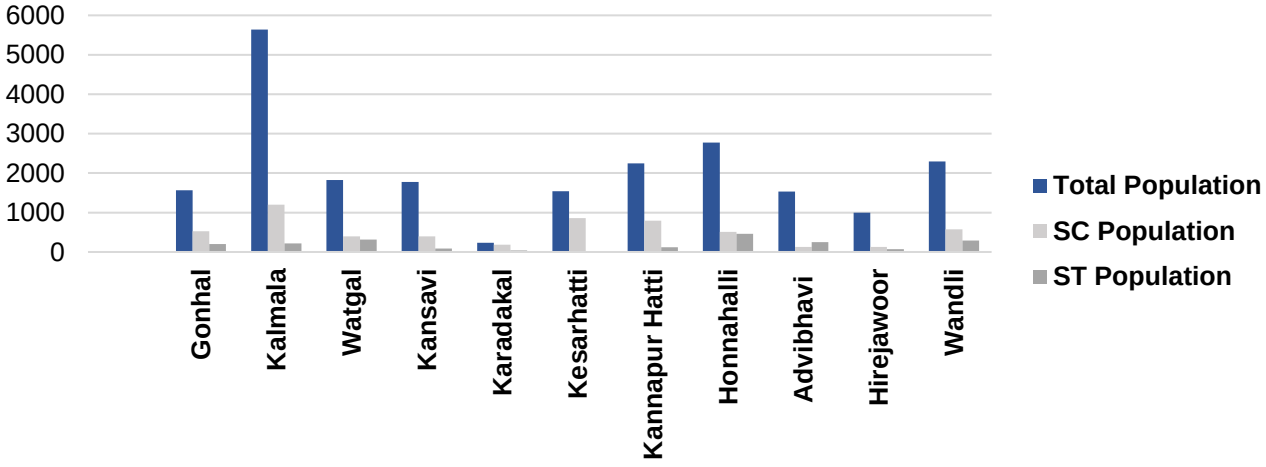

Figure 6.28: Vulnerable Population in the Villages

Source: Census 2011

6.4.4 Literacy Rate

The average literacy rate of the surveyed villages is 51.69%, in which male literacy rate is 62.41% and female literacy rate is 40.84%, creating a gender gap of 21.57%. Though in most of the villages, there are Govt. Primary Schools, Upper primary Schools and Anganwadi Centers, the quality of education is quite poor in most of the places.

As per the observation and consultation with the villagers, it was found out that villagers prefer to send their kids to private English medium schools for better quality of education. In many of the villages, the older females are illiterate or only have education up to primary levels. Issues of drop out are there for girls due to poor economic conditions, low status and social restrictions. Villages closer to the district centres and the census towns like Gonal, , Kalmala, Kannapurhatti have better literacy rate.

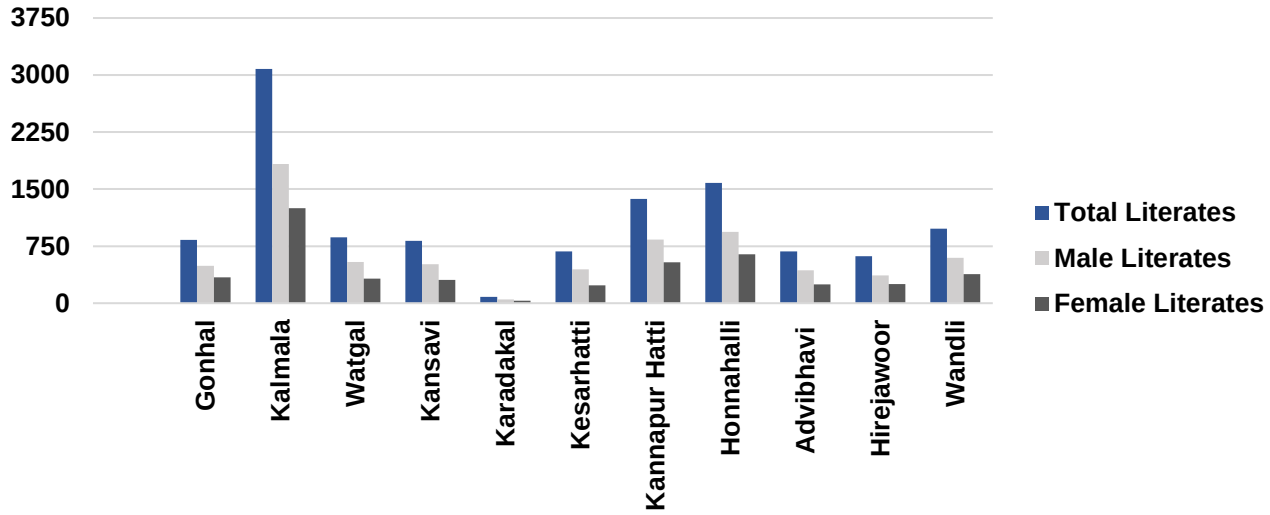

Figure 6.29: Literacy Rate in the Villages

Source: Census 2011

Figure 6.30: Govt. Primary School, Kalmala

6.4.5 Occupational Structures

In the surveyed villages, people are mainly involved in agricultural activities. Majority of the families in the area are small farmers with limited resources. People mostly use borewells in their respective agricultural fields for irrigation purpose.

In the villages, the Work Participation Rate was found to be about 48.03%. While interacting with the people it was found that most of the villagers are involved in agricultural work, either as agricultural labourers or cultivators. People also migrate to the outside of the state for work opportunities.
Village details of working population are described in the charts below:

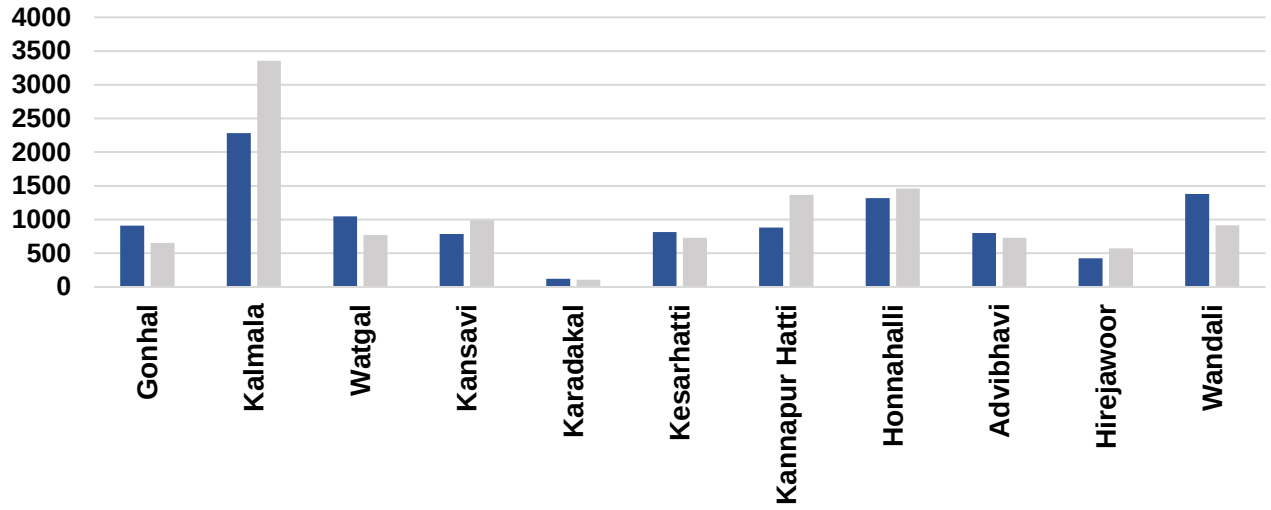

Figure 6.31: Occupational Structure of Surveyed Villages

Source: Census 2011

Table 6-5: Types Of Main Workers in the Surveyed Villages

Village	Main Workers	Cultivators	Agricultural Labourers	HH Workers	Other Workers
Gonhal	660	311	188	2	159
Kalmala	1985	690	918	38	339
Watgal	1039	97	849	13	80
Kansavi	580	212	229	7	132
Karadakal	122	42	76	0	4
Kesarhatti	791	183	520	2	86
Kannapur Hatti	425	132	209	18	66
Honnahalli	1161	198	533	54	376
Advibhavi	779	490	133	4	152
Hirejawoor	334	76	70	1	187
Wandali	1349	619	674	2	54

Source: Census 2011

Considering the work culture of the study area, it appears that most of the workers in both the category main and marginal are engaged in agricultural labour. In the surveyed villages, around 47.68% are agricultural labour and 33.06% are cultivators. In the absence of employment generation schemes, even the agricultural workers were forced to go out of their villages during non-agricultural seasons.

6.4.6 Infrastructural Facilities

Road

The roads in the villages located near Raichur or the highways are well connected and the condition of the roads are quite good. In villages at the remote locations like Advibhavi, Kannapurhatti, kansavi etc. the connectivity roads are poor and narrow. Most of the villages, the internal roads are quite narrow and mostly semi-pucca or kutcha.

Figure 6.32: Existing Road Conditions

Educational Facilities

Govt. Primary School, Upper Primary Schools are available in almost every surveyed village. Govt. Senior Secondary School is available in Kannapurhatti village. None of the villages have any Government Degree Colleges.

Due to many issues, the literacy rate is quite poor in the villages. Although, there is support for girl child education, but it is only up to junior level. Very few people are willing or able to provide higher education to their girls.

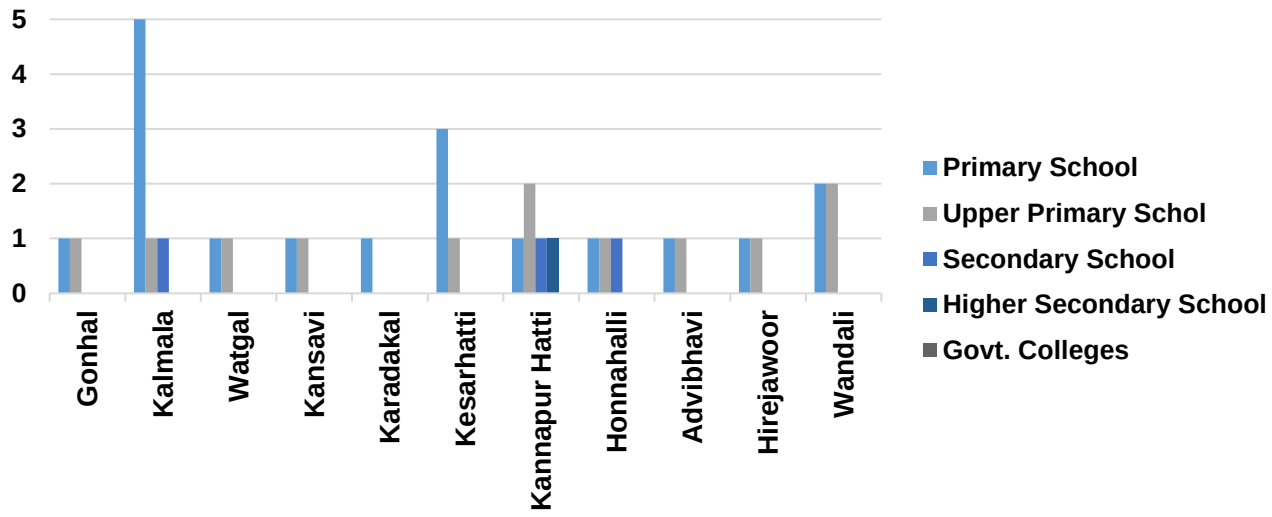

Figure 6.33: Educational Institutes of Surveyed Villages

Source: Census 2011

According to the Govt. school surveyed in Niralkeri, there are more number of girls than the boys who come to study in the school. There is a separate toilet facility for girls. The water supplied in the school is not in a good condition so students carry their drinking water from their own houses. In most of the schools, midday meal is provided to the children and also sanitary napkins are provided every month to the girl child.

Figure 6.34: Govt. School, Niralkeri

Healthcare Facilities

As per Census data 2011, In of the study area there is one government Primary Health Center which wa located in Kalmala village. None of the villages have any community health centre. There are some private health clinics in the study area.

Even though, there are no epidemic happened in the last few years, women and children often suffers from skin rashes and issues related to stomach infection. Also villagers mentioned that many people suffer from teeth issues and joint pain. All of the issues arise from the presence of high fluoride content, arsenic in the drinking water.

Communication

The villages in the study area are well connected via mobile, telephone and internet. Means of communications such as internet, telephone and television has played a vital role in increasing awareness and changing people's perceptions and attitudes positively towards development in the region.

6.4.7 Culture & Religion

The field survey has revealed that majority of the persons living in the villages are either Hindus or Muslims. Both Hindus and Muslims live peacefully with each other with no cultural biasness. In cultural and religious activities, the effect of both the regions can be seen. Out of total population of the villages, approx. 65.45% population are general and backward caste category, 34.55% are SC and ST.

Men of the villages generally wear lungi and kamiz/shirt, pant and shirt and women wear sarees and suits. Ugadi, Dussera, Deepawali, Sankranti, Ganesh Chaturthi, Muharram, Eid Ul Fiter are the main festivals celebrated by the people of the surveyed villages.

Figure 6.35: Discussion with Hindu & Muslim Men Inside A Temple

6.5 Condition of Drinking Water Supply in Village Level

As reported during the consultations, there is an acute shortage of good quality of water in the villages. The villagers take their water from bore wells. Almost every village, there is an overhead water tank constructed. Water is supplied through a RO water plant with the assistance of government and village panchayat.

6.5.1 Source Of Water

The drinking water sources includes the bore wells, wells and in some cases the nearby surface water sources including the rivers and the canals. According to the discussion with the villagers, around 75% of the people source their water from the bore well which is treated in the RO water plant. Not every village have their own RO water plant and sometimes they also have to buy drinking water from the water tanker at a rate of Rs 2/5 litres. Villages like Honnahali, Watgal etc. buy water from water tanker which put a burden on them. Villages like Hirejawoor gets their water

from the nearby Narayanpur Dam or sometimes they also consume bore well water directly in absence of ant good source of water in the village.

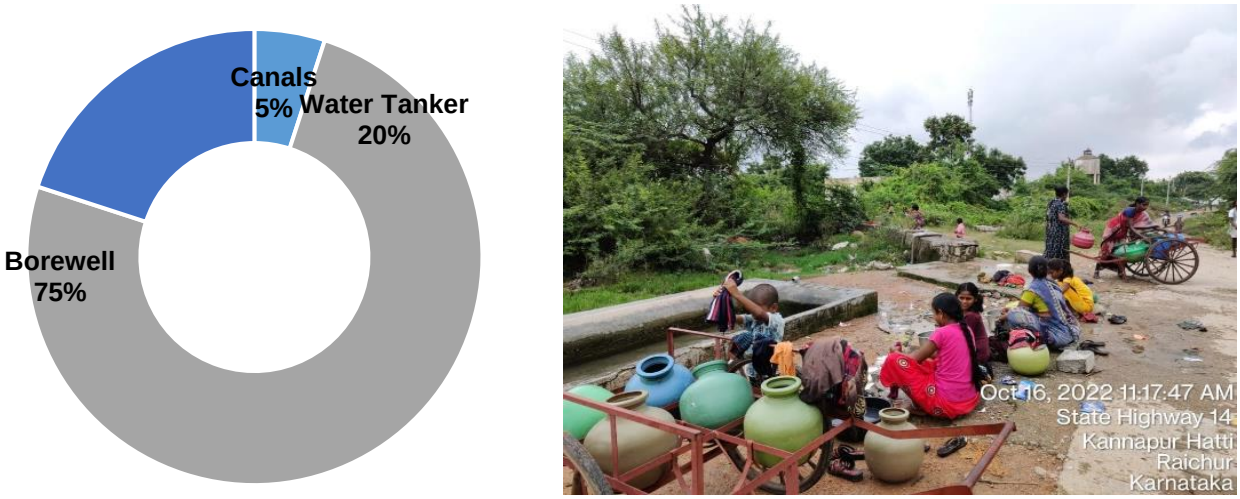

Figure 6.36: Source Of Water

6.5.2 Quality Of Water

The water supplied from the bore well is mostly of poor quality. As per the Govt. statistics, the water is rich in minerals. Often impurities like fluorosis, arsenic, TDs etc. can be found in the water at a high concentration which affect the health of the villagers. According to the data found from the village consultation, very few villages have good quality of bore well water that can be consumed directly.

Water from RO plant or private tankers are good in quality but in many cases people are unable to afford them.

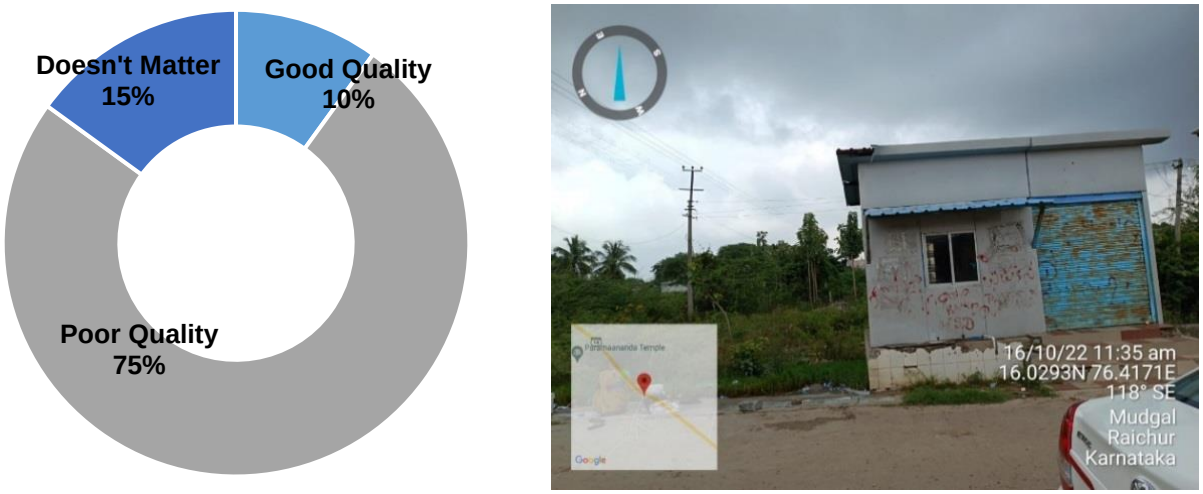

Figure 6.37: Quality Of Water

6.5.3 Quantity Of Water

After village level consultation, it has been observed that most of the families use around 20 litres of water per day. The amount is quite less according to the national standard of rural water supply which is 40litres/person per day. In many cases the frequency of drinking water supply is once per 2 days which is a worrisome condition for the people.

During monsoon, the water crisis become severe due to the lack of power supply for an indefinite period of time that disturbs the water supply network.

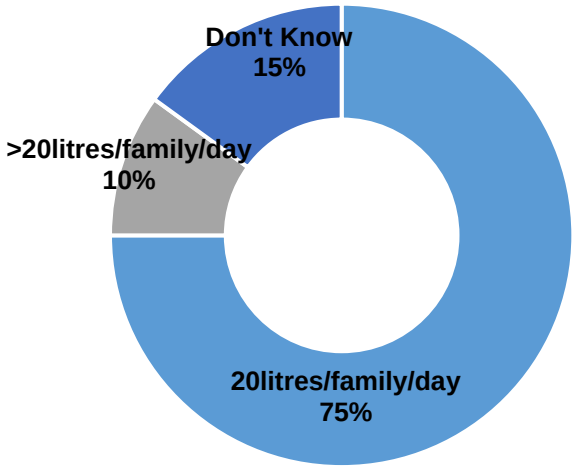

Figure 6.38: Quantity Of Water

6.5.4 Collection Of Water

The villagers take an average of 2-3 trips per day to collect the water from the nearby drinking water source depending upon their requirements. Every trip requires an average time of 15-20 mins to be spent by them. Mostly women and the girl child are responsible for collecting the water from the source. Usually, the water is transported in baltis by water cart. This whole ordeal takes aa toll on the health of the women and made them tired very easily.

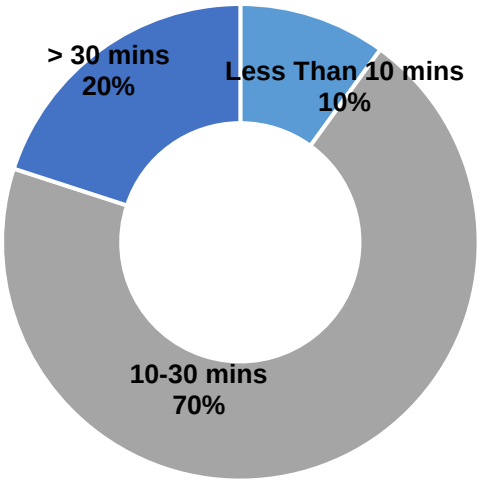

Figure 6.39: Collection Of Water

6.5.5 Treatment Of Water

As per the discussion with villagers, most of them do not treat their water and consume the water from RO plant directly. Only few places like Hirejawoor village, people filter their water using wash clothes after collecting it from the bore well.

Figure 6.40: Treatment Of Water

6.5.6 Disposal Of Waste Water

Most of the villages do not have any proper waste water disposal system. The waste water is often disposed on the backside of their home which is connected to nearby canals or waterbodies. No further thought is given for treatment of the disposed waste water that contaminates the waterbodies.

In some villages like Wandali, Honnahalli, the wate water is disposed directly on the village roads in absence of any proper disposal system. Often, these areas become a breeding ground for mosquitoes and the harm the health of the villagers.

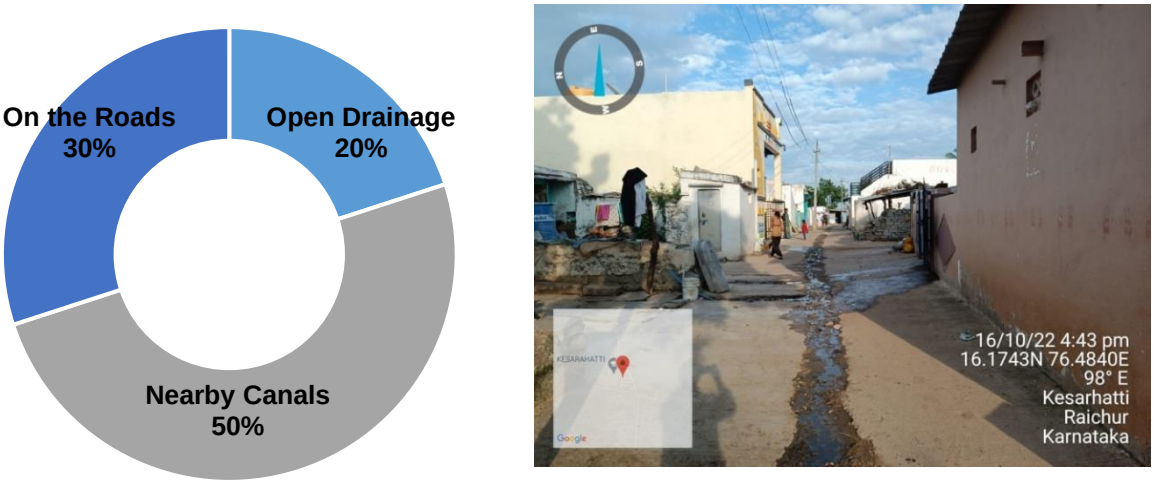

Figure 6.41: Disposal Of Waste Water

6.5.7 Diseases & Role Of Water

Data collected from the village level consultation shows that people of all age groups are suffering from water related diseases on way or the other. Disease like stomach ailments, skin rash, vomiting is a regular occurrence in the life of children and women due to contaminated water. This phenomenon rises immensely during the monsoon time. On the other hand, presence of fluorosis, arsenic, TDs etc in the drinking water affect the older population who suffers from tooth issues, joint pain etc.

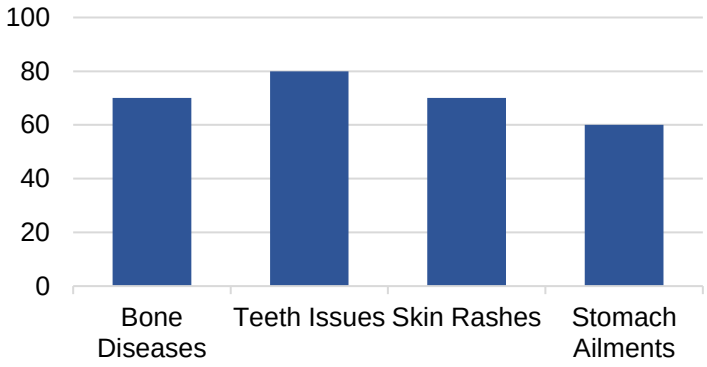

Figure 6.42: Types Of Diseases

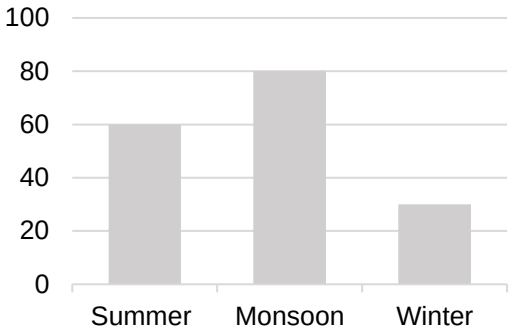

Figure 6.43: Months Of Occurrence

6.6 Role of Drinking Water Supply in The Life of Vulnerable People

According to IFC Performance Standard 1, good ESIA practice requires the identification of individuals and groups that may be directly and differentially or disproportionately affected by the project based on their disadvantaged or vulnerable status. Based on the stakeholder engagement with affected communities conducted as part of the ESIA process (Section 9), it was identified that these communities include residents from vulnerable groups including youth, elderly, women, disabled, IDPs/returnees and local minorities, however, there is a lack of statistical data on the numbers of disadvantaged or vulnerable individuals and groups within these affected communities.

6.6.1 Children

According to a report by UNICEF, globally around 450 million children live in high or very high water vulnerable areas. This means that 1 in 5 children worldwide does not have enough water to meet their everyday needs. In most of the cases, children became the biggest victims. In case there is a shortage of water, children are the one who has to miss school to fetch the water. When water resources decline, children cannot wash their hands and fell ill frequently.

While the impact of water scarcity can be felt by all, no one suffers more than the most vulnerable children. So, it is important to understand the condition of children in the surveyed villages while preparing the vulnerable profile.

Figure 6.44: Children Doing Household Work

Demographically, the population of the surveyed villages is quite young. During survey, it can be seen that in many areas, children are given responsibility to fetch water from the nearby sources, be it for their school or for their home. Even then, the possibility of getting clean water is quite slim. Also carrying water is a physically demanding task that leave them with little to no energy for their studies.

Figure 6.45: Children Carrying Water In Daily Life

6.6.2 Women

The water crisis is personal for women. They are in charge of locating the resources their family require for food, water, shelter, sanitation, and hygiene. They may walk a great distance to get water, they may stand in line and wait for it, or they may pay exorbitant prices to get it. In their

efforts to get water for their families, they often face an impossible choice - certain death without water or possible death due to illness from dirty water.

The sex ratio in the surveyed villages is 988 females to 1000 males., which is higher than the national average of 940 female per 1000 males. Statistics regarding education, literacy and employment show women to be far behind their male counterparts. These are due to various social factors including societal norms, lack of education, lack of employment etc. among the women.

In most of the cases, it was observed that water collection both for drinking and household purposes Are major activities of the day for the women. Often a time, they are left with little to no time for work, school or care for family. All of this put a strain on their health over time. At the current scenario, they are the most vulnerable group of people without an access to water.
Access to safe water is critical to the health of women both during their menstruation period and pregnancy, before and after. Menstrual hygiene often gets neglected due to lack of water in the household. The sanitary napkins are provided for school going children but not all of them have access to it due to the cost factor. Using clothes often lead to serious medical condition for the women. Also, during pregnancy, collecting and carrying heavy vessels of water can be dangerous to the health of mom and her baby. From maintain a healthy pregnancy to nourishing a newborn child, access to safe drinking water is extremely necessary at home.

Figure 6.46: Women & Role Of Water

6.6.3 Disabled

The disabled people can be of different types. The functionally impaired are those individuals with difficulty in functioning who may have activity limitations, which may range from a slight to a severe deviation in terms of quality or quantity in executing an activity in a manner or to the extent that is expected of people without the health condition. In general, functional difficulties experienced by people may be due to their health condition (such as disease or illness), other health problem (such as a short or long-lasting injury), a mental or emotional problem or a problem with alcohol or drug use. A health condition may also include other circumstances, such as pregnancy, aging, stress or congenital anomaly. Difficulty is usually manifested when a person is doing an activity with increased effort, discomfort or pain, slowness or changes in the way the activity is typically done. Unfortunately, little attention has been paid to the needs of access to drinking water for the people living with a disability, despite the fact that the right to equal access for all international development initiatives is guaranteed in the new United Nations Convention on the Rights of Persons with Disabilities.

In Raichur, there is sizable no. of disabled people who also suffers due to lack of water supply. Usually, people with disabilities reported difficulties collecting water themselves. Often the other family members or neighbors are responsible for collection of water from the nearby sources. It was only in rare cases that the participants had to go fetch water on their own, and whenever this happened, they experienced pain due to their condition. Often times the water is not enough to drink or cook. In case the person providing water doesn't live in the same compound, there is a level of inconsistency in collection of water. It was discovered that household with disabled people make more numbers of rounds to collect the drinking water compared to others.

Most of them stated that a constant supply of water is needed which will improve their quality of life.

6.7 Overview

Water is considered as a "Source of Life" but till date only a handful of the villages have access to clean drinking water. It is often the main priority of the villagers for any development priorities.

The villagers in the Raichur district have overall a positive outlook about the water supply project. They are willing to pay for the access to safe drinking water. The household water supply will improve the quality of life of the people.

There is no doubt in the fact that water is a basic necessity for the survival of humans. So, it is important to look for a more people centered approach for the supply of water.