

4000 MW IMPORTED COAL FIRED MUNDRA ULTRA MEGA THERMAL POWER PROJECT


COASTAL GUJARAT POWER LIMITED, NEW DELHI

(A wholly owned subsidiary of Power Finance Corporation Limited)



Socio - Economic Assessment Study Report

Submitted by

 **TCE Consulting Engineers Limited**

In Association with

Services for Multi-disciplinary Applied Research & Training

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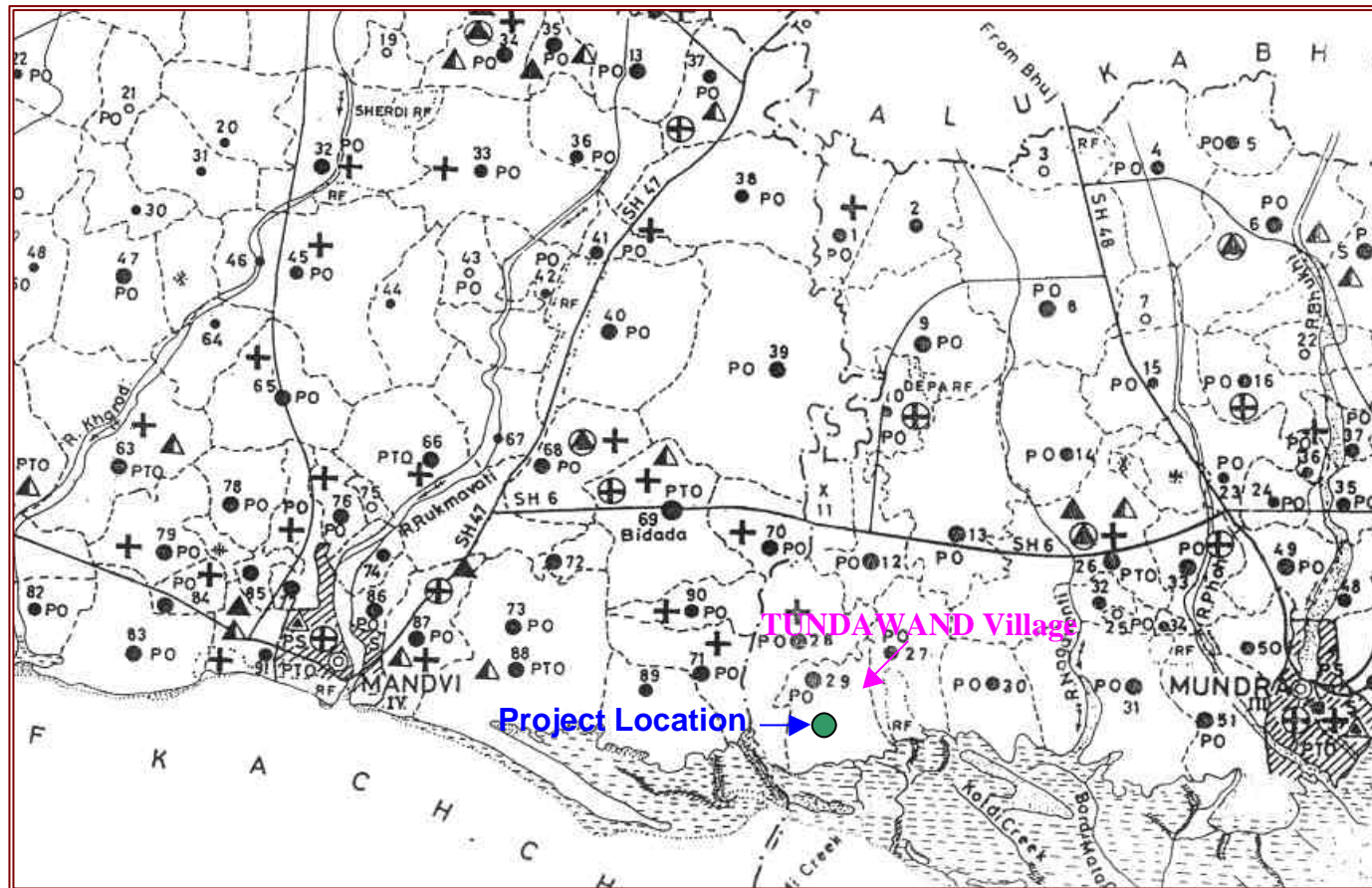
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Map No.1
Map showing Villages of Mundra and Mandvi Taluka in the Study Area



Mandvi Taluka

- Bag
- Bidada
- Faradi
- Gundiyali
- Maska
- Mota Bhadiya
- Nana Bhadiya
- Nani Khakkar
- Pipari
- Tragadi

Mundra Taluka

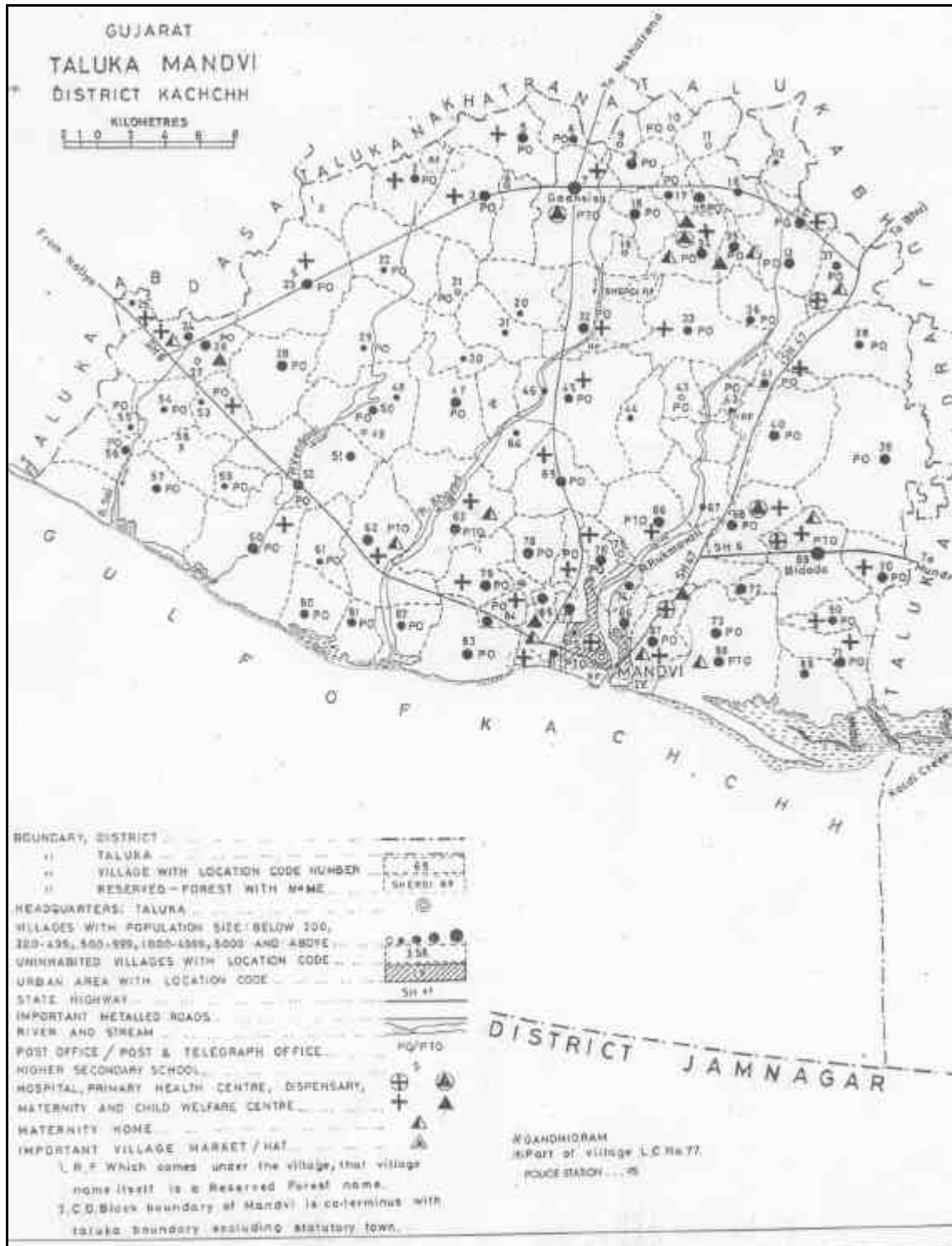
- Deshalpur
- Jarpara
- Kandagara Mota
- Khakhar Moti
- Moti Bhujpar
- Nani Bhujpar
- Navinal
- Pratappar
- Shiracha
- Tunda

(Source: District Handbook, 1991)

Map No.2
District Kachchh



Map No.4 Taluka Mandvi



(Source: District Handbook, 1991)

COASTAL GUJARAT POWER LIMITED
SOCIO-ECONOMIC ASSESSMENT SURVEY

Introduction

The Coastal Gujarat Power Limited (A wholly owned subsidiary of Power Finance Corporation (PFC)) has entrusted the task of studying the feasibility of a coal based 8X500 MW ultra mega power plant in the Mundra Taluka of Kutch district of Gujarat to TCE Consulting Engineers Ltd, Bangalore. As a part of this feasibility study, it is aimed at studying the socio-economic aspects of the area in which the plant is proposed to be located. It is also envisaged that this study will establish the baseline condition, assess the social-economic impacts due to land acquisition and project activities, establish the number of impoverishment risk to find out the most vulnerable section of society if any and suggest the action which could be initiated immediately to cope up these issues. It will point out the likely impact of the Power Plant on the population, life style, agriculture and cattle and will suggest measures for mitigation of the adverse impact, if any. Considering the views mentioned in former line, the study has been carried out.

Figure No.1
Proposed Site for the Ultra Mega Power Plant near Tunda



The information needed for this study has been collected from primary as well as secondary sources. For secondary information, the Census reports of years 1991 and 2001 have been referred. For collecting primary data, a socio-economic survey questionnaire was circulated to the Gram Panchayat officials of the villages in Mundra and Mandvi Taluka. These questionnaires were filled by Gram Panchayat officials/Sarpanch and their feedback were received by us. A copy of the questionnaire designed for this study is enclosed in the last pages of report as one of the appendix. Apart from the above methodology, a reconnaissance survey to the study area was also made and information was gathered from the villagers, agriculturists, traders, milkmen and Panchayat officials. The information collected was analysed and has been presented in this report. At the end of the report, likely impact of the power plant along with measures for mitigation has been presented for two stages of the plant viz. 'During the Construction Phase' of the plant and 'After the Plant becomes Operational'.

History of Kuchchh

The site of the PFC's coal based thermal power plant is located near two villages Tunda and Wandh in Mundra taluka of Kuchchh district in the state of Gujarat. The district of Kuchchh derives its name from the sea creature Kachhua (Tortoise/Turtle), because of its shape. The Kuchchh region lies between Sindh (now in Pakistan) and Saurashtra. The history of Kuchchh may roughly be divided into two periods, ancient and modern; before and after the Samma of Jadeja conquest about the beginning of 14th century. It was the conquest of Kuchchh by the Sind tribes of Samma Rajputs that marked the emergence of Kuchchh as a separate Kingdom in 14th century. The modern history of Kuchchh dates from the conquest by Sind tribes of Samma Rajputs. According to Sind historians in about 1530, Shah Hussain entered Kuchchh and inflicted on the Rao a severe defeat. At that time, the representatives of the three branches of the Jadeja family were Jam Dadarji, Jam Hamirji and Jam Raval. During the time of Moghul Emperor Jahangir, Bharmal went to Ahmedabad to pay his respects and made 'Nazarana' (presentation). Jahangir was much pleased with him, gave presents in return, and freed Kuchchh from tribute on the condition of giving pilgrims a passage to Mecca. The present district of Kuchchh is formed of the former native state of Kuchchh and 10 enclave villages of the former native state of Morvi. After 1947, it was a part 'C' state administered by the Government of India through the Chief Commissioner. (Reproduced in parts from District Census Handbook: Kachchh District; Census of India 1991)

The district of Kuchchh consists of nine talukas (tehsils) viz. Bhuj, Mundra, Mandvi, Abdasa, Lakhpata, Nakhatrana, Rapar, Bhachau and Anjar. The PFC power plant will be located in the Mundra taluka near the villages Tunda and Wandh at a distance of about 25 Kms from the Mundra town. The seat of the Jadeja rulers is located in Bhuj town at a distance of 60 Kms from Mundra. There are five ports in the Kuchchh district viz. Kandla, Mandvi, Mundra, Jakhau and Koteswar. Of these, Kandla is a major port administered by the Kandla port trust. Mundra is a private port owned by M/s Gujarat Adani Port Ltd (A Joint venture of Gujarat Maritime Board and Adani Group). Fertilizers, sulphur, imported coal, iron scrap and dets, wool and food grains are the main items of import at these ports where as onion, salt and bentonite are the principal items of export through these ports.

Figure No.2
River Nagmati in Mundra Taluka within Study Area



Population Characteristics

The project area within 10 km. radius of the proposed Power Plant consists of 20 villages of which 10 are located in Mundra taluka and 10 in Mandvi Taluka. The site of Power Plant is situated in Mundra Taluka and is located at a distance of 25 Km from Mundra town. The list of villages in Mundra and Mandvi taluka is given below with

the number of households, population, number of males and females, etc according to Census 2001.

Figure No.3

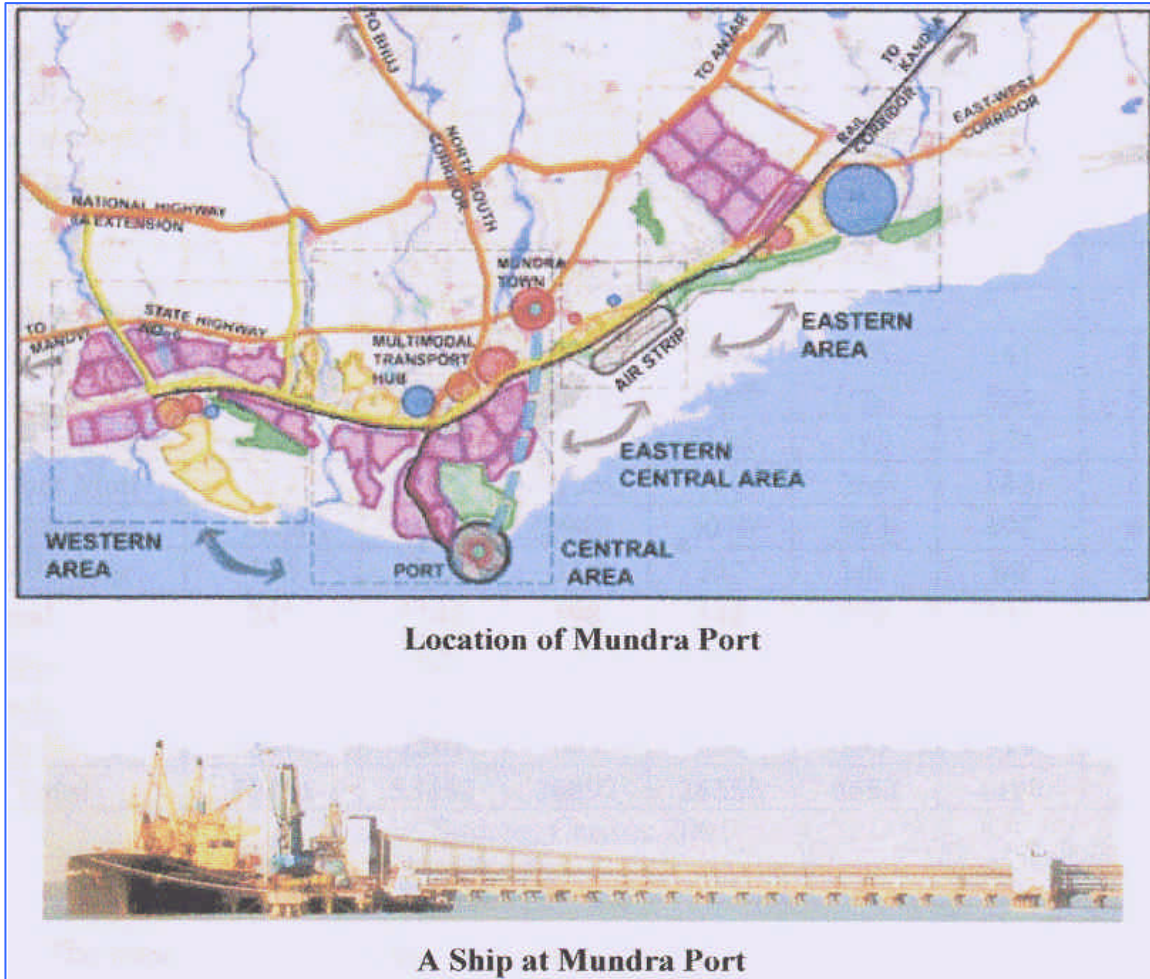


Table No.1
Population Distribution within the Study Area (within 10 kms) (2001)

Name of Village	No. of Households	Total Persons	Total Males	Total Females	Persons age 0-6	Males age 0-6	Females age 0-6
Mandvi Taluka							
Bag	476	2528	1288	1240	387	204	183
Bidada	1491	7595	3842	3753	1034	549	485
Faradi	386	1933	974	959	311	151	160
Gundiyali	891	5353	2705	2648	957	500	457
Maska	932	5055	2546	2509	699	350	349
Mota Bhadiya	511	2822	1417	1405	547	289	258
Nana Bhadiya	179	799	394	405	110	56	54
Nani Khakhar	645	3374	1676	1698	505	253	252
Pipari	283	1485	751	734	263	148	115
Tragadi	143	824	402	422	150	75	75

Name of Village	No. of Households	Total Persons	Total Males	Total Females	Persons age 0-6	Males age 0-6	Females age 0-6
Mundra Taluka							
Deshalpar	424	2013	1045	968	285	161	124
Jarpara	1019	5762	2893	2869	1067	564	503
Kandagara Mota	454	2306	1150	1156	353	174	179
Khakhar Moti	324	1596	810	786	265	143	122
Moti Bhujpar	1188	5952	2942	3010	983	492	491
Nani Bhujpar	126	717	370	347	101	60	41
Navinal	241	1146	598	548	238	131	107
Pratappar	20	62	31	31	7	2	5
Shiracha	187	923	456	467	154	69	85
Tunda	241	1207	607	600	237	119	118
Sub Total	10161	53452	26897	26555	8653	4490	4163

Source: Census 2001

The total population of the area within 10 Km radius of the site is 53,452 persons (Table-1). Projected population of the area in 2006 and 2011 by arithmetic progression is 57,730 and 62,007 persons respectively (Table-2). However, by geometric progression method, the projected population of the area in the year 2010 is estimated at 76,779 persons.

Table No.2
Population Projection (for study area within 10 Km of Power Plant)

Taluka	Population (Census 1991)	Population (Census 2001)	Population (2006) Projected*	Population (2011) Projected*
Mandvi	26324	31768	33801	35834
Mundra	16948	21684	23929	26173
Total	43272	53452	57730	62007

* Projected with decennial growth rate of 20.7% for 'Mandvi' and 12.8% for 'Mundra'

Figure No.4

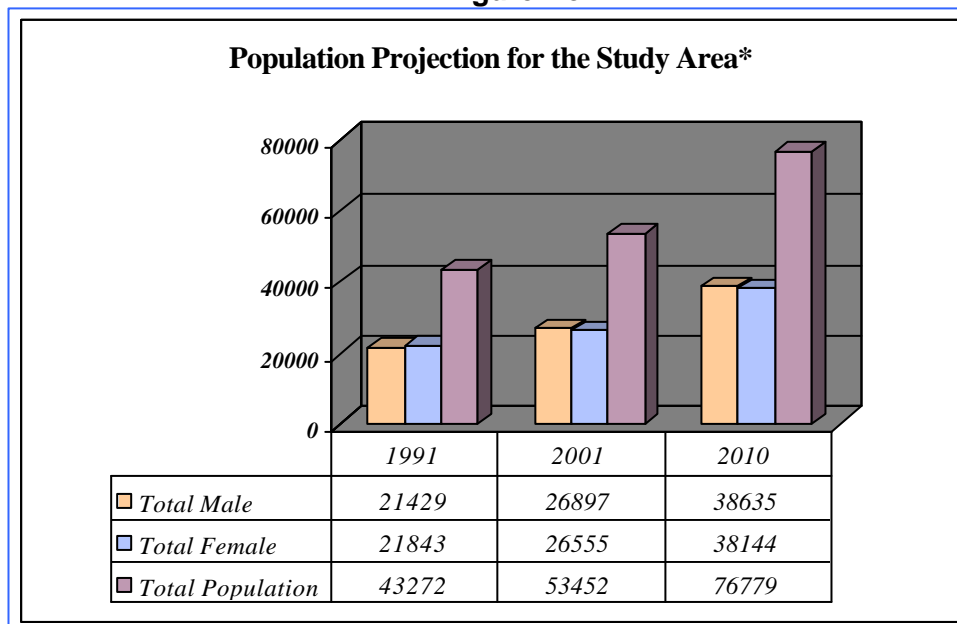
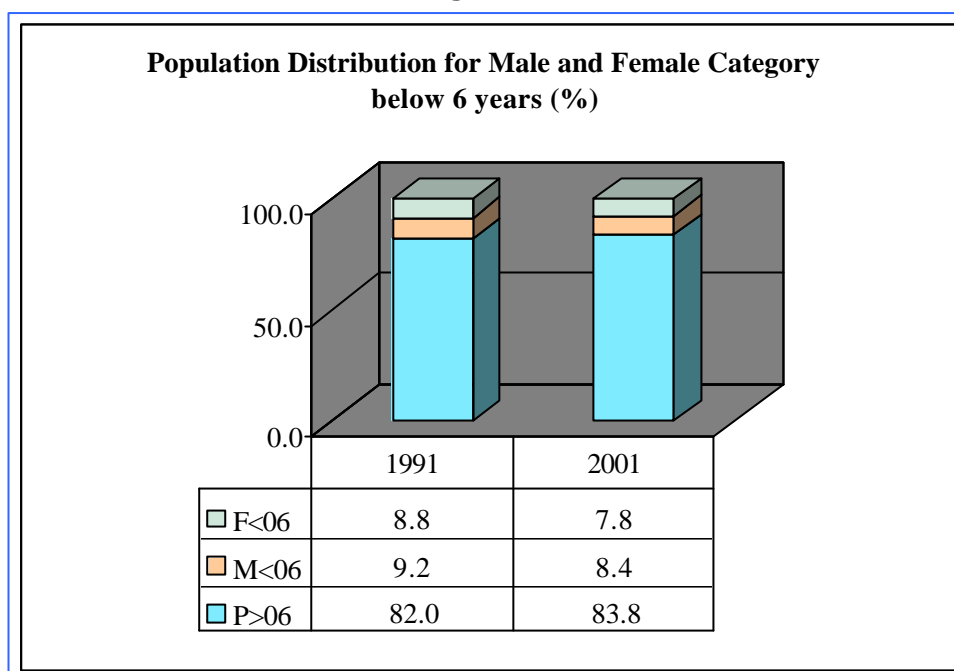


Figure No.5



Source: District Census Handbook 1991 and Census 2001

The contribution of 0-6 year children to over all population has reduced significantly from 18% (1991) to 16.2 % (2001) as shown in above Figure.

Table No.3
Scheduled Castes and Scheduled Tribes population (2001)

Name of Village	Persons (SC)	Males (SC)	Females (SC)	Persons (ST)	Males (ST)	Females (ST)
Mandvi Taluka						
Bag	0	0	0	32	15	17
Bidada	1374	709	665	321	159	162
Faradi	404	207	197	9	5	4
Gundiwali	444	217	227	164	73	91
Maska	211	109	102	117	65	52
Mota Bhadiya	380	193	187	15	8	7
Nana Bhadiya	330	160	170	43	26	17
Nani Khakhar	534	278	256	248	121	127
Pipari	58	28	30	6	4	2
Tragadi	0	0	0	0	0	0
Mundra Taluka						
Deshalpar	366	188	178	125	62	63
Jarpara	649	343	306	86	43	43
Kandagara Mota	317	171	146	144	70	74
Khakhar Moti	335	177	158	60	36	24
Moti Bhujpar	895	466	429	498	253	245
Nani Bhujpar	252	129	123	0	0	0

Navinal	189	99	90	98	57	41
Pratappar	0	0	0	0	0	0
Shiracha	463	222	241	59	30	29
Tunda	68	37	31	0	0	0
Sub Total	7269	3733	3536	2025	1027	998

Source: Census 2001

The study area within 10 Km radius is 36,489 Hectares. Total number of households in the study area is 10,161 as per Census 2001 (Table-4), which works out to a population density of 1.46 persons per Ha. Average family size in the area is 5.3. The percentage of males and females as per 2001 census is almost equal with 50.3% males and 49.7% females. Thus the sex ratio is 987 females per thousand males.

The percentage of scheduled caste and scheduled tribe population is 13.6% and 3.8% respectively. Total working population is about 39%. Among workers, 68% are males and 32% females. The literacy rate in the area is 54.2% as per 2001 Census.

Figure No.6

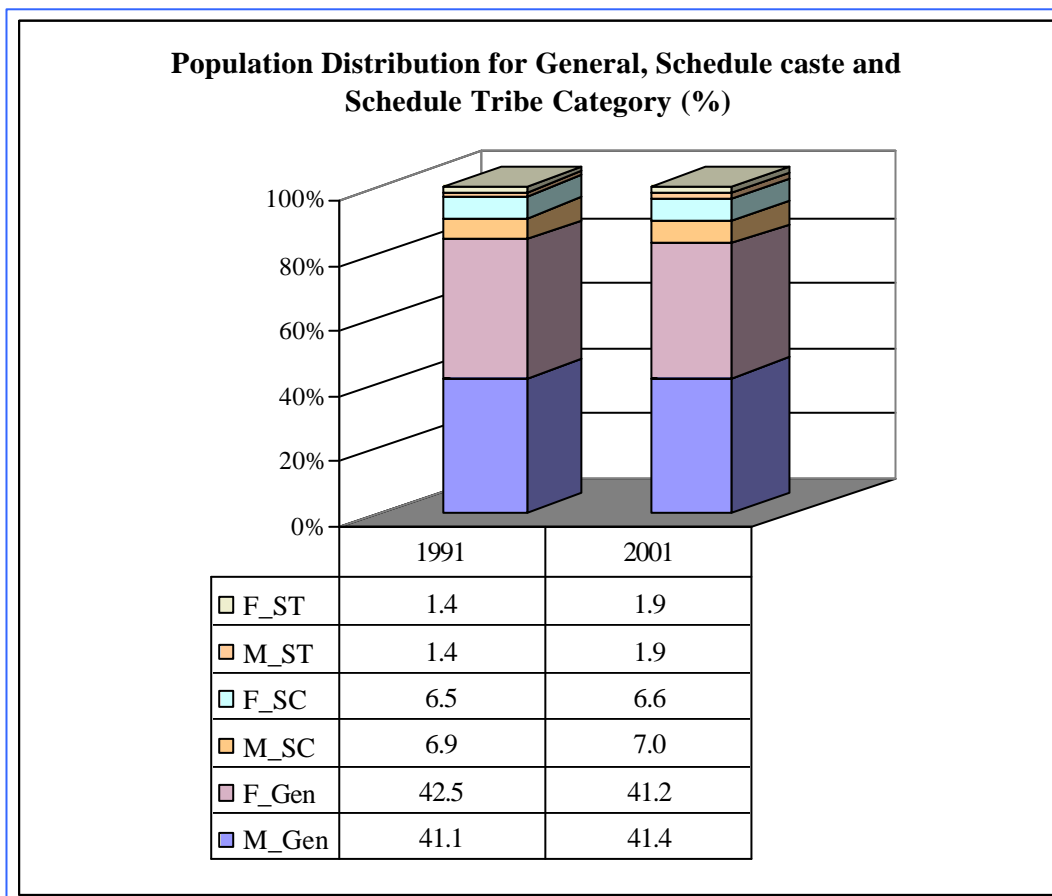


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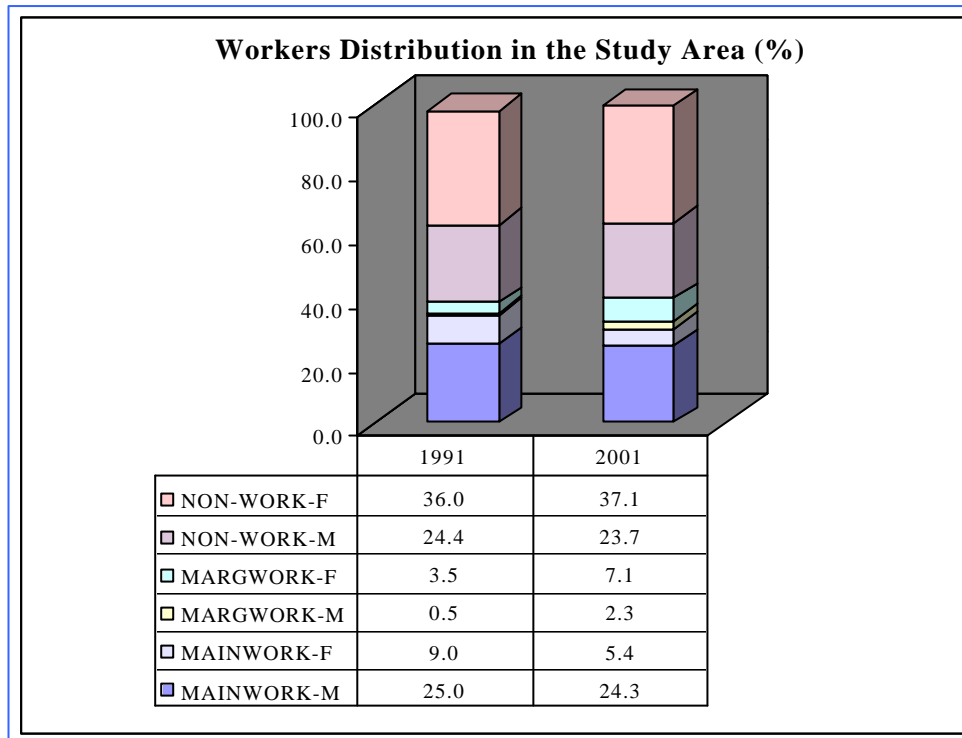
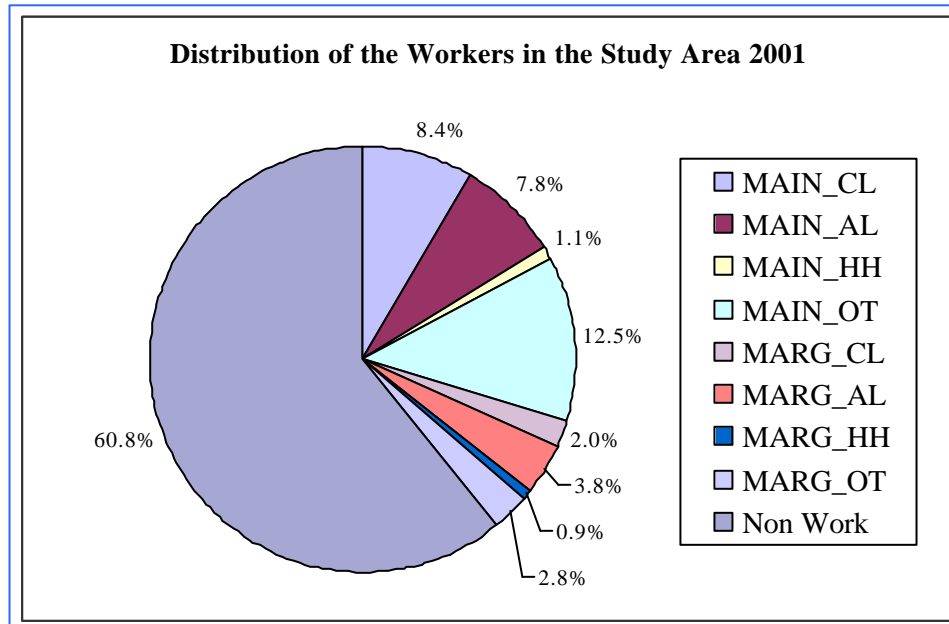


Figure No.8



Considerable portion about 39.2% of the total population falls under workers categories that population of non-workers was highest of 60.8% followed by 39.2% of total workers, 34.0 % main workers and 4.0 % marginal workers. Non worker population cover all persons, who are engaged in unpaid home duties and do not know

other work or have not done any work at all during the last one year. The main worker is a person, who works for major part of the year. Marginal worker is a person who works for a period of less than 6 months in a year.

Table No.4
Summary of Demographic Details[§] (within 10 Km Study Area)

Parameters	Census 1991	Census 2001
No. of Households	7811	10161
Total Study Area in Ha	36489	36489
Total Population	43272	53452
Total Males	21429 (50.5%)	26897 (50.3%)
Total Females	21843 (49.5%)	26555 (49.7%)
Population Density (Persons/Ha)	1.19	1.46
Sex Ratio (Number of Females per 1000 Males)	1019	987
Average Family size	5.5	5.3
Percentage of Population below 6 Years	18.0%	16.2%
Total Schedule Caste population	5816 (13.4%)	7269 (13.6%)
Total Schedule Tribe population	1249 (2.9%)	2025 (3.8%)
No. of Literates (Percent Literacy)	18658 (43.1%)	28946 (54.2%)
No. of Illiterates (Percent Illiteracy)	24614 (56.9%)	24506 (45.8%)
No. of Literate Females(Percent Female Literacy)	7310 (33.5%)	12073 (45.5%)
Total Worker Population (% to total population)	16424 (39.6%)	20938 (39.2%)
Total Male workers	11025	14232 (68.0%)*
Total Female Workers	5399	6706 (32.0%)*
Main Workers	14860 (90.5%)*	15924 (76.1%)*
Marginal Workers	1744 (9.5%)*	5014 (23.9%)*
Non-Workers	26134 (60.4%)	32514 (60.8%)
Main Cultivator Population	5885 (35.8%)*	4496 (21.5%)*
Main Female cultivator Population	1451 (24.7%)*@	737 (16.4%)*@

[§]Source: District Census Handbook 1991 and Census 2001

* Percentage to Total workers

@ Percentage to Total Main Cultivators

Education Facilities

All the villages have primary schools within the village. Three villages have Secondary schools (up to X standard) and one village has a technical Institute. Looking at the number of students the enrollment of children in school is high.

**Table No.5
Educational Institutions and No. of Students**

S. No.	Taluka	Village	No. of Primary schools	No. of Students	Secondary Schools	No. of Students	Technical Institute	No. of Students
1	Mandvi	Faradi	1	300	0	0	0	0
2	Mandvi	Bidada	1	1000	1	400	0	0
3	Mandvi	Nani Khakhar	1	480	0	0	0	0
4	Mandvi	Nana Bhadiva	1	200	1	60	0	0
5	Mandvi	Pipari	1	300	0	0	0	0
6	Mandvi	Maska	1	400	1	400	1	70
7	Mandvi	Bag	1	600	0	0	0	0
8	Mandvi	Gundiyali	1	NR	0	0	0	0
9	Mandvi	Mota Bhadiva	1	500	0	0	0	0
10	Mandvi	Tragadi	1	161	0	0	0	0
11	Mundra	Tunda	1	103	0	0	0	0
12	Mundra	Shiracha	1	140	0	0	0	0
13	Mundra	Moti Bhuibar	1	1100	1	500	0	0
14	Mundra	Pratappar	1	100	0	0	0	0
15	Mundra	Nani Bhuibar	1	200	0	0	0	0
16	Mundra	Navinal	1	350	0	0	0	0

Source: Gram Panchayat Official

Figure No.9
Primary School at Navinal



Figure No.10
Technical Institute at Maska



Religion

The two major religions in the district including in the project area are Hindu and Muslim. Muslims in some villages forms a sizeable proportion of the population, e.g. in Tragadi and Tunda. Unlike other parts of Gujarat, there have been no Hindu-Muslim riots in this area. Each village has number of Temples and Mosques. The rich families contribute to the development of the village by constructing temples, schools, community centres, etc. in their own villages. Many villages have Gau-shalas/ gaucher land (charitable grazing sheds for cows), which are financed by village people.

Patel is a farming community whereas Baniya is a business community. Most of the villages in the project study area have some families of Baniya and Patel communities. As mentioned generally the families belonging to Baniya community stay away from the village in other towns and cities for business and come to village only during summer vacations and holy occasions/festivals.

Table No.6
Percentage Distribution of Population by Religion & Caste

S. No.	Taluka	Village	Hindu (%)	SC (%)	ST (%)	Muslim (%)	Patels (%)	Baniyas (%)	Other (%)
1	Mandvi	Faradi	70	10	1	30		10	
2	Mandvi	Bidada	80	25	2	20	25	25	3
3	Mandvi	Nani	80	15	5	20	5	20	

S. No.	Taluka	Village	Hindu (%)	SC (%)	ST (%)	Muslim (%)	Patels (%)	Baniyas (%)	Other (%)
		Khakhar							
4	Mandvi	Nana Bhadiya	80	60	10	20			
5	Mandvi	Pipari	95	5		5			4
6	Mandvi	Maska	80	30		20	10	10	
7	Mandvi	Bag	65			35			
8	Mandvi	Gundiya	65			35	1		
9	Mandvi	Mota Bhadiya	95	60		5			
10	Mandvi	Tragadi	50		5	50		10	15
11	Mundra	Tunda	60	5		40		30	
12	Mundra	Shiracha	100	40	10				
13	Mundra	Moti Bhujpar	80	20		20	10	5	
14	Mundra	Pratappar	100						
15	Mundra	Nani Bhujpar	100	40	40		10		10
16	Mundra	Navinal	80	40		20		5	

Source: Gram Panchayat Official

Figure No.11
Statue of Lord Shiva at Faradi



Figure No.12
Mosque at Nana Bhadia



Figure No.13
Jain Temple at Kolapar (Mandvi)



Figure No.14
Mosque on sea beach near site of Power Plant



Agriculture

Agriculture is a major activity in the area but is mostly dependent on rains. The area has scanty rainfall. Land holdings are quite large because of low yield. Only few farmers have wells in their farm through which they can reap two crops. All others without wells can take only one crop i.e. Jowar and Bajra and that too if there are rains.

Table No.7
Important Commodities Grown

Name of the Village	Most important Commodity Grown-1	Most important Commodity Grown-2	Most important Commodity Grown-3
Mandvi Taluka			
Faradi	Pulses	Guvar	Wheat
Bidada	Bajri	Groundnut	Wheat
Nani Khakhar	Cotton	Wheat	Maize
Nana Bhadiya	Bajri	Jowar	Wheat
Pipari	Wheat	Bajri	Mung
Maska	Bajri	Groundnut	Jowar
Bag	Cotton	Bajri	
Gundiya	Bajri	Cotton	Jowar
Mota Bhadiya	Bajri	Mung	Groundnut
Tragadi	Bajri	Jowar	
Mundra Taluka			

Name of the Village	Most important Commodity Grown-1	Most important Commodity Grown-2	Most important Commodity Grown-3
Deshalpar	Cotton	Castor Seeds	Isabgol
Khakhar Moti	Cotton	Wheat	Bajri
Kandagara Mota			
Tunda	Cotton	Guvar	Jowar
Shiracha	Wheat	Bajri	Mung
Moti Bhujpar	Groundnut	Bajri	Wheat
Pratappar	Wheat	Castor Seeds	Guvar
Nani Bhujpar	Groundnut	Castor Seeds	Guvar
Navinal	Cotton	Wheat	Bajri
Jarpara	Kharek	Chikoo	Coconut

Source: Census 2001

**Figure No.15
Castor Crop at Faradi**



Major crops in the area are Bajri and Jowar during rainy season. Those who have wells also grow wheat in winter. Other crops are Moong, Castor, Maize, Groundnut, Guvar and Cotton. Among plantations, the major ones are Kharik and Chikoo followed by Coconut. In the villages near Power Plant site i.e. Tunda and Wandh, there are not many plantations.

Figure No.16
Chikoo Plantation at Jarpara



Table No.8
Land Holding

S. No.	Taluka	Village	No. of households with land			No. of Households
			< 1acre	1-5 acre	> 5 Acre	
1	Mandvi	Faradi	50%	20%	30%	
2	Mandvi	Bidada	5%	20%	75%	
3	Mandvi	Nani Khakhar	40%	10%	50%	
4	Mandvi	Nana Bhadiya	10%	40%	50%	
5	Mandvi	Pipari	15%	50%	35%	350
6	Mandvi	Maska	15%	35%	50%	
7	Mandvi	Bag	70%	15%	15%	
8	Mandvi	Gundiyali	60%	20%	20%	
9	Mandvi	Mota Bhadiya	10%	40%	50%	
10	Mandvi	Tragadi	30%	20%	50%	
11	Mundra	Tunda	10%	40%	50%	
12	Mundra	Shiracha	25%	25%	50%	
13	Mundra	Moti Bhujpar	10%	40%	50%	
14	Mundra	Pratappar	0	50%	50%	
15	Mundra	Nani Bhujpar	5%	70%	25%	
16	Mundra	Navinal	10%	90%	0	

Source: Gram Panchayat Official

Figure No.17
Kharik Plantation at Bhojpar



Figure No.18
Coconut Plantation at Maska



Cattle

The area is rich in cattle wealth. Every village has plenty of bullocks, cows, buffalos, goats and sheep. Bullocks are used for farming and driving cart for farm products. The area also has a sizeable number of tractors. This shows the economic condition of farmers.

Figure No.20
Cows at Jarpara



Figure No.19
Buffaloes at Navinal



Table No.9
No. of Cattle by Villages

S. No	Taluka	Village	Bullocks (No.)	Tractors	Cows	Goats/ sheep	Other cattle	Milk Production per day	Rearing of cattle
1	Mandvi	Faradi	15	8	500	1000 / 200	100	1000	25
2	Mandvi	Bidada	150	10	6000	1500 / 500	200	2000	1000
3	Mandvi	Nani Khakhar	20	11	700	1000 / 2000	200	1000	1500
4	Mandvi	Nana Bhadiya	55	1	250	300 / 0	200	500	20
5	Mandvi	Pipari	25	12	300	300 / 70	100	1000	0
6	Mandvi	Maska	50	20	400	800 / 1500	150	1000	70
7	Mandvi	Bag	20	25	700	4000 / 0	150	2000	200
8	Mandvi	Gundiyali	200	20	600	3250 / 1000	50	500	200
9	Mandvi	Mota Bhadiya	100	13	300	350 / 100	100	1500	700
10	Mandvi	Tragadi	15	3	200	200 / 0	200	400	50
11	Mundra	Tunda	4	2	50	305 / 7	150	1000	65
12	Mundra	Shiracha	12	15	150	500 / 0	50	300	160
13	Mundra	Moti Bhujpar	20	70	300	1000 / 1000	500	2000	1000
14	Mundra	Pratappar	0	15	50	50 / 50	200	1500	20
15	Mundra	Nani Bhujpar	0	10	250	50 / 50	400	3000	100
16	Mundra	Navinal	4	4	1500	2000 / 0	400	800	200

Source: Gram Panchayat Official

Since rainfall in the region is scanty, cattle rearing, wool spinning and milk production is a major occupation after plantation and agriculture. The area produces plenty of milk. The milk is sold to dairies.

Figure No.21
Goats at Navinal



Figure No.22
Sheep at Nani Khakhar



Migration of Families for Livelihood

As seen above major sources of livelihood in the villages are Plantations (Kharik, Chikoo and Coconut), Cattle (milk production), Agriculture (mainly summer crop, if there is rain) and other occupations like trade, transport and services. Many families from these villages also work in towns like Ahmedabad, Vadodara, Surat and Mumbai. These families come to village only during summer vacations or on certain occasions. This is especially true of Jain families, which is a business community. Many streets in some of the villages, especially in the villages inhabited by Jain community, are deserted throughout the year because these families live in other cities for their livelihood. These families construct a descent house in the village and keep on contributing to the development of the village in some form or the other like constructing temple, school, community hall, dharamshala etc. Important elite families of the village also construct an entry gate to the village with their names inscribed on the gate. Such scenes are very common all-over the villages in the project area.

Table No.10
Migration of Families to Other Cities

S. No.	Taluka	Village	No. of families Migrated to Metropolitan cities	No. of Families migrated to Other Towns
1	Mandvi	Faradi	20%	10%
2	Mandvi	Bidada	10%	5%
3	Mandvi	Nani	20%	5%

S. No.	Taluka	Village	No. of families Migrated to Metropolitan cities	No. of Families migrated to Other Towns
		Khakhar		
4	Mandvi	Nana Bhadiya	20%	5%
5	Mandvi	Pipari	2%	1%
6	Mandvi	Maska	15%	5%
7	Mandvi	Bag	5%	2%
8	Mandvi	Gundiyali	20%	5%
9	Mandvi	Mota Bhadiya	1%	0
10	Mandvi	Tragadi	Not Known	Not Known
11	Mundra	Tunda	10%	5%
12	Mundra	Shiracha	10%	5%
13	Mundra	Moti Bhujpar	40%	10%
14	Mundra	Pratappar	75%	0
15	Mundra	Nani Bhujpar	0.5 %	1%
16	Mundra	Navinal	50%	10%

Source: Gram Panchayat Official

Figure No.23
A Deserted Street in Kandagra due to Migration of Families to Cities for Livelihood



Figure No.24
A Gate at Entry of Village in Nani Khakhar



Figure No.25
Fishermen near Tundawandh about 1½ kms from Power Plant



Table below gives sources of income from various activities.

Table No.11
Income from Various Occupations

S. No.	Taluka	Village	Annual Income Per Family (in thousand Rupees) from							
			Employment	Agriculture	Animal husbandry	Rearing of cattle	Fishing	Handicraft	Trading	Any other
1	Mandvi	Faradi		40		20			50	
2	Mandvi	Bidada	6	12		10		1.8	36	
3	Mandvi	Nani Khakhar		50						
4	Mandvi	Nana Bhadiya	36	20		30				
5	Mandvi	Pipari		250	360				600	
6	Mandvi	Maska	14	5		36		5	50	
7	Mandvi	Bag	10	50		50			40	
8	Mandvi	Gundiyali	20	40		20	40		35	
9	Mandvi	Mota Bhadiya		50		15			50	
10	Mandvi	Tragadi		20		10	20		50	
11	Mundra	Tunda		40					50	
12	Mundra	Shiracha		50		30		25		
13	Mundra	Moti Bhujpar		8000		2000		1000	1000	2000
14	Mundra	Pratappar		50		50				
15	Mundra	Nani Bhujpar		100		100				
16	Mundra	Navinal								

Source: Gram Panchayat Official

Water and Electricity

Drinking water in all the villages is supplied through bore-wells. Every village has over-head tank in which the water is filled by the Gram Panchayat and then supplied through pipeline to the houses at fixed time slots. Water is available at a depth of 200 feet but it is salty. The depth of the bore-wells for sweet water is more than 400 feet. Water is also stored in small dams (ponds) during rainy season. However, it depends on the rainfall, which is very scanty.

Since rainfall is scanty the villagers are more dependent on wells. The Table below gives the number of wells and the ones with and without pumps. In every village only one well is used for drinking water supply.

Table No.12
No. of Wells for Drinking and Irrigation

S. No.	Taluka	Village	No. of wells in village	No. of Wells for drinking	Wells for Irrigation without pump	Wells for Irrigation with pump
1	Mandvi	Faradi	40	1	25	14
2	Mandvi	Bidada	14	4	6	4
3	Mandvi	Nani Khakhar	252	2	0	250
4	Mandvi	Nana Bhadiya	32	25	0	7
5	Mandvi	Pipari	6	1	0	5
6	Mandvi	Maska	3	0	0	3
7	Mandvi	Bag	120	Narmada Water	0	120
8	Mandvi	Gundiyali	126	1	0	125
9	Mandvi	Mota Bhadiya	104	2	2	100
10	Mandvi	Tragadi	25	0	0	25
11	Mundra	Tunda	52	1	11	40
12	Mundra	Shiracha	100	1	49	50
13	Mundra	Moti Bhujpar	204	4	0	200
14	Mundra	Pratappar	31	1	0	30
15	Mundra	Nani Bhujpar	70	0	0	70
16	Mundra	Navinal	25	1	0	24

Source: Gram Panchayat Official.

All the villages in the area are electrified. There is no load shedding for the residential houses. However, agricultural farms have fixed time for supply of electricity.

Transport and Communication

Nearest airport to the Power Plant area is Bhuj, which is located at a distance of about 60 Kms from Mundra town and about 75 Kms from the site of CGPL. Nearest railway stations are Adipur, Bhuj and Gandhidham at about 57, 45 and 55 Kms respectively from Mundra town in opposite directions. A good motorable road in the area is National Highway NH-8A running from Gandhidham to Mandvi. The other roads a State Highway and other metal roads in the area are narrow and not in good condition. Local people travel by autorikshaws/chakkda, which carry 6-10 passengers. The villages are covered by State road transport buses but the frequency is limited and scanty in the villages. Mundra and Mandvi towns are well connected with other cities and towns of the State by State road transport buses. All the villages are covered by mobile telephone service provider. Most of the villages have Local and STD telephone booths. Newspapers are also available in the villages.

Figure No.26
Gandhidham – Mandvi Highway NH-8A



Figure No.27
Auto-Rickshaw stand at Bhojpar



**Table No.13
Availability and Means of Transport**

S. No.	Taluka	Village	Transport	No. of Bullock carts	No. of Auto Vehicles / Chhakda	Distance of bus stand	Nearest Railway station
1	Mandvi	Faradi	Road	5	12 / 5	In village	Bhuj
2	Mandvi	Bidada	Road	50	1000 / 45	1 Km	Bhuj
3	Mandvi	Nani Khakhar	Road	10	30 / 5	In village	Bhuj
4	Mandvi	Nana Bhadiya	Road	0	5 / 2	In village	Bhuj
5	Mandvi	Pipari	Road	10	30 / 6	1 Km	Bhuj
6	Mandvi	Maska	Road	30	400 / 7	In village	Bhuj
7	Mandvi	Bag	Road	10	7 / 3	In village	Bhuj
8	Mandvi	Gundiyali	Road	100	40 / 20	In village	Bhuj
9	Mandvi	Mota Bhadiya	Road	50	25 / 5	In village	Bhuj
10	Mandvi	Tragadi	Road	12	2	In village	Bhuj
11	Mundra	Tunda	Road	3	18 / 4	In village	Bhuj
12	Mundra	Shiracha	Road	3	1 / 3	In village	Bhuj
13	Mundra	Moti Bhujpar	Road	0	400 / 200	In village	Bhuj
14	Mundra	Pratappar	Road	0	3 / 3	In village	Bhuj
15	Mundra	Nani Bhujpar	Road	0	50 / 3	In village	Bhuj
16	Mundra	Navinal	Road	1	15 / 10	In village	Bhuj

Source: Gram Panchayat Official

Availability of number of auto-vehicles in the area shows the economic status of the villagers. All the milk-men use motor bikes for transporting milk from the village to selling point. The farmers also use motor-bikes for transport as for every need they can not depend on public transport.

Health and Sanitation

There are not many hospitals in the area. People have to travel 2 to 10 Kms for hospital services. Many villages do not have Private practitioners. They go to nearby villages for their needs. Though villagers prefer out-side open field for nature's call, many houses especially those migrated to urban towns and having their houses in the village have latrines inside the house as they are used to such facility in cities. Most of the houses in the area are pucca with either pucca roof or tiles. Tiles keep the house cool during summer. Out-migrants who have their business in cities and towns have constructed huge houses in the villages, which are furnished with all facilities inside the house.

Figure No.28
Soakpits at Gundiyali



Table No.14
Availability of Health Facilities and Sanitation

S. No.	Taluka	Village	Hospital	No. of doctors	Pvt practitioners	Health workers	General preventive diseases	Any family Wel. Scheme	Latrine	Soak pits
1	Mandvi	Faradi	7 km	0	0	No		No	200	2
2	Mandvi	Bidada	Yes	1	1	Yes2		No	1000	0
3	Mandvi	Nani Khakhar	6 km	6	0	Yes		No	65	0
4	Mandvi	Nana Bhadiya	8 km	0	Yes	No	Fever	No	500	5
5	Mandvi	Pipari	5 km	1	0	No		No	0	25
6	Mandvi	Maska	Yes	2	0	Yes	TB	No	24	5
7	Mandvi	Bag	6 km	0	Yes	Yes	Acidity	No	400	3
8	Mandvi	Gundiyali	8 km	0	Yes	Yes		Yes	200	1
9	Mandvi	Mota Bhadiya	5 km	0	0	Yes	Fever	No	4	1
10	Mandvi	Tragadi	13km	0	Yes	No		No	0	0
11	Mundra	Tunda	3 km	1	0	Yes	Gastro	No	50	3
12	Mundra	Shiracha	4 km	0	Yes	Yes		No	4	4
13	Mundra	Moti Bhujpar	Yes	1	Yes	Yes		Yes	1500	0
14	Mundra	Pratappar	6 km	0	0	No		No	100	2
15	Mundra	Nani	2 km	0	0	No		No	0	3

S. No.	Taluka	Village	Hospital	No. of doctors	Pvt practitioners	Health workers	General preventive diseases	Any family Wel. Scheme	Latrine	Soak pits
		Bhujpar								
16	Mundra	Navinal	10km	0	Yes	Yes		No	150	1

Source: Gram Panchayat Official

Facilities of Bank, Post Offices and Library

Most of the villages have post office in the village itself but the bank facility is rare and at times as far as 15 Km. away. A bank requires certain threshold of population to be viable for its existence and therefore it is understandable that the villages do not have banks.

Figure No.29
Post Office at Tunda



Table No.15
Availability of Post Office, Band and Library

S. No.	Taluka	Village	Post office	Bank	Library
1	Mandvi	Faradi	Yes	7 km	Yes
2	Mandvi	Bidada	Yes	Yes	Yes
3	Mandvi	Nani Khakhar	Yes	6 km	Yes

S. No.	Taluka	Village	Post office	Bank	Library
4	Mandvi	Nana Bhadiya	7 km	15km	Yes
5	Mandvi	Pipari	5 km	5 km	No
6	Mandvi	Maska	Yes	No	No
7	Mandvi	Bag	Yes	6 km	No
8	Mandvi	Gundiyali	Yes	8 km	8 km
9	Mandvi	Mota Bhadiya	Yes	5 km	No
10	Mandvi	Tragadi	2 km	11 km	No
11	Mundra	Tunda	Yes	3 km	3 km
12	Mundra	Shiracha	Yes	4 km	Yes
13	Mundra	Moti Bhujpar	Yes	Yes	Yes
14	Mundra	Pratappar	Yes	6 km	Yes
15	Mundra	Nani Bhujpar	2 km	2 km	2 km
16	Mundra	Navinal	Yes	5 km	Yes

Source: Gram Panchayat Official

Entertainment Facilities

Television is available to almost all the families in the villages of the project area. There are no cinema halls or sport like cattle race. Only two villages have some sports facility in the form of play-ground.

Table No.16
Availability of Entertainment Facilities

S. No.	Taluka	Village	No. of Radio sets	No. of TVs	Cinema Halls	Cattle Race	Sports
1	Mandvi	Faradi	325	140	None	None	None
2	Mandvi	Bidada	100	200	None	None	None
3	Mandvi	Nani Khakhar	100	350	None	None	None
4	Mandvi	Nana Bhadiya	120	120	None	None	None
5	Mandvi	Pipari	150	262	None	None	None
6	Mandvi	Maska	1050	720	None	None	Yes
7	Mandvi	Bag	55	165	None	None	None
8	Mandvi	Gundiyali	75	750	None	None	None
9	Mandvi	Mota Bhadiya	35	25	None	None	None
10	Mandvi	Tragadi	No	0	None	None	None
11	Mundra	Tunda	25	42	None	None	None
12	Mundra	Shiracha	120	120	None	None	None
13	Mundra	Moti Bhujpar	50	2500	None	None	Yes
14	Mundra	Pratappar	10	5	None	None	None
15	Mundra	Nani Bhujpar	15	40	None	None	None

S. No.	Taluka	Village	No. of Radio sets	No. of TVs	Cinema Halls	Cattle Race	Sports
16	Mundra	Navinal	10	80	None	None	None

Source: Gram Panchayat Official

Speciality of the Villages

The villages have very few specialities. The handicraft, temple and festivals were reported by investigators from the Gram Panchayat Officials. The household activities like spinning of woollen, thread and weaving of blankets by the shepherds were also recorded. Besides, Mundra is famous for its handicrafts especially tie -dye, block prints, Namda work by Mansoori people

Table No.17
Speciality of the Village

S.No.	Taluka	Village	Handicraft	Folk Art	Music	Temple/ Monument	Festival/ Market
1	Mandvi	Faradi	No	No	No	Yes	Yes
2	Mandvi	Bidada	No	No	No	Jain Derasar	
3	Mandvi	Nani Khakhar	No	No	No	No	No
4	Mandvi	Nana Bhadiya	No	No	No	Rama Peer	No
5	Mandvi	Pipari	No	No	No	No	No
6	Mandvi	Maska	No	No	No	No	No
7	Mandvi	Bag	No	No	No	No	No
8	Mandvi	Gundiyali	Yes	No	No	Yes	No
9	Mandvi	Mota Bhadiya	No	No	No	Baveswar Temple	
10	Mandvi	Tragadi	No	No	No	No	No
11	Mundra	Tunda	No	No	No	No	No
12	Mundra	Shiracha	No	No	No	Yes	No
13	Mundra	Moti Bhujpar	No	No	No	No	No
14	Mundra	Pratappar	No	No	No	No	No
15	Mundra	Nani Bhujpar	No	No	No	No	No
16	Mundra	Navinal	No	No	No	No	No

Source: Gram Panchayat Official

NGOs and Welfare Schemes

No major Non Government Organization (NGO) was found in the area. Some local community groups were functioning for the local needs mainly religious and community functions. The Gram Panchayats were given financial assistance from the State Government for certain activities like housing, drinking water and sanitation.

Table No.18
Availability of NGO and Welfare Schemes

S. No.	Taluka	Village	NGO Name	Welfare schemes	Funded Project
1	Mandvi	Faradi	No	No	No
2	Mandvi	Bidada	No	Sanitation	Indira Awas
3	Mandvi	Nani Khakhar	Kuchchh Jyoti Trust	No	No
4	Mandvi	Nana Bhadiya	No	No	No
5	Mandvi	Pipari	No	No	No
6	Mandvi	Maska	No	No	No
7	Mandvi	Bag	No	No	No
8	Mandvi	Gundiyali	No	No	No
9	Mandvi	Mota Bhadiya	No	No	No
10	Mandvi	Tragadi	No	No	No
11	Mundra	Tunda	No	No	No
12	Mundra	Shiracha	No	No	No
13	Mundra	Moti Bhujpar	VRTI	Yes	No
14	Mundra	Pratappar	No	No	No
15	Mundra	Nani Bhujpar	No	No	No
16	Mundra	Navinal	No	No	No

Source: Gram Panchayat Official

Figure No.30
Gram Panchayat Office, Mota Kandagra



Figure No.3
Gram Panchayat Office, Bhojpar



Difficulties Faced

The Gram Panchayat Officials have reported some common problems faced by the village. These are lack of good cultivable land, health facility in the village, higher level schools say up to X standard, water for drinking as well as irrigation and lack of grazing area for the live stock.

Table No.19
Difficulty Faced by the Villagers

S. No.	Taluka	Village	Lack of land	Health facility	School	Water	Lack of Grazing Area for Live Stock
1	Mandvi	Faradi	Yes	Yes	Yes	Yes	No
2	Mandvi	Bidada	Yes	No	No	Yes	Yes
3	Mandvi	Nani Khakhar	No	Yes	Yes	No	Yes
4	Mandvi	Nana Bhadiya	No	Yes	No	Yes	No
5	Mandvi	Pipari	No	Yes	Yes	Yes	Yes
6	Mandvi	Maska	No	No	No	Yes	No
7	Mandvi	Bag	Yes	Yes	No	No	Yes
8	Mandvi	Gundiyali	Yes	Yes	Yes	Yes	Yes

S. No.	Taluka	Village	Lack of land	Health facility	School	Water	Lack of Grazing Area for Live Stock
9	Mandvi	Mota Bhadiya	Yes	Yes	Yes	Yes	Yes
10	Mandvi	Tragadi	No	No	Yes	No	No
11	Mundra	Tunda	No	Yes	Yes	Yes	No
12	Mundra	Shiracha	No	Yes	No	Yes	Yes
13	Mundra	Moti Bhujpar	Yes	Yes	Yes	Yes	Yes
14	Mundra	Pratappar	Yes	Yes	Yes	Yes	Yes
15	Mundra	Nani Bhujpar	Yes	Yes	Yes	Yes	Yes
16	Mundra	Navinal	No	Yes	No	Yes	Yes

Source: Gram Panchayat Official

Awareness of Public about upcoming Ultra Mega Power Plant

During the visit to villages, some persons from general population, farmers and Gram Panchayat officials were contacted informally to find out their awareness about the power plant and attitude towards the proposed power plant. People in the study area are aware of the coming up of power plant. They are however not aware about its exact nature and capacity. And therefore, they are not able to fully assess its impact on the area. The similar perception was received from Gram Panchayat Officials also who were aware of the project but not about the likely impact on the local people, cattle and agriculture.

Table No.20
Awareness about Project

S. No.	Taluka	Village	Awareness about project	Disadvantages of project
1	Mandvi	Faradi	Aware	Not Aware
2	Mandvi	Bidada	Aware	Not Aware
3	Mandvi	Nani Khakhar	Aware	Not Aware
4	Mandvi	Nana Bhadiya	Aware	Not Aware
5	Mandvi	Pipari	Aware	Not Aware
6	Mandvi	Maska	Aware	Not Aware
7	Mandvi	Bag	Aware	Not Aware
8	Mandvi	Gundiyali	Aware	Not Aware
9	Mandvi	Mota Bhadiya	Aware	Not Aware
10	Mandvi	Tragadi	Aware	Not Aware
11	Mundra	Tunda	Aware	Not Aware
12	Mundra	Shiracha	Aware	Not Aware
13	Mundra	Moti Bhujpar	Aware	Not Aware
14	Mundra	Pratappar	Aware	Not Aware
15	Mundra	Nani Bhujpar	Aware	Not Aware
16	Mundra	Navinal	Aware	Not Aware

Source: Gram Panchayat Official

Kuchchhis are known to be progressive. They are hard working, business minded and believe in self-employment. Generally, all the people contacted welcomed the power plant though some of them feared some harm to plantations, land and agriculture due to ash pollution. They said that progress cannot come without any cost. People are thrilled about Narmada river/dam water coming to Kuchchh and they are aware that it has come at the cost of households whose houses and land got submerged in the dam. They therefore believe that the progress has its own cost for which they should be ready. They also said that in case there is any damage to the land and crop they will shift their livelihood from agricultural to some other activities. The residents in the area have seen rising prices of the land after coming of Mundra port. They had never seen such high price for their residential and agricultural land, which is more or less barren. The price for agricultural land in area is between 2 to 3 lakh per acre. They are therefore happy about the upcoming power plant, as it will fetch yet more money for the land owned by them, which they can use for some investment and alternative livelihood.

Likely Impact on People, Agriculture, Cattle and Plantation during construction

During construction of the plant heavy machinery and construction material will be brought to the plant site. The roads in the region are narrow that will be improved and designed to take care of required load bearing. Since the machinery will be heavy and if it happens to be brought by road transport, it may affect the movement of local people, local vehicles and cattle, if proper attention will not be given on existing roads. It may also spoil the roads and produce dust pollution. Public is in favour of power plant, this opinion may be retained by following good management practice during the construction and operational phase of the project. There will be movement of vehicles for construction of plant and housing colony in and around the villages and nearby towns. This will in some way or the other may affect smooth movement of local people, cattle and vehicles, if proper care would not be considered. There is no likelihood of any impact on agriculture and plantations during construction phase. Set up of the project will not affect the ground water table and existing water supply of the villages, as provision of thermal desalination plant/RO by using sea water will full fill complete water requirement of ultra mega power plant. Proper attention on existing infrastructures will not only minimise the impact but also will improve the existing infrastructure facilities.

Likely Impact on People, Agriculture, Cattle and Plantations after plant becomes operational

The plant is coming up on a barren land and therefore does not affect households, plantations, cattle grazing or agriculture. The only impact on the population, agriculture and plantations is likely to be the pollution due to coal ash, which will flow with the wind. Provision of green belt and plantation will help in reducing the fugitive dust emission. The discharge of the coal ash needs to be controlled and disposed off properly to minimise its adverse impact on the residential houses, people, cattle and plantations (Kharak, Chikoo and Coconut).

The disposal of balanced effluent and cooling water through out fall structure into the deep sea will have insignificant impact on marine life. The fish population of the study area will have insignificant impact as out fall structure will be properly designed that will not impact existing local marine life.

According to the proposal, the coal ash is to be stored at some distance away from the power plant, necessitating transporting the ash from plant to collection ground (ash depot). Transportation of ash to disposal area through wet system will not create inconvenience to local population and local traffic.

The power plant will need plenty of water that will be full filled from nearby sea. The area has severe scarcity of water. Therefore, under-ground water has not been proposed for use in power project. Water requirement of residential colony for the employees will have to be made available from their own facility from proposed thermal desalination plant/ RO plant. All the villages in the area have their own water supply through overhead tanks in which water is drawn from bore-wells. Therefore, existing water uses of the study area will have no impact due to set up of mega power plant.

Mitigation during Construction of Plant

The plant machinery and construction material should be brought by rail transport through a convenient port facility so that local people and cattle are not affected. Yet some road movement will be necessary between the plant site and some nearby villages and Mundra / Mandvi towns. It is therefore suggested that roads may be improved for smooth transportation without causing any inconvenience to the

locals. Improvement of roads will also generate favourable public opinion during construction and reduce resentment if any due to inconvenience caused. A sizeable amount of water will also be required during construction. Thermal desalination plant should be envisaged to meet the water requirement of plant during the start of construction.

Mitigation after Plant becomes Operational

The greatest impact that requires mitigation is the effect of pollution due to coal dust and ash on the people, cattle, plantations and agriculture land. Serious attention is required towards control of coal ash in the environment and heat generated during power generation. Even transport of coal ash from the plant to the collection depot will affect the local movement of traffic. It is advised to use railways or enclosed system for this purpose. Lifting of coal ash by the buyers from the ash depot will also have to be organized properly so that air pollution during lifting can be minimized and there should be minimum disturbance to local traffic during shipment from ash depot to buyers' warehouses. Disposal of treated effluent from desalination plant and cooling system will not have any impact on local ecology and marine life, if disposed to deep sea through a properly designed out fall structures. Therefore, the livelihood of fishermen will not be affected. It would be advisable to provide loan facilities to the needy fishermen for buying better mechanized boats so that the fishermen can go deeper in the sea for fishing.

**SUMMARY OF IMPACT AND MITIGATION MEASURES
DURING CONSTRUCTION**

S. No.	Activity	Likely Impact	Mitigation Measures
1.	Transportation of Plant Machinery and construction material to site of power plant	Damage to Roads and dust in atmosphere	Good construction management practices will Improve local roads connecting plant, ash depot and residential colony. Construction of Railway line will help in reducing transportation problems.
2.	Water required during construction of Power Plant, Ash Depot and Residential colony	Reduction of water table in the area	Thermal desalination desalination plant / RO plant envisaged will have no impact on ground water
3.	Drinking water for construction workers	Reduction of water table in the area	Thermal desalination desalination plant / RO plant envisaged, that will have no impact on ground water
4.	Unskilled labor required for construction	May create some some social problems like drinking	Employment of local labor would be less likely to fall prey to such activities
5.	Movement of staff between site, ash depot, residential colony and nearby towns in vehicles	Damage to roads and obstruction to local traffic	Good construction management practices will Improve local roads connecting plant, ash depot and residential colony

**SUMMARY OF IMPACT AND MITIGATION MEASURES
AFTER CONSTRUCTION**

S. No.	Activity	Likely Impact	Mitigation Measures
1.	Movement of coal from port to power plant	No adverse impact if railway is used	No mitigation required if railway is used
2.	Water required for Power Plant	No adverse impact if sea water is used	No mitigation required if sea water is used
	Dust emission from Coal and ash from power plant	Adverse effect likely on the health of the population, cattle, plantation and agricultural land	Proper dust suppression system and 100m wide green belt apart from the plantation in ash disposal and within the premises will minimize the dust emission problems. Health check-up facilities for the workers, cattle and villagers are the necessary measures to minimize the impacts.
3.	Transportation of coal and ash from power plant to Ash depot	Dust pollution	Use of closed system and water as dust suppression at transfer point will minimize the impacts.
4.	Disposal of ash from ash depot to buyers	Air pollution	Use closed containers, dust suppression system and preferred railways instead of road for transportation
5.	Water for residential colony	Water table in the area will go down	Use of sea water for desalinated water will have no impact on existing ground water table.
6.	Disposal of effluent into sea	Adverse impact on marine life (fish) and loss of livelihood of fishermen	Intake and outfall structures should be properly designed that should minimize the impacts on marine life. If fisherman requires any help, loan should be arranged for betterment of their livelihood.

APPENDIX

**SOCIO-ECONOMIC SURVEY
QUESTIONNAIRE FOR GRAM PANCHAYAT/GRAM SARAPANCH**

Date: _____ Village: _____
 Name of interviewer: _____ Respondent: _____
 Area of Village: _____ Population: _____ as on _____
 Total No. of House Holds: _____

1.	Population Breakup	%	SC	ST
	Hindu			
	Muslims		-	-
	Patels			
	Banias			
	Other		-	
2.	Land Breakup	Percentage of Households		
	Less than 1 acre			
	1-5 acre			
	More than 5 acre			
	No. of Households			
3.	School in Village	No. of Institutions / No. of Students		
	Primary	/		
	Secondary	/		
	Technical Institution	/		
	Collage	/		
	University			
	Adult literacy Centre			
	Training Institute			
4.	No. of Wells in village	Number		
	For drinking			
	For Irrigation without pumps			
	For Irrigation with pumps			

5.	Crop yield/acre/year	Yield/acre/year
	Crop 1:	
	Crop 2:	
	Crop 3:	
	Crop 4:	
	Crop.5:	
	Total Crops/acre/year	
	Major wadis (chikoo, dates, any other)	
6.	Agriculture	Number
	No. of bullocks	
	No. of tractors	
	No. of cows	
	No. of Goats/sheeps	
	Other Cattle	
	Milk production per day	
	No. of Rearing cattle	
7.	Source of Income in Rs.	Amount
	Through Employment	
	Agriculture	
	Animal Husbandry	
	Rearing of cattle	
	Fishing	
	Handicrafts	
	Trading	
	Any other	
8.	No. of persons working in factory	Number
	Directly	
	Indirectly	

9.	No. of Employees	Number		
	Govt. Employees			
	Private Employees			
10.	Education			
	Total No. of Educated persons			
		%	Employed	Unemployed
	Upto High School			
	Upto graduation			
11.	No. of Electrified Houses	Number (%)		
	TV			
	Radio			
	Fan			
	Other			
12.	Consumption of fuel per day	Number of Households (%)		
	Wood / Weed			
	Coal			
	Gas			
13.	Medical facilities	If not available / distance from village		
	Hospitals			
	No. of Doctors			
	Private Practitioners			
	Health Workers/Midwives			
	General prevalent diseases			
	Any family welfare schemes			
14.	No. of Latrines			
15.	No. of Soakpits			
16.	Means of Transport	Road / Navigation - River		
17.	No. of Bullock Carts			
18.	No. of Auto-vehicles/Chhakada			

19.	Distance of bus stand from village	
20.	Distance of nearest railway station from village	
21.	Amenities	If not available/ distance from village
	Post Office/Telegraph Office	
	Bank	
	Library	
22.	No. of drinking water sources	Number
	Wells	
	River Ghats	
	Hand Pump	
	Ponds/Springs	
23.	Any specific problem related to drinking water (scarcity /taste/ odor/long distance from source/ other	
24.	Is there a place of tourist attraction in your village	
25.	Is there any religious place	Names:
26.	Historical/Monuments/Sanctuary	Names:
27.	Is there weekly market in a week	
28.	If no, how far persons going for market	
29.	No. of persons visiting the market	
30.	What are the facilities for entertainment	Number
	Radio	
	TV	
	Cinema	
	Cattle race	
	Sports	
	Other	

31.	Main specialty of the village	
	Handicraft	
	Folk art/Dance	
	Music	
	Temple/Monuments	
	Festival/Market	
32.	Are there any specific revenue earning facilities? (Temple, Mela, etc.)	
33.	Migration of population towards cities	Number (%) migrating
	Metropolitan Cities	
	Other	
34.	Any NGO working in the village.	Name:
	Any welfare scheme	
	Any funded project	
35.	Village levels specific problem.	
	Lack of land	
	Lack of health facilities	
	Lack of schools	
	Accessibility to water	
	No grazing area for live stock	
	Any other (specify)	
36.	Awareness about the project	Aware / Not aware
	Advantages of the project	
	Disadvantages of the project	