CHAPTER SEVEN

GEOGRAPHICAL ANALYSIS OF DEVELOPMENT OF GUJARAT

This chapter is based on the secondary data analysis as well as the primary assessment of the region with respect to the development issues. The development perspectives are as per the popular regional classification based on the physical and social characteristics of the State. These are (a) Gujarat Plain; (b) Coastal Region; (c) Eastern Hilly Region (d) Saurashtra and Kachchh.

7.1 Regional Sub Division

For the Geographical, analysis of the development the physiographic division of Gujarat is based on areal differentiation and characteristics. The following physiographic divisions are popular notion of regional identifications for development analysis, these are, (a) Gujarat Plains – Golden Corridors; (b) Gujarat Coast (including Saurashtra & Kachchh Coast); (c) Saurashtra and Kachchh; and (d) Eastern Hills and Forested Regions (including Valley & Basins). These physiographic divisions are based on the physiographic divisions published in map atlas published by Census of India (2001) **(Annexure: Block wise Distribution of Region)**

The above regional classifications are demarcated by the Census of India, provides regional sub divisions other than the known regions of the State. The development and change detection in the given sub-regions can be fairly understood by overlaying the block boundaries as given by the census for the development analysis.

The distinct geographical sub regions gives Gujarat a varied physiographic characteristics dividing the State into (a) Central Gujarat Plains (CG Plains), Eastern Hills, Kachchh Plains, North Gujarat Plains, Northern Hills, South Gujarat Plains, Saurashtra Plains and Saurashtra Uplands. These sub-regions are depicted by block boundaries present its dominant physiographic characteristics.

The analysis based on these physiographic features into the broad categorization of Hills, Plains, Coastal and Saurashtra regions of the State. This categorisation is specifically used for the analysis of the development characteristics in the State.

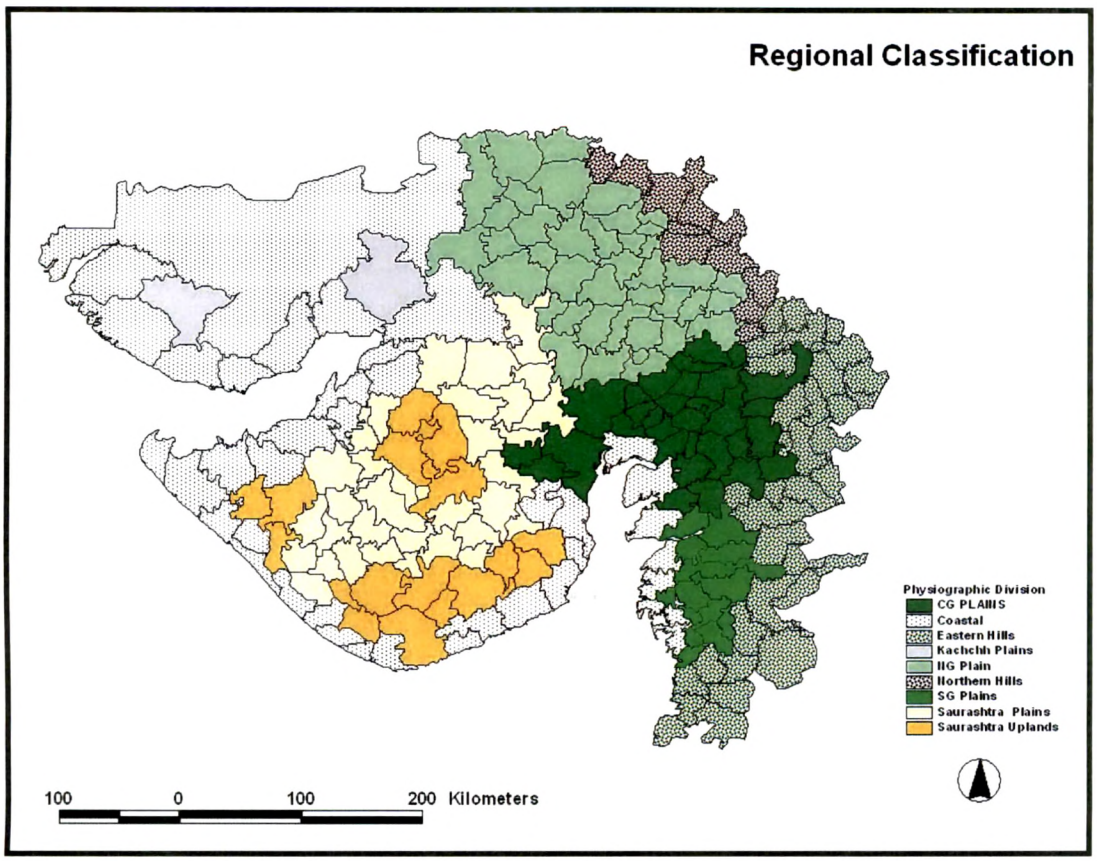


Figure 7.1: Regional Classification of Gujarat (Census of India, 2001)

7.2 Demographic Profile of Geographical Regions

A perusal of changes in the share of population between 1961 and 2001 at region level of Gujarat reveals that the share of population in Central Gujarat, Coastal areas, Kachchh Plains and Saurashtra Plains in the total population of the State has declined. On the other hand, the same share has registered an increase in North Gujarat Plains, South Gujarat Plains and Eastern Hills indicating the impact of migration as well as natural growth.

The table 7.1 below presents the distribution of the population across the geographical regions, which shows the decline in population share in Central Gujarat (CG) Plains from 18.91 per cent in 1961 to 15.86 per cent in 2001. In South Gujarat plains the population share increased from 7.9 per cent in 1961 to 10.24 per cent in 2001. This might be due to migration of people from these regions due to economic reasons. The CG Plains shows outmigration of people from 1971-81 which is affecting the growth rate of population in subsequent decades. Mostly the people might have migrated out of the country during this period either due to impact of land reforms or economic attractions elsewhere.

The field investigations also points out that the region, closer to '*Charotar*' has experienced high incidence of people migrating to Africa, Europe and America for better economic prospects during the mentioned period. This is also reflected in increase in sex ratio during the subsequent decade of 1971-81 in the CG Plains (Table 7.3).

Table 7.1
Decadal Distribution Regional Population (1961-2001)

Regions	**1961**	**1971**	**1981**	**1991**	**2001**
Central Gujarat Plains	34,30,241	42,91,704	54,03,687	63,32,047	78,79,124
Per centage	*18.91*	*18.49*	*16.50*	*15.95*	*15.96*
Coastal	28,30,695	35,71,427	52,52,870	60,44,206	66,50,493
Per centage	*15.60*	*15.39*	*16.04*	*15.23*	*13.47*
Eastern Hills	23,77,339	30,73,199	42,08,385	52,79,282	69,11,358
Per centage	*13.10*	*13.24*	*12.85*	*13.30*	*14.00*
Kachchh Plains	1,58,523	1,84,728	2,40,949	2,67,461	3,04,192
Per centage	*0.87*	*0.80*	*0.74*	*0.67*	*0.62*
North Gujarat Plains	41,33,592	54,53,634	82,10,712	10,056,690	12,794,225
Per centage	*22.78*	*23.49*	*25.07*	*25.34*	*25.91*
Northern Hills	4,49,851	5,95,132	9,05,128	10,83,084	14,14,516
Per centage	*2.48*	*2.56*	*2.76*	*2.73*	*2.86*
Saurashtra Plains	21,46,061	27,61,762	34,59,661	39,36,557	46,80,991
Per centage	*11.83*	*11.90*	*10.56*	*9.92*	*9.48*
Saurashtra Uplands	11,81,930	13,57,498	25,15,110	30,49,256	36,83,102
Per centage	*6.51*	*5.85*	*7.68*	*7.68*	*7.46*
South Gujarat Plains	14,33,572	19,24,158	25,58,003	36,45,447	50,56,862
Per centage	*7.90*	*8.29*	*7.81*	*9.18*	*10.24*
Gujarat	**18,143,765**	**23,213,242**	**32,754,505**	**39,694,030**	**49,374,863**

Note: The per centage figures indicate per centage regions population to the State. Based on Census Population figures (1961-2001)

In South Gujarat Plains, high growth rate (63 per cent – year 1961-2001) suggest increased migration of people from across the regions to major industrial centres i.e. Bharuch, Surat, Vapi and Valsad. The increase has happened since 1981-91 to 1991-2001, which is likely to be more the in current census of 2001-2011 (Table 7.2).

Economic compulsions due to lack of agricultural development and loss of employment in traditional occupations in the coastal *talukas* might have resulted in the decline of growth rate in Coastal areas.

The most stable rate of growth is observed in the NG Plains, which is probable due to the capacity of the region to sustain the population by continued attractions of its urban

centres namely, Ahmedabad, Gandhinagar, Mehsana, Kadi and Kalol etcetera. The region has been accommodating around a quarter of the State population since 1961, which is slowly but steadily increasing.

Table 7.2
Regional Changes in Decadal Growth Rate

Regions	1961-71	1971-81	1981-91	1991-2001	1961-2001
Central Gujarat Plains	25.11	25.91	17.18	24.43	32.42
Coastal	26.17	47.08	15.06	10.03	33.74
Eastern Hills	29.27	36.94	25.45	30.91	47.68
Kachchh Plains	16.53	30.43	11.00	13.73	22.97
North Gujarat Plains	31.93	50.55	22.48	27.22	52.38
Northern Hills	32.30	52.09	19.66	30.60	53.61
Saurashtra Plains	28.69	25.27	13.78	18.91	29.53
Saurashtra Uplands	14.85	85.28	21.24	20.79	52.90
South Gujarat Plains	34.22	32.94	42.51	38.72	63.19
Gujarat	**27.94**	**41.10**	**21.19**	**24.39**	**43.03**

7.2.1 Growth Rate

Growth rate of population in Gujarat increased remarkably from 27.94 per cent during 1961-71 to 41.10 per cent in 1971-81. Almost all the regions of the State, excepting CG Plains, Saurashtra Plains and South Gujarat (SG) Plains, registered increased growth rates. Of the three exceptions, growth rate was marginally higher in CG Plains and marginally lower in the other two between these two decades. The subsequent decade of 1981-91 brought reduced rates to all regions of the State excepting SG Plains, where the increase in the rate was substantial, from 32.94 to 42.51 per cent. The SG Plains also registered the highest growth rate during the subsequent decade of 1991-2001, indicating accelerated migration into the region.

On other hand, the Coastal region, Kachchh Plains, Saurashtra Plains and Saurashtra Uplands registered growth rates less than the State average of 24.39 per cent, either with reduced or marginally increased growth rates during this decade. Backwardness of these regions due to lack of agricultural development, poor infrastructure and economic opportunities in these regions might have been responsible for inducing distressed out migration. Relatively better performance of the Eastern Hills region may be ascribed to the seasonal migratory tradition of the tribes of the region to seek employment in the unorganized sector of the urban areas of Central Gujarat Plains and South Gujarat Plains in the close

vicinity. The latter two regions, spread over the mainland part of the State and lying along the Golden Corridor, have constantly been gaining in population. Their situation could be ascribed to in-migration of people as well as natural growth. These two regions during the same period also registered substantial growth in agriculture and industries.

Coastal region, Eastern Hills and Kachchh Plains show a sharp decline in the growth rate of population during 1981-91 as compared to 1971-81 from 47.08 to 15.06 per cent respectively. It is found that backwardness of region due to lack of agricultural development, infrastructure and poor economic opportunity induces distress migration. There has been traditional as well as present migration of labour forces from these regions for agriculture as well as secondary and tertiary sectors of economy in other regions of state. The population *explosion* (high growth) during the 1961-71 and 1971-81 might also had contributed towards the increase in the population and subsequent outmigration during the later decades.

The increase in the growth rate Central Gujarat Plains and South Gujarat is observed (see Table 7.2) which is part of the main land Gujarat from 34.22 and 25.11 per cent during 1961-71 to 63.19 and 32.42 per cent in 1991-2001. The reason for the change can be attributed to in-migration of people as well as natural growth. The regions during the same period also registered substantial growth in agriculture and industries.

7.2.2 Sex Ratio

There is continuous decline in sex ratio (females per thousand males) in the State, and major contributors responsible for this decline over the last five decades are social and economic factors. The major changes can be observed in the South Gujarat Plains, where the cities like Surat has attracted large influx of the migrants from not only the other regions of the State but also from other states, specially Maharashtra, Andhra Pradesh, Orissa, Uttar Pradesh and Rajasthan. These migrants, initially employed in the textile and diamond industries, have now getting absorbed in the new industries of the region.

Table 7.3
Changes in Sex Ratio by Geographical Regions

	Sex Ratio				
Regions	**1961**	**1971**	**1981**	**1991**	**2001**
Central Gujarat Plains	906	898	913	912	914
Coastal	978	962	955	945	915
Eastern Hills	966	966	980	966	960
Kachchh Plains	1026	1022	1008	973	944
North Gujarat Plains	909	909	927	922	911
Northern Hills	964	976	987	974	957
Saurashtra Plains	955	947	952	952	944
Saurashtra Uplands	951	944	955	955	947
South Gujarat Plains	972	948	921	898	854
Gujarat	**942**	**935**	**942**	**935**	920

7. 2.3 Distribution of Scheduled Caste Population

Traditionally, the Scheduled Caste (SC) segment of the population in India is clustered and concentrated in the agricultural areas. The Gujarat situation is no different from this generalization. The agriculturally unsuitable, hilly and forested regions of the Eastern Hills and South Gujarat Plains have the least share of the SC population in their respective total populations (Table 7.4).

There is a marginal increase in the share of the Scheduled Caste (SC) population in the total population of the State during the 1961and 2001 census years. At the region level however, it is worth noting that, the increase in the share of the SC population is not common to all regions. While, decrease in the share has been recorded in case of Central Gujarat Plains, Eastern Hills, North Gujarat Plains, Northern Hills and South Gujarat Plains other regions display an increase in the same share. A significantly high increase ranging between two to three per cent in Saurashtra Plains, Saurashtra Uplands and Kachchh Plains could perhaps be ascribed to migration of the SC population to these regions from other regions of the State – a resultant effect of unequal regional development.

The shares of SC in total population in South Gujarat Plains have declined. There is substantial rise of SC population share in Saurashtra Plains which had increased from 7.40 per cent in 1961 to 10.42 per cent in year 2001. Kachchh and North Gujarat plains have high share of population in 10-12 per cent. The least share is in Eastern Hills, South Gujarat Plain and Central Gujarat plains, which may be due to its traditional caste and community structure in the regions.

Table 7.4
Geographical Region-Wise: Changes in SC Population 1961-2001

	Scheduled Caste Population				
Regions	**1961**	**1971**	**1981**	**1991**	**2001**
Central Gujarat Plains	6.62	6.75	6.78	6.83	6.14
Coastal	6.31	6.55	7.25	7.61	7.63
Eastern Hills	2.62	2.61	2.67	2.60	2.28
Kachchh Plains	10.35	9.09	10.32	12.50	12.18
North Gujarat Plains	9.59	10.09	10.04	10.50	9.26
Northern Hills	8.59	8.47	7.82	7.67	7.09
Saurashtra Plains	7.40	7.77	8.52	9.07	10.42
Saurashtra Uplands	5.84	6.09	6.62	7.44	8.08
South Gujarat Plains	4.94	4.93	4.24	4.16	3.84
Gujarat	**6.72**	**6.95**	**7.17**	**7.40**	**6.84**

7.1.4 Distribution of Scheduled Tribe Population

The Eastern Hills from Dahod to Tapi District and South Gujarat Plains mainly encompassing Narmada, Tapi, Surat, Navsari and Valsad districts of the State have been the traditional abode of the Scheduled Tribe (ST) population since ages. By and large, there is an increase in the share of ST population of these areas, owing to high growth of population during the decadal years.

However, increase in their share in the total population of the traditionally non-tribal areas suggests the movement of the tribes to the plain areas as agricultural labourers. Increase in the share of the ST population from 5.33 to 8.76 per cent, 8.19 to 15.11 per cent and 22.23 to 51.43 per cent in Central Gujarat Plains, Kachchh Plains and South Gujarat Plains respectively between 1961 and 2001 is clear indication of migration of the tribes to the cash crop cultivating and highly industrialised regions of the State. The tribes have been showing less growth in the Saurashtra during the decades indicating their temporary migration pattern not amounting to settled cultivation practices in the region.

Table 7.5
Geographical Region-Wise Changes in ST Population
(1961-2001)

	% of Scheduled Tribe Population				
Regions	1961	1971	1981	1991	2001
Central Gujarat Plains	5.33	6.41	6.67	6.64	8.76
Coastal	4.82	4.34	4.00	3.90	5.08
Eastern Hills	59.21	62.46	65.05	67.65	69.70
Kachchh Plains	8.19	8.67	10.75	11.68	15.11
North Gujarat Plains	0.77	0.98	1.01	1.09	1.26
Northern Hills	23.78	25.14	31.66	34.47	38.63
Saurashtra Plains	0.22	0.20	0.23	0.35	0.65
Saurashtra Uplands	0.56	0.60	0.47	0.44	0.59
South Gujarat Plains	22.23	22.65	35.23	29.51	51.43
Gujarat	**12.18**	**13.00**	**14.12**	**14.73**	**20.42**

The extraordinarily high increase from 22.23 per cent in 1961 to 51,43 per cent in 2001in the South Gujarat Plains, clearly indicates the movement of the tribes to the urban centres of the region. The share of tribal population has increased due to their migration to major urban centers like Bharuch, Ankleshwar, Surat, Navsari, Valsad, Vapi and other *taluka* head quarters. Most of the urban centers in South Gujarat are located on the plains.

7.1.5 Changing Literacy Rates

The plains areas of Gujarat have better literacy rates than the other geographical divisions of the State. Since 1961 there has been significant improvement in the literacy levels across the regions with spatial differentiation across the regions, i.e. the hilly and coastal regions shows poor literacy levels in general and also in female literacy. The Kachchh plains shows lowest literacy levels in the State followed by the Northern and Eastern hills.

Table 7.6
Geographical Region wise: Changes in Literacy Rate 1961-2001

	Literacy					Literacy Female				
Regions	**1961**	**1971**	**1981**	**1991**	**2001**	**1961**	**1971**	**1981**	**1991**	**2001**
Central Gujarat Plains	36.63	42.62	49.70	55.85	58.11	23.26	29.44	36.16	43.71	45.44
Coastal	30.07	34.37	41.88	49.39	53.68	19.26	23.74	30.75	38.90	43.16
Eastern Hills	19.29	22.72	30.36	37.84	44.46	10.10	13.28	19.69	26.96	33.89
Kachchh Plains	15.85	21.30	28.15	35.21	40.75	7.61	14.08	20.54	25.44	30.33
North Gujarat Plains	34.48	40.82	47.98	55.53	54.24	22.42	29.70	36.45	45.09	42.20
Northern Hills	19.55	26.53	33.26	43.31	49.43	7.97	13.28	19.85	30.48	37.65
Saurashtra Plains	28.09	34.71	44.94	53.33	55.33	17.13	24.14	34.62	44.08	45.81
Saurashtra Uplands	22.48	28.56	42.17	50.52	50.74	12.02	18.09	31.72	41.13	40.76
South Gujarat Plains	40.58	43.66	51.26	57.67	59.52	29.67	34.11	42.52	50.00	52.45

Especially the backward regions remain neglected. Female literacy rates in the backward regions, viz. Kachchh Plains (7.61%), Northern Hills (7.97%), Eastern Hills (10.10%) and Saurashtra Uplands (12.02%), was extremely low at the 1961 Census. Although there has been substantial improvement in the female literacy levels during the next forty years, i.e. by the 2001 Census, these backward regions still lag much behind other regions of the State. While progress of female literacy in Northern Hills and Saurashtra Uplands has been by around 30 point per cent, the other two have registered a relatively lower (23) point per cent increase in the female literacy level in these four decades.

Even though female literacy levels were low in Saurashtra Uplands during 1961, there is substantial improvement in the literacy levels in general from 22.48 per cent (1961) to 50.52 per cent (2001) and also of female literacy levels from 12.02 per cent (1961) to 40.76 per cent (2001). During the census 2011 the literacy rate of Gujarat is above 79.3 per cent (National average 74 per cent). It is expected to have positive impact across the entire region with similar differentiation prevailing across the regions.

7.1.6 Distribution of Schools (2001-2008)

A block level analysis of the availability of school infrastructure in the State at two points of time, i.e. 2001 and 2008, reveals significant improvement. The State has improved in the access to the schools in the villages over 2001 in year 2008. However the *talukas* in Junagadh and Jamnagar in Saurashtra shows little improvement, similarly in the school index in the Vadodara district can be a major cause of concern in terms its current socio-economic status. The areas near to the urban areas are no exception it shows similar trend (Figure 7.2).

However, schools are present across the regions there is distinct backwardness in terms of the comparative literacy levels in both the period 2001-2008 in the eastern hilly regions, Coastal Saurashtra, Dry North and Kachchh region.

The improvement in literacy level is across the State but gap between the plains both in Mainland as well as in Saurashtra remains similar. The reason is high poverty ratio – leading to school dropouts and migration of school going children with families to the developed regions (Figure 7.4 and 7.5)

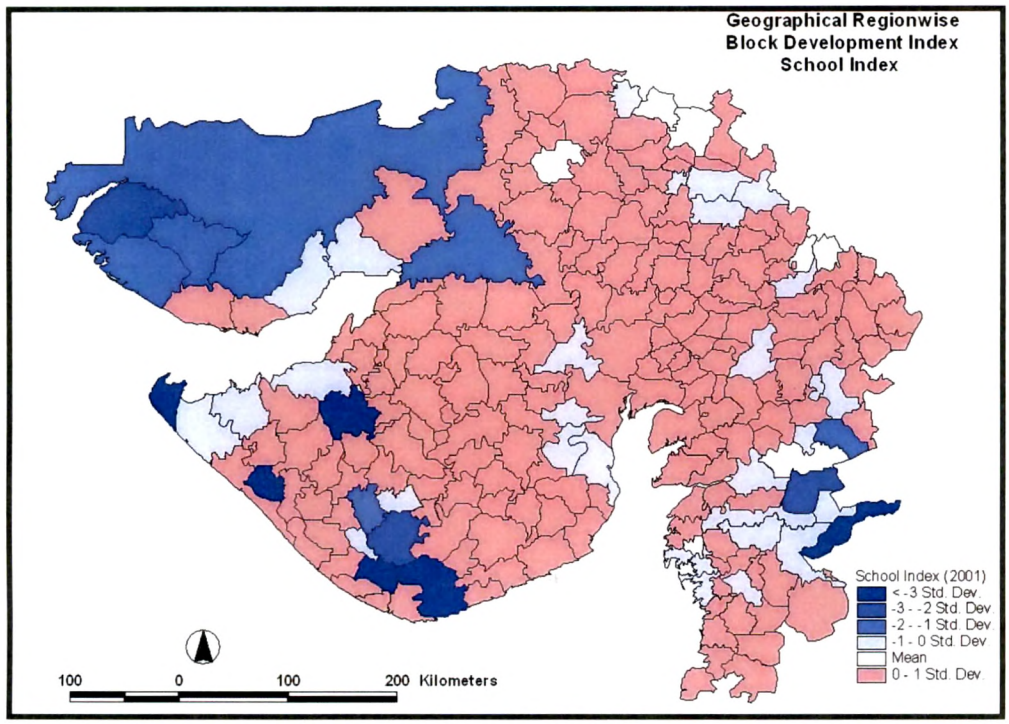


Figure 7.2: Distribution of School Index - 2001

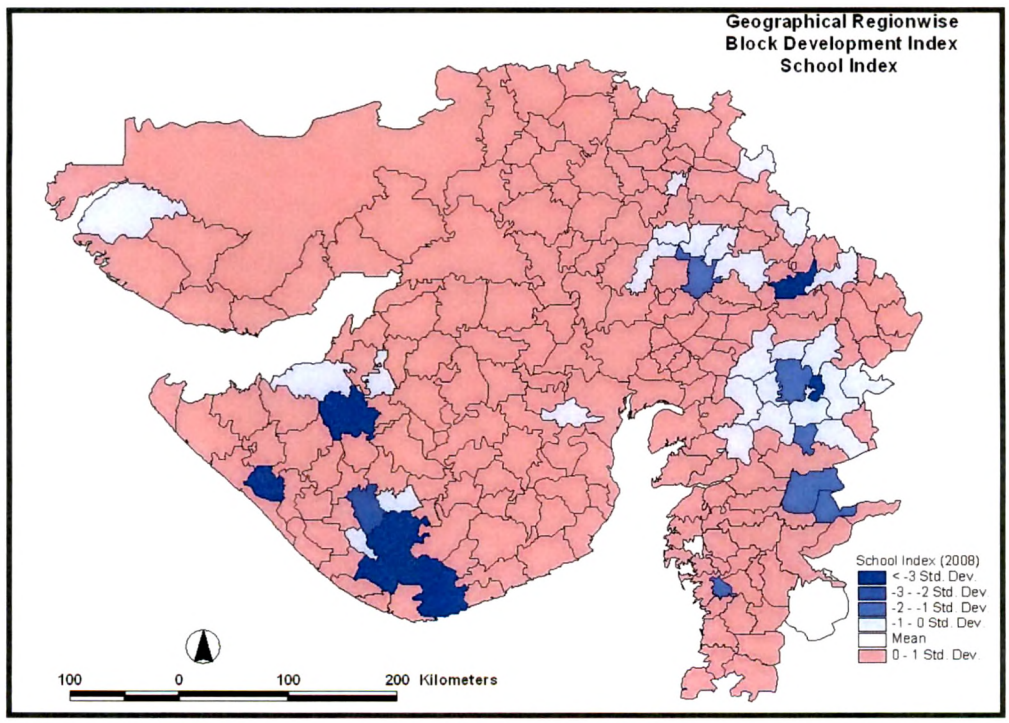


Figure 7.3: Distribution of School Index - 2008

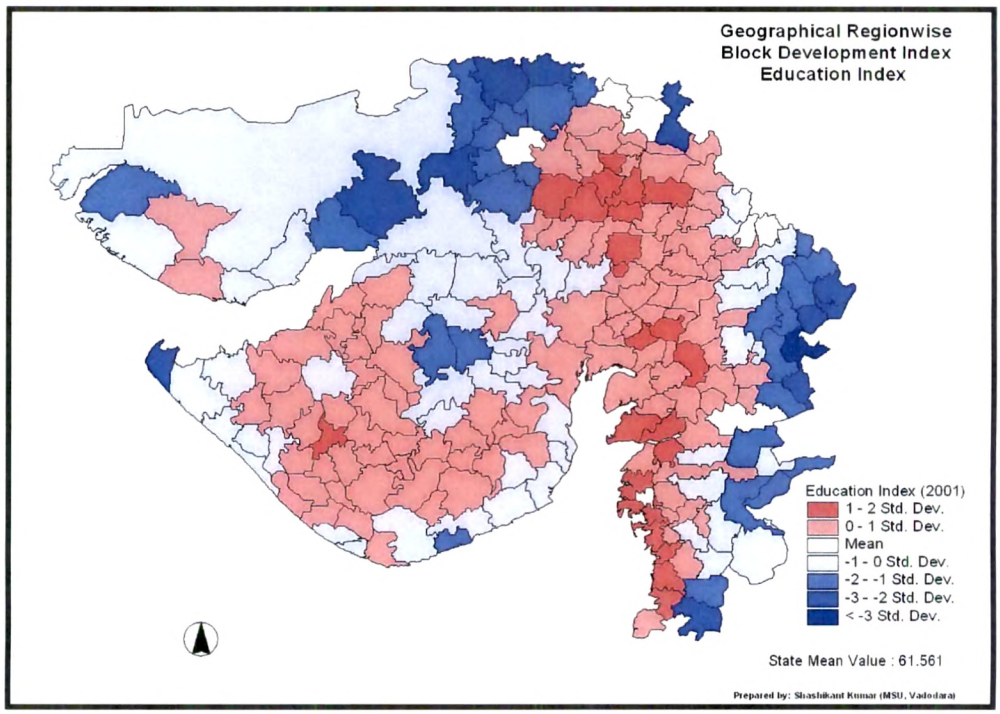


Figure 7.4: Distribution of Education Index - 2001

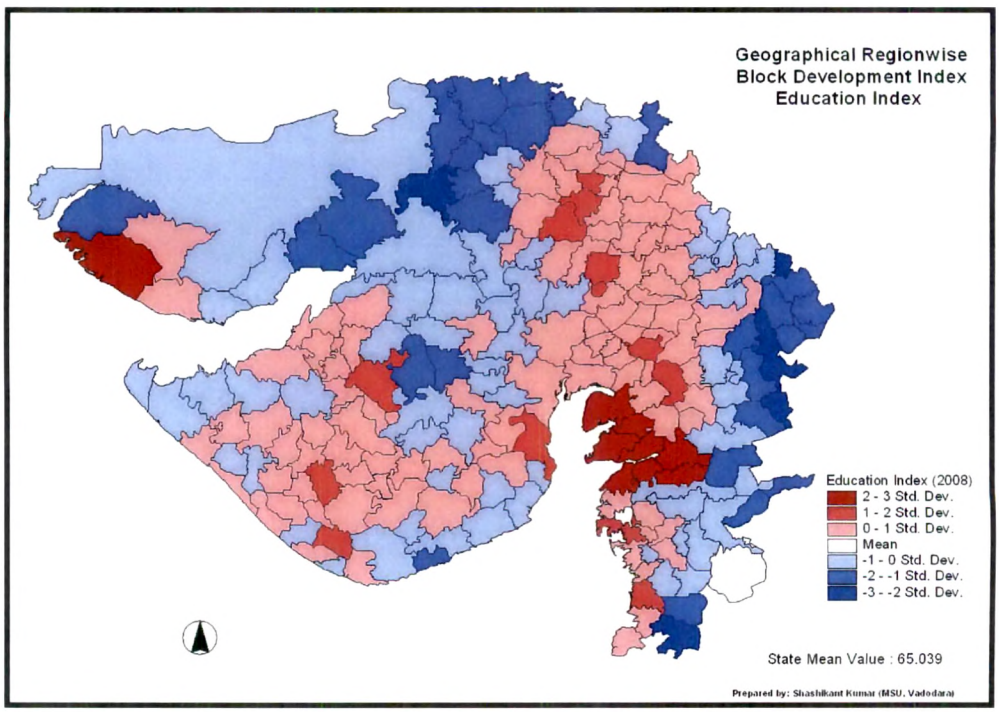


Figure 7.5: Distribution of Education Index - 2008

There is acute problem in the forested regions in the eastern hilly region due to inaccessibility and coverage of population by the existing school due to difficult terrain as well as poor quality of infrastructure in the region. The focuses of the planned efforts towards the backward areas have not helped to bring them at par with the developed areas of the State. This also makes a statement about the desired efforts and outcome of state policies in last fifty years.

7.1.7 Changes in Employment and Work Participation

Employment data of the State depicts shift in sector priority, wherein the focus has shifted from agriculture to industry. Availability of better employment opportunities in the urbanized *talukas* and at the major activity centres becomes evident from the map depicting employment for the year 2008. The urbanized regions like, Ahmedabad-Gandhinagar, Bhavnagar-Jamnagar and Surat-Valsad-Vapi, show higher employment levels. More importantly, the employment levels have also improved in the 'backward' regions particularly in the Eastern Hill region, which may be due to Government Schemes providing employment guarantee in the region. However, within the backward regions, improvement in employment opportunities during 2001 and 2008 has mostly been nearer to the developed blocks. As per the other regions, employment opportunities have improved only marginally in the plain regions and remained by and large closure to the State average in the hilly regions.

The employment in backward regions shows some improvement however, the comparative changes during year 2001-2008 depicts more employment opportunities are being offered near to developed blocks. There is marginal improvement in plains however; the hilly region has little deviation from the normal in the State (Figure 7.6 and 7.7).

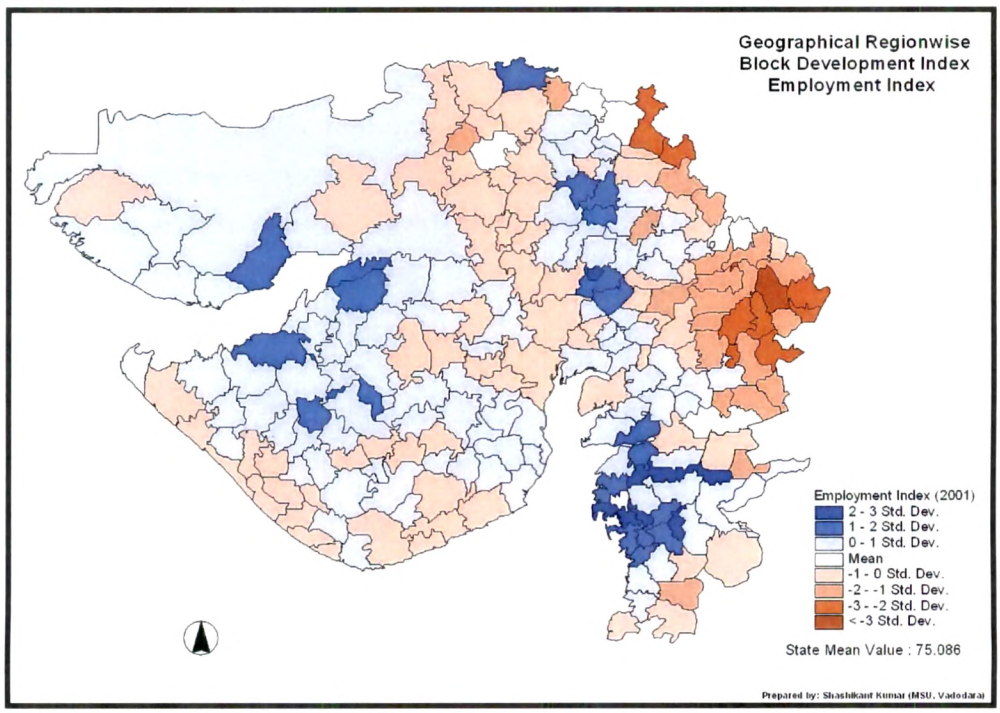


Figure 7.6: Distribution of Employment Index – 2001

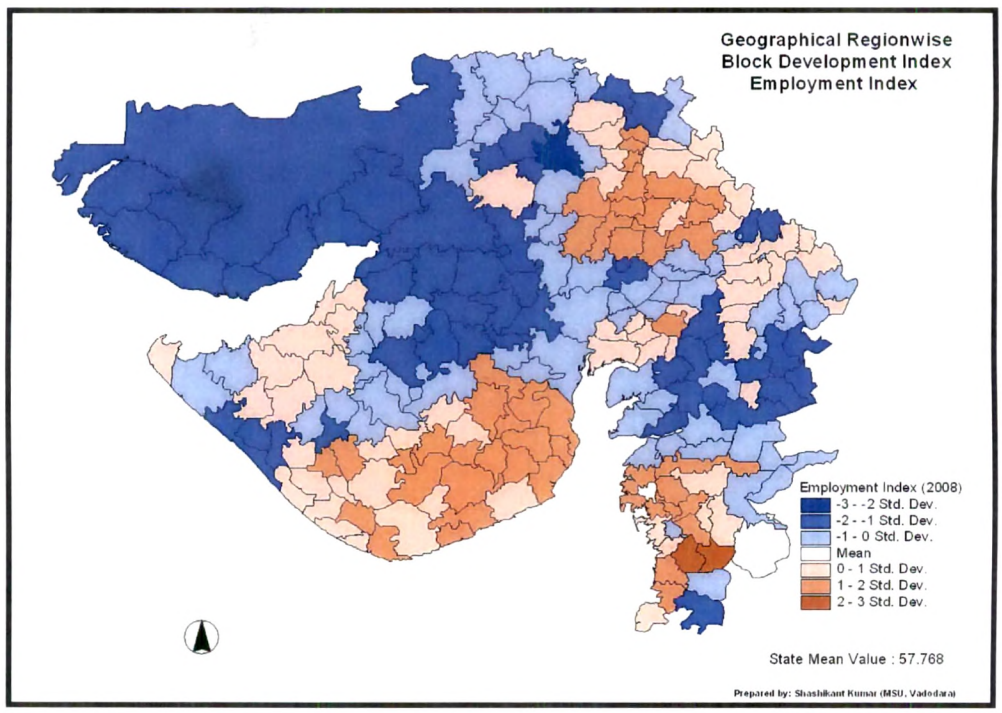


Figure 7.7: Distribution of Employment Index - 2008

During 1961-71, the work participation rates in state dropped both amongst the main workers and female workforce. There may be reasons associated with migration or shift in

population base (high non-working population during high population growth), lack of agricultural growth, natural calamities (drought/flood) and lack of employment opportunity. However, no single cause could have affected the work participation rates.

Since 1971, there is improvement in the work participation rates in all the regions of the State perhaps due to the changing demographic structure as well as impact of economic development in the regions. As indicated by the 2001 figures, the work participation rates, particularly the female participation rates have increased substantially after 1991. The female participation rates in the developed regions of the plains are low, whereas the hilly regions in North and South have high participation. Differences in socio-cultural characteristics and economic compulsions between the regions might be responsible for such variation in the female participation of the two types of regions. Lack of division of labour and fragile ecology of the hilly areas generally necessitates higher female participation in work.

Diversification of economy and sectoral shift of activities from agricultural to non-agricultural sector, might also affect the work participation ratio. The effects of the two phenomena are clearly evident in the developed regions, where the participations are higher than the backward regions. The high participation ratio of Central and South Gujarat Plains indicates such possibilities, thus availability of the employment opportunity might also affect the participation.

Lowest work participation rate of both all workers as well as female workers in the Coastal region indicates deprivation of the population in the region from suitable employment opportunities.

Table 7.7
Regional Changes in Work Participation Rate (1961-2001)

	Main Workers (Work Participation Ratio)						**Female Participation Ratio**				
Regions	1961	1971	1981	1991	2001		1961	1971	1981	1991	2001
Central Gujarat Plains	36.47	30.60	31.54	34.20	46.10		24.21	11.87	12.10	17.27	35.69
Coastal	39.06	30.81	30.71	33.51	41.91		32.14	16.24	13.82	19.29	30.82
Eastern Hills	51.30	37.26	35.85	37.36	51.95		43.76	25.91	22.90	25.90	45.57
Kachchh Plains	42.79	33.01	31.41	32.56	41.01		36.43	21.38	17.37	20.74	33.59
North Gujarat Plains	31.12	29.50	28.68	31.78	46.09		36.65	11.27	9.00	16.17	39.39
Northern Hills	49.54	28.77	29.20	33.69	45.86		42.57	9.03	12.95	24.61	43.42
Saurashtra Plains	40.53	30.13	30.92	34.27	46.61		33.32	15.12	15.52	20.44	37.07
Saurashtra Uplands	43.51	31.19	30.58	33.83	45.56		35.84	15.02	14.46	19.67	38.00
South Gujarat Plains	39.95	34.01	36.51	37.64	46.74		32.13	21.68	19.68	19.85	35.77
Gujarat	39.19	31.49	31.43	34.17	46.48		34.33	16.04	14.52	19.55	38.35

Prospects of more employment opportunities and distress migration from the backward regions might lead to increase in the participation rates in the developed regions of the State in future. On the other hand, the backward regions might experience decline in the participation rates due to large streams of working population migrating to the developed regions in search of employment. When the working age group of the backward region would migrate to the urban areas of the developed regions, the remnant population would tend to depend on remittances from these migrants.

There is expected increase in the work participation ratio due to more opportunities available for the population in the developed regions, more so distress migration from the backward regions affecting the participation ratio. The decline in the participation ratio in the backward regions might also be due to large streams of the working population shifting towards the forward regions. The youth and working age group when migrates towards urban areas in the developed regions of state the backward region are dependent on the remittances it receives from the migrants from other regions.

7.2 Block (*Taluka*) Development Index (2001-2008)

The Government of India's Ministry of Panchayati Raj has worked out development indices at block level for two points of time i.e., 2001 and 2008. The composite development index depicts performance of a *taluka* with respect to development indicators namely road, agriculture, water, power, education, health and employment. The composite index is useful in understanding the recent development status in the State and its regions. The author has mapped the indicators as published by Ministry on its website.

The block backwardness index is made available by Ministry of Panchayati Raj, GoI[218], during 2010 for the purpose of reviewing the development status.

The indicators used are (a) Per centage of villages having paved road; (b) Per centage of land area irrigated; (c) Per centage of villages having safe source of drinking water; (d) Per centage of villages provided with electricity; (e) Per centage of literate population to total population; (f) Per centage of village with primary education facility; (g) Per centage of

[218] http://164.100.72.10/priprofiler accessed in March 2009, for the indexes for the district and development blocks i.e. Taluka.

village with any health care facilities i.e. CHC, PHC, Sub Centers; (h) Per centage of main workers to total workers.

The methodology for the Block Backward Index (BBI) is primarily devised by J.Barua[219] who explains,

> *'The value of an individual indicator thus obtained may be "located" in terms of development objectives which puts the value at its maximum. Since, all the values of the indicators are in per centage, therefore, maximum value would be simply 100, while the minimum being the lowest value observed in the distribution.'*

After getting the actual values in per centage terms the location specific composite index are calculated by taking simple average of all indicators (education, health, agriculture, employment etc). These are calculated for the blocks, where the index (*I*) reflects the relative achievement of a block in terms of given indicators. The backwardness, is then indicated by the Backwardness Index (BI), which can be expressed as

$$BI = (1 - I)$$

The data from the *Priprofiler* (software for Panchayat Data Management) were made available for the general discussion on the methodology supplied by the respective state governments for the year 2008. It is proposed by the Ministry of Panchayati Raj to have annual updating of the selected indicators. This was primarily initiated to support the Backward Area Grant Fund Programmes (BRGF), through the ministry. The block and district level data is aggregated from the Panchayat level information for the year 2008.

District wise performance

The inter-district variation in the indicators depicted in the table showing the changes during the mentioned period 2001-2008. There is general improvement in the performance of indicators except in case of drinking water and employment in the State. The exception performance in recorded in access to education, power, road and health facilities in state where as the backward district continues to perform poorly with respect to forward districts. The districts in hilly regions shows improvement in across indicator the gap between the key indicators like access to power, education and road is higher. Amongst the districts, Anand

[219] Baruah, Joydeep (2009): "BRGF and Intra-District Backwardness: Towards a Programmable Index", A paper written for State Institute of Rural Development, Assam at the behest of Ministry of Panchayati Raj, Government of India, (PDF Document), website: www.mpra.up.uni-muenchen.de accessed November 2012.

performs best in terms of analysed indicators, similarly, the social indicators have also been better in Saurashtra namely in Jamnagar, Junagadh and Rajkot.

Surat, an industrial district the employment index is better than Anand, including the growth in access to irrigation facilities, education and health infrastructure. The districts in main land Gujarat shows declining trend of employment opportunities particularly in Patan, Mehsana, Surendranagar and Ahmedabad shows performance below state average.

The agriculture change in the development blocks and districts are reflected through increase in areas under cultivation. There is general increase from 23 per cent to 43 per cent in the years 2001 and 2008 respectively, may be due to availability of water from Narmada Canal (through main and sub minor). In addition, the success of micro-irrigation schemes (check dams, bunds, field ponds etc) has also resulted in changes in North Gujarat and Saurashtra.

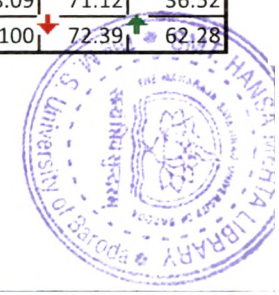
The area under irrigation (agriculture) is lower than state average in industrial and backward districts such as Industrialised districts - Ahmedabad, Valsad, Vadodara and Rajkot and backward districts – Panchmahals, Patan, Banaskantha, Sabarkantha, Narmada and Tapi shows poor performance.

Tribal dominated districts Panchmahal, Narmada, Tapi, The Dangs and coastal districts of Saurashtra like Amreli, Junagadh, Jamnagar and Kachchh shows poor performance in most of the indicators. These shows the investment and development activities are mostly concentrated in the already developed districts.

The following section shows the block wise change during 2001-2008 in the given indicators which are mapped for the purpose of depicting the regional characteristics of changes.

Block Backwardness Index Analysis: District wise change - 2001-2008																				
	Composite Index		Road		Agriculture		Drinking Water		Power		Education				Health		Employment	
											(Literacy)		(Primary Educatio					
District	2001	2008	2001	2008	2001	2008	2001	2008	2001	2008	2001	2008	2001	2008	2001	2008	2001	2008
GUJARAT	**75.5**	**79**	**84.4**	**93.1**	**25.8**	**43.1**	**98**	**91**	**97.2**	**99.7**	**61.2**	**64.8**	**96.3**	**98.7**	**67.1**	**83**	**75**	**58.2**
AHMADABAD	78.75	68.38	98.48	53.32	17.97	42.88	99.87	100	99.87	100	62.77	66.18	99	99.68	78.2	42.99	74.32	41.6
AMRELI	75.38	82.75	87.39	99.78	11.49	19.38	99.65	100	99.76	99.78	62.31	64.82	99.58	100	66.51	100	75.52	78.06
ANAND	87.38	90.62	98.53	100	68.01	90.86	100	90	100	100	70.65	72.35	100	100	86.39	100	75.08	72.35
BANAS KANTHA	73	79.38	85.3	97.14	38.36	41.61	99.53	100	98.33	100	46.64	48.18	97.74	100	42.62	100	74.85	48.18
BHARUCH	77.5	79.12	93.32	94.03	19.71	35.7	99.25	95.73	99.07	100	70.23	98.74	97.87	100	62.13	62.59	79.35	45.39
BHAVNAGAR	76.12	71.12	87.74	91.42	20.05	26.69	98.78	86.84	98.71	91.67	60.43	59.82	98.29	91.67	66.12	44.84	78.87	75.05
DOHAD	72.62	78.62	84.94	100	10.19	25.06	100	100	99.84	99.52	40.77	44.05	99.53	100	85.51	100	59.45	60.01
GANDHINAGAR	87	88.5	97.55	92.75	59.45	62.5	100	94.55	100	100	71.92	75.3	99.66	97.62	85.67	100	81.07	83.78
JAMNAGAR	65.38	80.38	60.14	95.41	13.51	22.58	92.49	100	88.97	99.53	59.54	63.96	88.94	96.93	39.09	100	80.08	63.96
JUNAGADH	75.88	80.12	80.14	84.69	24.91	36.09	93.59	92.35	92.27	98.09	65.27	69.09	89.55	94.78	85.87	91.01	74.75	74.75
KACHCHH	71.38	68.88	76.16	97.8	6.23	31.9	94.76	90.2	92.49	100	53.96	63.27	90.38	99.5	78.2	36.95	79.96	31.4
KHEDA	80.75	80.5	90.85	93.1	38.42	88.13	99.61	100	99.61	100	68.62	70.04	99.61	100	72.96	46.95	74.65	45.86
MAHESANA	83.12	91	92.95	100	56.28	99.56	98.34	97.84	98.34	100	71.01	72.66	97.68	99.56	74.29	79.79	77.05	77.14
NARMADA	64.62	63.88	65.52	70.8	6.79	56.83	92.25	51.98	89.63	96.9	57.23	58.75	86.02	93.3	54.37	23.38	65.03	58.75
NAVSARI	82.25	82.38	97.91	100	36.46	49.61	100	98.2	100	100	73.12	64.1	98.27	98.77	69.84	73.45	82.92	74.77
PANCH MAHALS	71.5	79.38	79.7	95.65	14.45	25.59	99.05	96.82	99.05	100	57.26	59.4	97.18	94.38	64.8	100	60.65	62.5
PATAN	75.12	77.25	94.21	85.71	30.42	33.75	99.76	100	100	100	54.67	57.24	99.52	100	50.44	100	71.61	41.34
PORBANDAR	70.38	70	73.45	72.98	11.99	15.24	100	91.37	85.08	93	60.38	66.03	85.63	88.17	72.03	100	74.61	33.9
RAJKOT	77.25	79.25	83.16	95.52	20.65	24.84	99.83	100	99.83	100	67.05	70.3	99.61	99.88	65.57	100	81.19	42.86
SABAR KANTHA	75.25	70.62	84.36	100	31.81	30.41	98.97	0	98.25	100	64.69	66.18	98.57	99	55.71	100	68.84	70.08
SURAT	77.62	89.12	84.22	94.34	36.65	82.81	92.12	100	92.04	100	60.96	62.39	89.64	100	81.7	100	83.3	74.31
SURENDRANAGAR	67.62	75.88	74.47	95.46	10.12	19.03	99.29	100	99.44	100	55.93	58.93	99.22	100	28.46	100	75.98	34.39
VADODARA	75.38	74.38	76.75	98.2	23.15	37.29	99.73	98.02	99.07	99.89	56.7	59.22	96.47	97.74	80.34	68.09	71.12	36.52
VALSAD	75	83.25	82.59	100	16.67	42.09	99.69	100	95.78	100	60.44	62.28	99.47	100	73.29	100	72.39	62.28

Figure 7.7 a: Comparative Block Backwardness Index (2001 and 2008), Source: MoPR, New Delhi



7.2.1 *Taluka* Development Index (Composite Index)

Comparison of the *taluka* or Block level development indices reveals high level of regional disparity at micro-level in the State. The regions declared as backward during the early plan periods, still remain backward in comparison to the developed mainland Gujarat or the Golden Corridor. Rather, a comparison of the latest index of 2008 with that of the last index of 2001 suggests increase in the levels of regional disparity.

The composite index based on parameters such as, water, education, road, power, school and health shows a relatively higher development trend in the *talukas* closer to the seat of social, political and economic power i.e. Gandhinagar and Ahmedabad, Surat and Valsad -all located in the plain areas and along the Golden Corridor.

There are pockets of backwardness across all the geographical regions, the more prominent being the Northern and the Eastern Hilly regions incorporating the hilly regions of Vadodara, Surat, Valsad, Sabarkantha, Kheda and Panchmahals. The coastal regions except areas near Bharuch and Surat have development indices lower than the State average. This clearly reflects an urban centric economic growth of the State and regional imbalance in the development of the State.

The Saurashtra Plain and Kachchh regions with lower indices remain backward in comparison to the mainland Gujarat, and further ascertain the imbalance in the development of the State. The highly urbanized *talukas* of Jamnagar, Rajkot, Bhavnagar and Junagadh, also have improved infrastructure, whereas rest of the *talukas* are comparatively less developed (Figure 7.8 and 7.9).

7.2.2 Comparison of the Specific Indicators (2001-2008)

The maps depicting the development index at *taluka* level clearly indicates that there were significant spatial variations in the level of development in the State at the beginning of the 21st Century. Although progress has been achieved in most parts of the State and the performance of certain regions have been better than the National scenario, spatial variation continues to remain unaltered until recently. It is clearly emerges out of the discussion that the Golden Corridor in the State has been the focus of development. To develop a proper comprehension of the phenomenon, an attempt has been made in the following paragraphs to analyse the spatial patterns with respect to each of the development indicators separately.

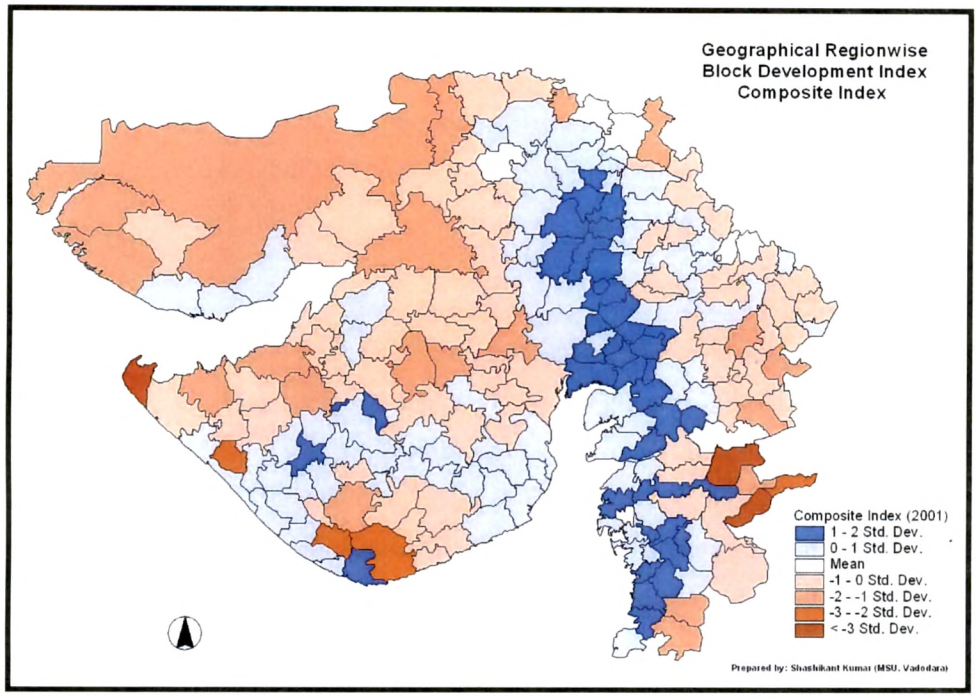


Figure 7.8: Distribution of Composite Index - 2001

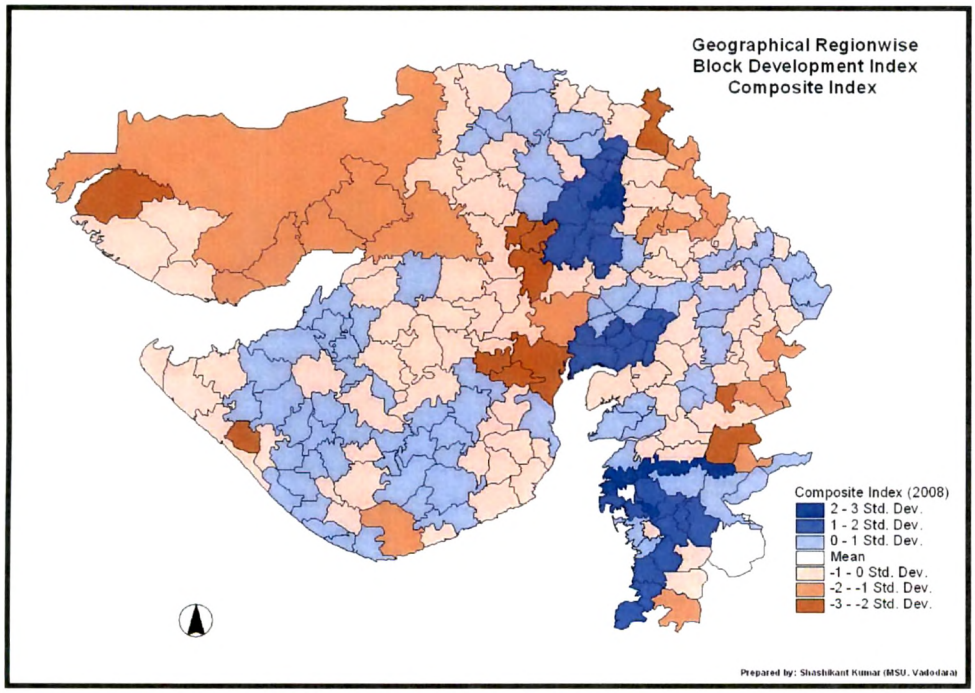


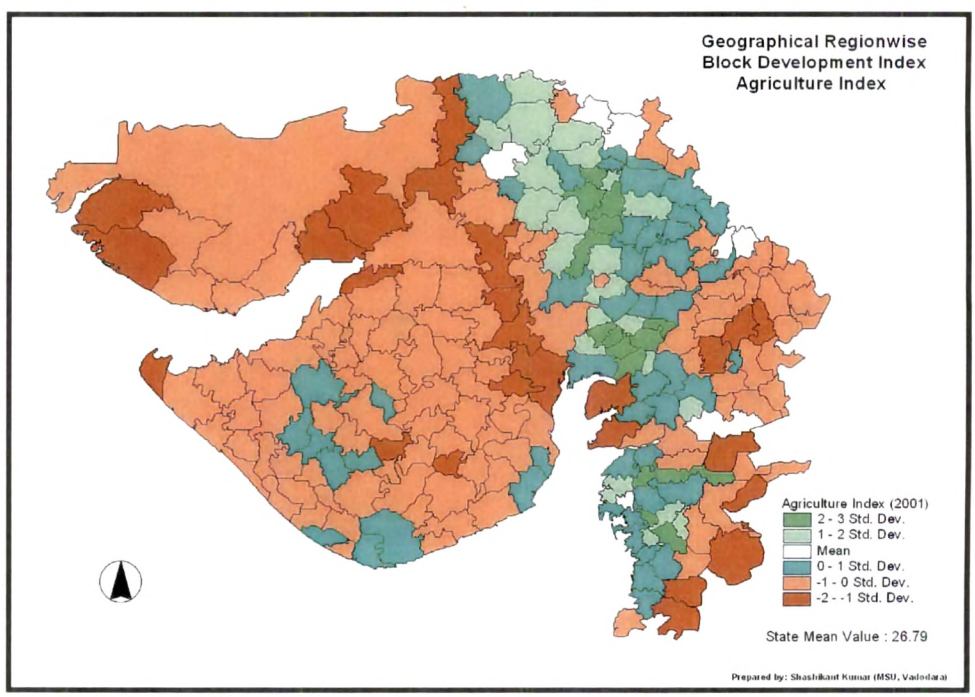
Figure 7.9: Distribution of Composite Index - 2008

The key index tabulated by the Ministry of Panchayati Raj, Government of India, New Delhi shows variation during the initial decade period of 21st century in Gujarat. The maps mentions below summarizes the popular notions about the development focus of the State mainly along the golden corridors, even though the other regions also have performance better than national level.

(a) Agriculture

There has been an increase in the area under irrigation between the two points of time, i.e. 2001 and 2008, mostly in the mainland Gujarat, may be as a result of availability of Narmada water. Availability of water for irrigation has also resulted in the increase of agricultural output, particularly in North and Central Plains. Benefitting from irrigation water from the Ukai Dam on River Tapi, production of crops, particularly cash crops like Sugarcane and Cotton in the South Gujarat Plains has also increased. There is comparable decline in area under irrigation the backward areas in the hilly regions of the State along with central Saurashtra plains (Figure 7.10 and 7.11).

Figure 7.10: Distribution of Agriculture Index (2001)



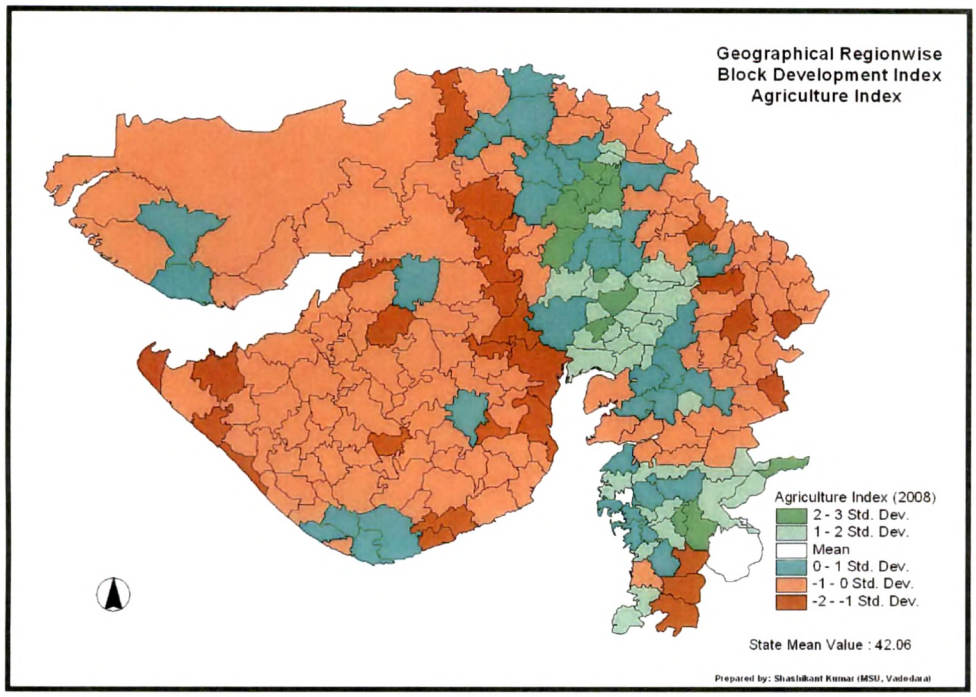


Figure 7.11: Distribution of Agriculture Index (2008)

(b) Water

Provision of drinking water facility has improved in the State, excepting in Amreli and Sabarkantha districts, Chhota Udaipur *taluka* and Kachchh Region, where water resource development persist to remain poor. Drinking water scenario has improved in those parts of the State which have access to Narmada water or have benefited from various programmes of recharging of wells and other water bodies (Figure 7.12 and 7.13).

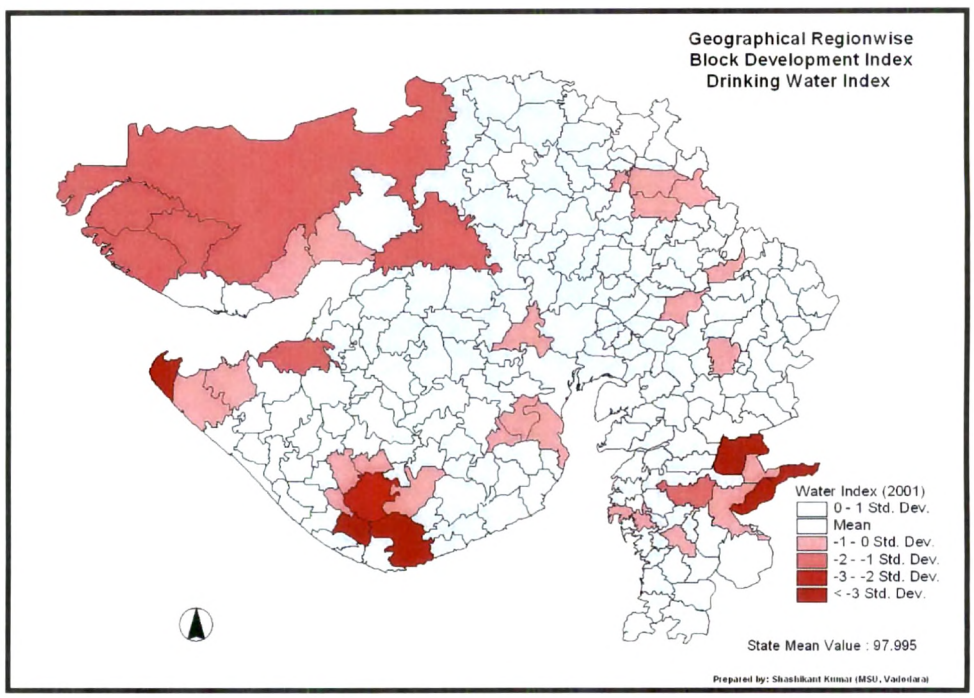


Figure 7.12: Distribution of Water Index (2001)

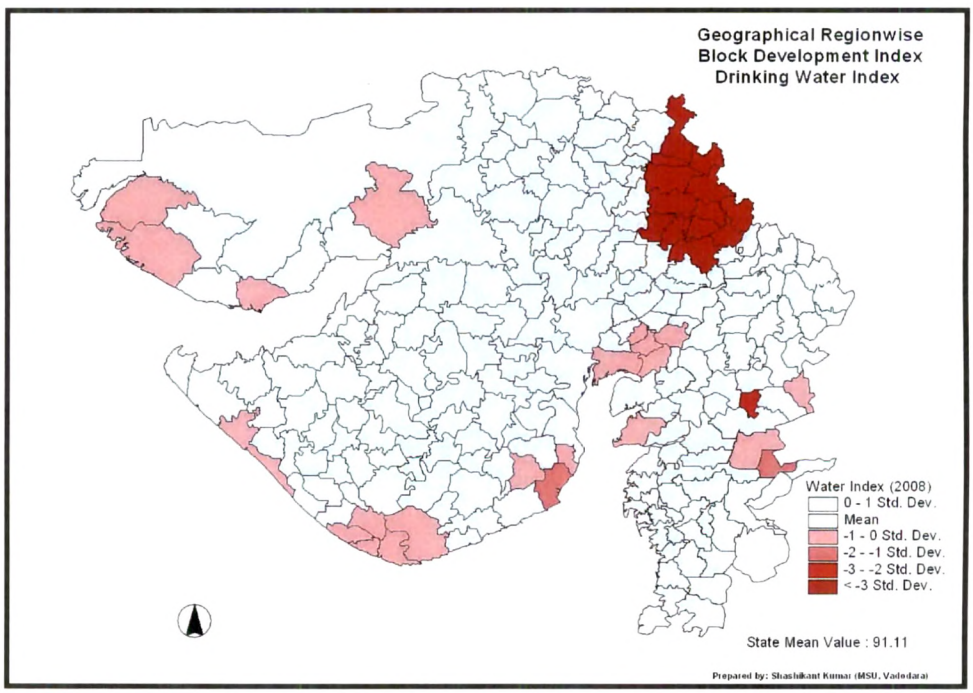


Figure 7.13: Distribution of Water Index (2008)

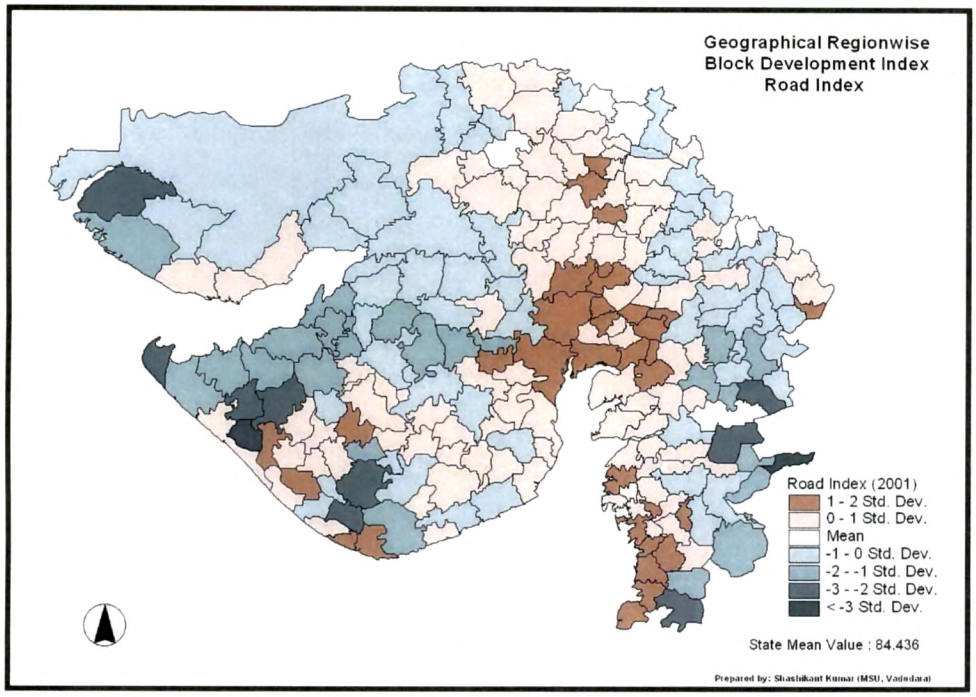


Figure 7.14: Distribution of Road Index (2001)

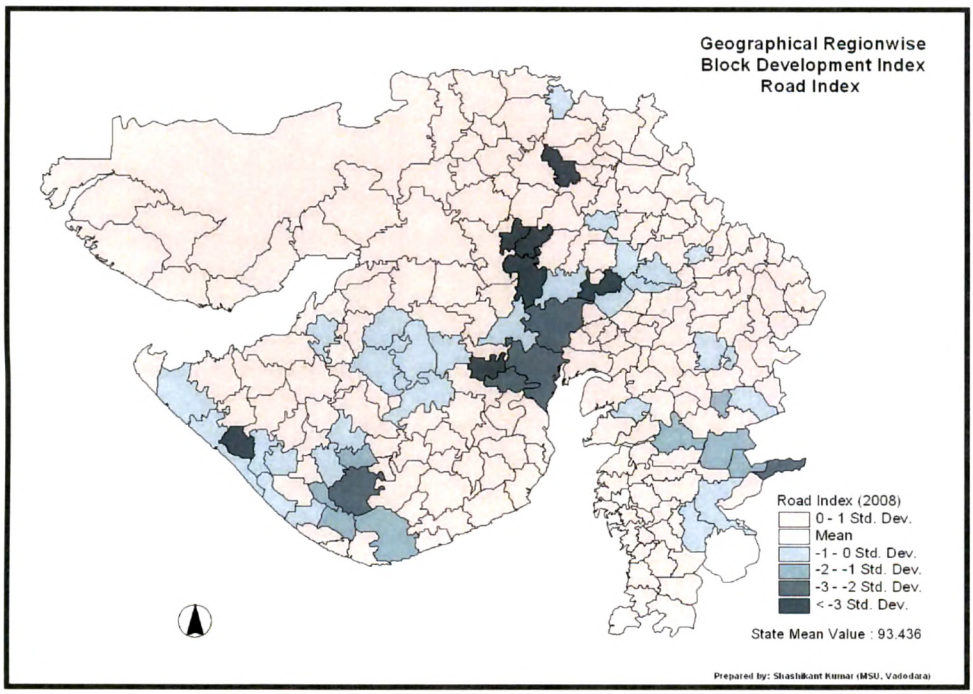


Figure 7.15: Distribution of Road Index (2008)

(c) Road

It is important to take note of the development of road connectivity during years (2001-2008) as the State has focused upon rural connectivity. The initiatives taken in this direction could help connecting the remote regions of the State including Northern and Eastern Hills, Saurashtra and Kachchh regions. The ultimate aim was to help development initiatives reach these regions in the long run. The State has however been successful in realizing around 90 per cent of rural road connectivity during the fifty years of its formation. Although there is hope for some improvement in the future, there are vast stretches of areas still poorly connected, particularly in the newly formed Tapi and Narmada districts of Eastern Hills region. Similarly, the coastal areas of Saurashtra mainly Jamnagar, Porbandar and Junagadh districts are still awaiting improvement in road connectivity (Figure 7.14 and 7.15).

(d) Power

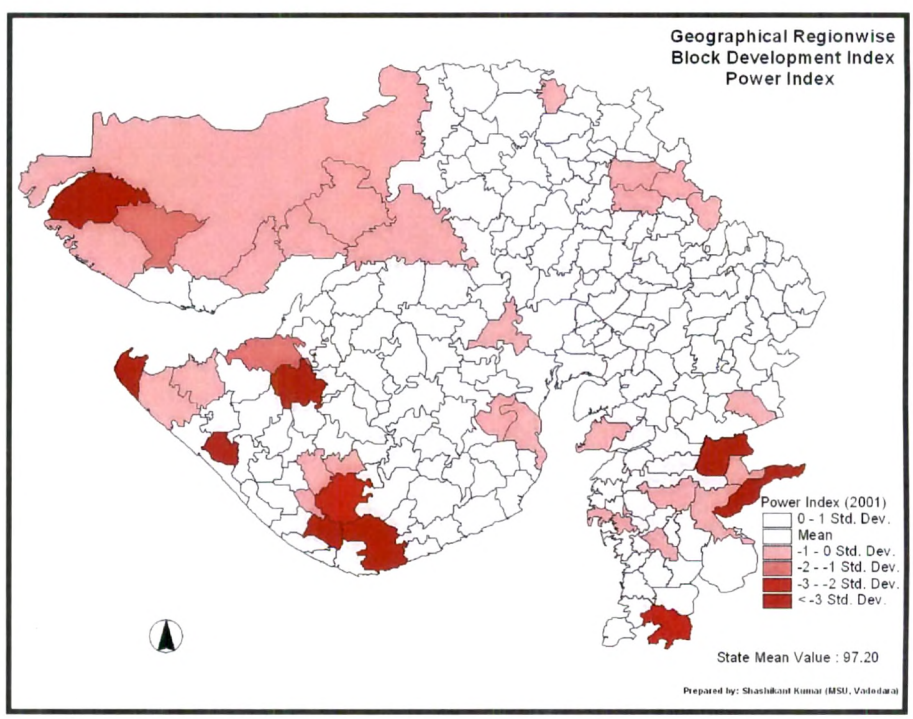
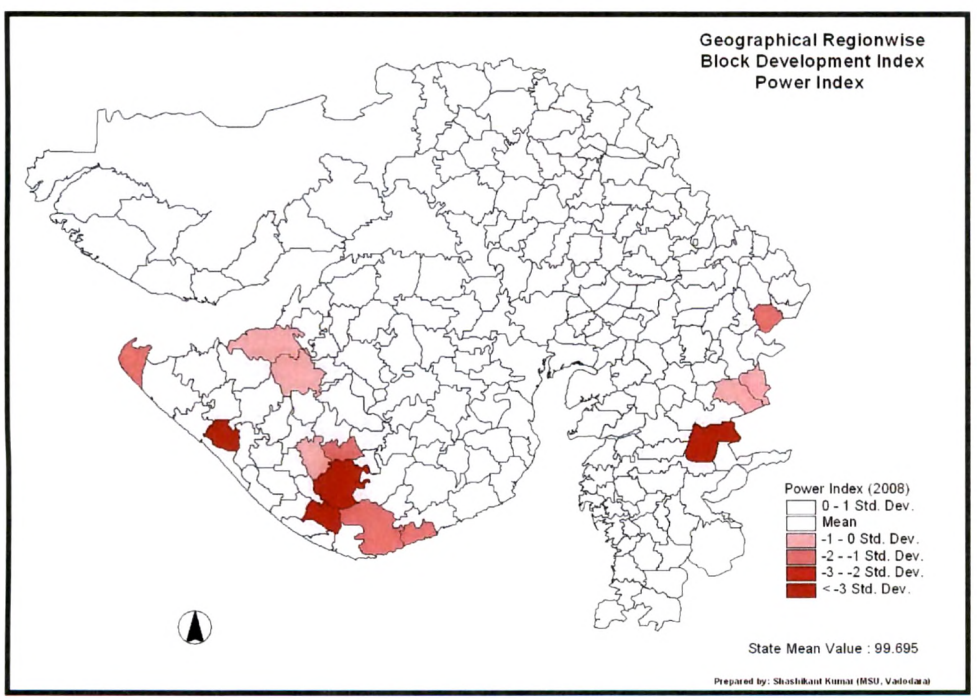


Figure 7.16: Distribution of Power Index (2001)

During the initial years of industrialisation, the State faced problems of power due to rapid industrial development and power production shortfall. Of late, the power availability situation in the State has improved through creation of multiple sources of power generation. The State has long way to go for becoming a power surplus state and to manage supply of electricity to 95 per cent of its village adopting better management practices. The availability of power is a good sign for appropriate regional development prospects in the State. The last two decades have been change makers in the improvement in the power sector due to various reforms initiated at the Central and the State levels. Gujarat is the highest per capita user of energy in the country where the shortfall is taken care by additional generation capacity. The availability of the natural gas from the newfound sources in Andhra Pradesh has also helped the State in planning for its industrial areas (Figure 7.16 and 7.17).

Figure 7.17: Distribution of Power Index (2008)



(e) Health

Gujarat has been a poor performer in the health related indicators even though it is the leader in economic output. Although the reason is difficult to be ascertained, it is attributed to neglect of the public health system, poor performance of health institutions and deficiency in service delivery by various health programmes. The highly developed regions of the Central Plains and parts of Saurashtra and Kachchh have been performing poorly in the health sector. There is improvement in the health indicators in the backward regions of the State mainly in the Eastern and Northern Hills, Northern Plains and Saurashtra. This is due to highly focused programme intervention in the backward regions. But, lack of attention in the developed regions comprising of Ahmedabad, Vadodara, Bharuch and Surat has led to deterioration of the public health system during the last decade (2001-08) (Figure 7.18 and 7.19).

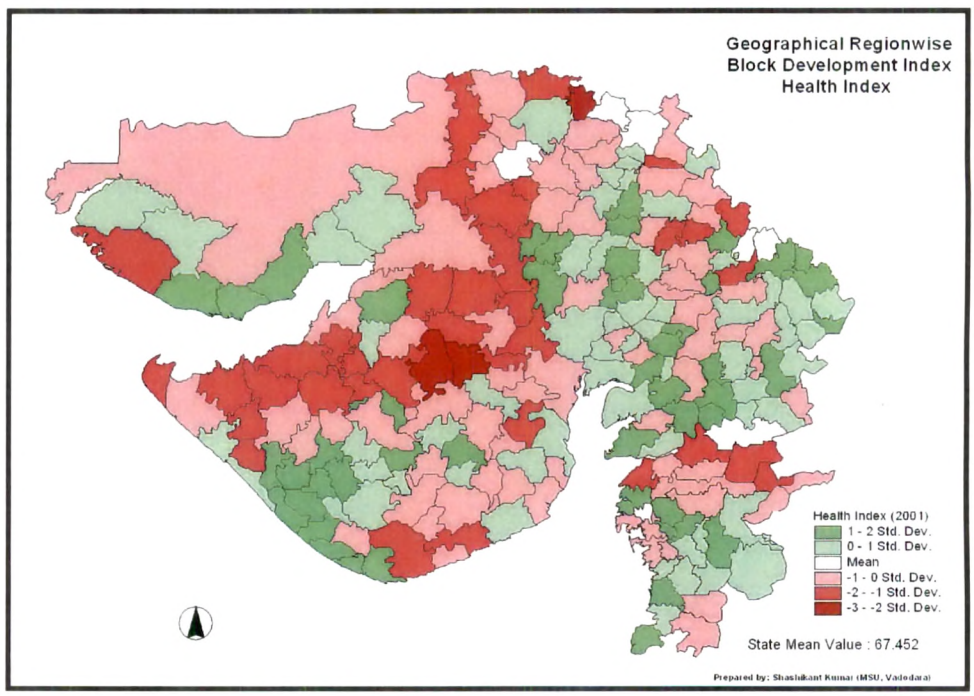


Figure 7.18: Distribution of Health Index (2001)

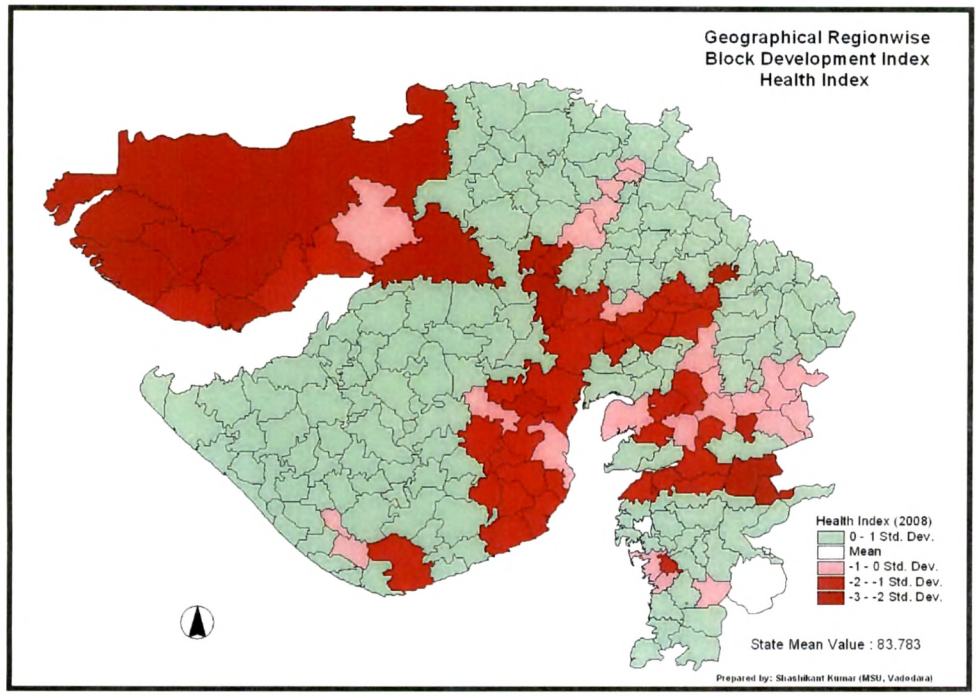


Figure 7.19: Distribution of Health Index (2008)

7.3 Incidence of Regional Poverty in Gujarat

A quick glance at the official poverty estimates in Gujarat indicates that the State has made a major stride towards poverty reduction from about 31 per cent during 1983 to 17 per cent during 2004-05 (Table 7.9).

Table 7.9
Poverty in Gujarat (Head Count Ratio-HCR)

	1983	1993-94	2004-05*	2004-05**
Rural	27.9	22.4	18.9	19.1
Urban	38.0	29.4	13.3	13.0
Gujarat State	31.1	24.9	17.0	16.8

Note: *Estimates are based on 61st round of the NSS household Data using Unique Reference Period (URP). The data do not include the State sample. ** Figures are official estimates based on (URP), released by the Planning Commission [Govt. of India, 2007[220]]. *Source:* Based on Table 8 in Dev and Ravi, 2007[221].

[220] Govt. of India (2007): *Estimates of Poverty among States in India*, Planning Commission, New Delhi, PDF Document.
[221] Dev, Mahendra and C. Ravi, (2006): "Poverty and Inequality: All India and States: 1983- 2005", EPW, XXXXI (6), pp. 509-521.

However, the tribal communities, as noted earlier, have been largely bypassed in the process of poverty reduction. As per the latest official estimates (2007-08), slightly more than one third of the tribal population (34.3%) in rural Gujarat is poor. What is more concerning is that the incidence of poverty among tribal population has increased as compared to the early nineties. This has happened at a time when overall rural poverty in the State had declined from about 22.4 to 19.1 per cent from 1993-94 to 2004-05. However, the Tendulkar Committee Report puts the population below poverty line at 37.8 and 31.8 per cent respectively for 1993-94 and 2004-05.[222]

7.3.1 Regional Poverty Scenario

The regional poverty data estimated from the NSSO survey results shows high poverty ratios consistently from year 1993 to 2000 in the Eastern, Southern and Dry Areas (North Gujarat) of the State. Although, the poverty ratios have declined over the years, the differentials between the ratios remain high. The poverty rates have declined sharply in the rural as well as urban areas (Table 7.10).

Table 7.10
Gujarat Regional Poverty Rates

	HCR Round 50	HCR Round 55 (S)	HCR Round 55 (R)
Rural			
State	**32.5**	**20**	**20.7**
Eastern	34.2	26.7	31.6
Northern	32.1	17.8	17.3
Southern	41.1	20.8	27.7
Dry Areas	38.7	23.7	24
Saurashtra	21.6	13.4	7.7
Urban			
State	**14.7**	**6.4**	**6.4**
Eastern	13.1	9.1	4.6
Northern	16.1	5.7	6.2
Southern	11.5	4.6	6.1
Dry Areas	12	11.3	12.5
Saurashtra	15.8	6.8	5.7

Source: Deaton, Angus (2003), Regional Poverty Estimates for India -1999-2000, Research Program on Development Studies, Princeton University, p.8 (PDF Document)

[222] http://planningcommission.gov.in, Planning Commission, Data for Use of Deputy Chairmen, Planning Commission, November 2011, p. 39, PDF Document.

Note: Above data is based on the NSSO Survey, HCR Round 50 (1993-94), HCR Round 55 (S) & HCR Round 55 ® – 1999-2000. HCR Round 55(S) refers to estimates using probability of being poor functions estimated at the State level, while HCR Round 55 (R) refers to estimates using region-level estimates. *HCR=Head Count Ratio*

7.4 Human Development Index

According to the State level Human Development Index data for the year 2004, Gujarat stands 10th amongst the major states of India. This issue has been discussed in detail in the third chapter of this thesis, where the regional variations in the Index, has also been presented. Although the State has initiated the process of preparing the District Human Development Report since 2009, the final report is yet to be made public. Hence, the present discussion is also based on the 2004 data.

The Human Development Measures-2 (HDM-2)[223] comprising of Environment, Basic Services, Regional Equality Index and Patriarchy Index reveals regional variation. With regard to the Regional Equity Index, South Gujarat and Saurashtra show better scores than Central and North Gujarat where disparity amongst the *talukas* is high. In terms of basic services, Saurashtra performs poorly than the other regions. In addition the Eastern Hilly region (which is not classified here) also has better regional equity as compared to main land Gujarat. The improvement in South and North Gujarat in terms of basic services measures, which could be ascribed to investments in transportation and social infrastructure (Table 7.11).

[223] Hirway, Indira and Mahadevia (2005): *Gujarat Human Development Report-2004*, Mahatma Gandhi Labour Institute, Ahmedabad, PDF Document, UN Nations website www.un.org

Table 7.11
HDM-2, District-Wise Index Values, Gujarat - 2001

HDM-1 Rank	Districts	Environment index	Basic Services index	Regional Equality index	Patriarchy index	HDM-2
	Central Gujarat					
1	Ahmedabad	0.627	0.596	0.558	0.503	0.571
13	Anand	0.823	0.524	0.504	0.429	0.57
25	Dahod	0.528	0.321	1	0.62	0.617
22	Panchmahals	0.528	0.247	0.559	0.595	0.482
11	Vadodara	0.803	0.213	0.566	0.537	0.53
12	Kheda	0.823	0.31	0.475	0.435	0.511
	Mean Index	**0.689**	**0.369**	**0.610**	**0.520**	**0.547**
	South Gujarat					
4	Navsari	0.786	0.508	0.516	0.65	0.615
5	Surat	0.739	0.682	0.717	0.595	0.683
6	Bharuch	0.785	0.415	0.7	0.648	0.637
7	Valsad	0.786	0.367	0.566	0.669	0.597
24	Dangs	0.855	0.238	0.731	0.651	0.619
19	Narmada	1	0.487	0.806	0.675	0.742
	Mean Index	**0.825**	**0.450**	**0.673**	**0.648**	**0.649**
	Saurashtra					
8	Porbandar	0	0.339	0.849	0.625	0.453
9	Junagadh	0	0.419	0.586	0.626	0.408
10	Jamnagar	0.34	0.172	0	0.62	0.283
3	Rajkot	0.435	0.47	0.699	0.598	0.551
15	Amreli	0.82	0.26	0.6	0.635	0.579
16	Bhavnagar	0.444	0.222	0.799	0.581	0.511
21	Surendranagar	0.173	0.643	0.785	0.575	0.544
	Mean Index	**0.316**	**0.361**	**0.617**	**0.609**	**0.476**
	North Gujarat					
17	Sabarkantha	0.333	0.407	0.638	0.554	0.483
14	Mehsana	0.841	0.806	0.455	0.43	0.633
20	Patan	0.426	0.294	0.737	0.487	0.486
23	Banaskantha	0.296	0.334	0.711	0.548	0.472
	Mean Index	***0.474***	***0.460***	***0.635***	***0.505***	***0.519***
18	Kachchh	0.057	0.481	0.555	0.654	0.437

Source: Gujarat Human Development Report-2004,Gandhi Labour Institute, Ahmedabad

With respect to overall ranking (i.e. HDM-1) better performance is displayed by majority of the South Gujarat districts excepting The Dangs and Narmada districts. None of the districts of Central Gujarat excepting Ahmedabad could find a place amongst the top 10 performers. Rather, Rajkot, Porbandar, Junagadh and Jamnagar districts of Saurashtra are among the top 10 performers. The performance of the districts in North Gujarat is not very satisfactory.

With respect to HDM-2, the performance of Jamnagar is the worst, while Surat and Bharuch have acquired the best score amongst all the districts of the State. In Patriarchy Index, the performance of North Gujarat is poor due its lopsided sex ratio. The best performance is in South Gujarat in terms of granting equity to the females.

Thus, in terms of Human Development Index, Gujarat might improve in future but in terms of wider range of measures as shown in Human Development Measures, the inter-district performance needs to be evaluated. The regional differential is due to development efforts and geographical positioning (affecting the environmental measures).

7.5 Geographical Analysis of Regions: Methodological Note

The following section presents the geographical analysis of the regions mostly based on various secondary sources of information. With the change of methodology of the study an attempt was made to interact with people and visit places across the region to get the primary information, substantiate the secondary information and seek inputs on the various development issues. Most of the information and opinions are made on development issues in these regions have been taken based on travels and interactions with people.

The perception of researcher is more than the people; given the technical nature of development issues and process it was found difficult to seek opinion from general mass on specific or intended indicators. The people are considered in development planning as recipients of the benefits without them being directly responsible for decision making.

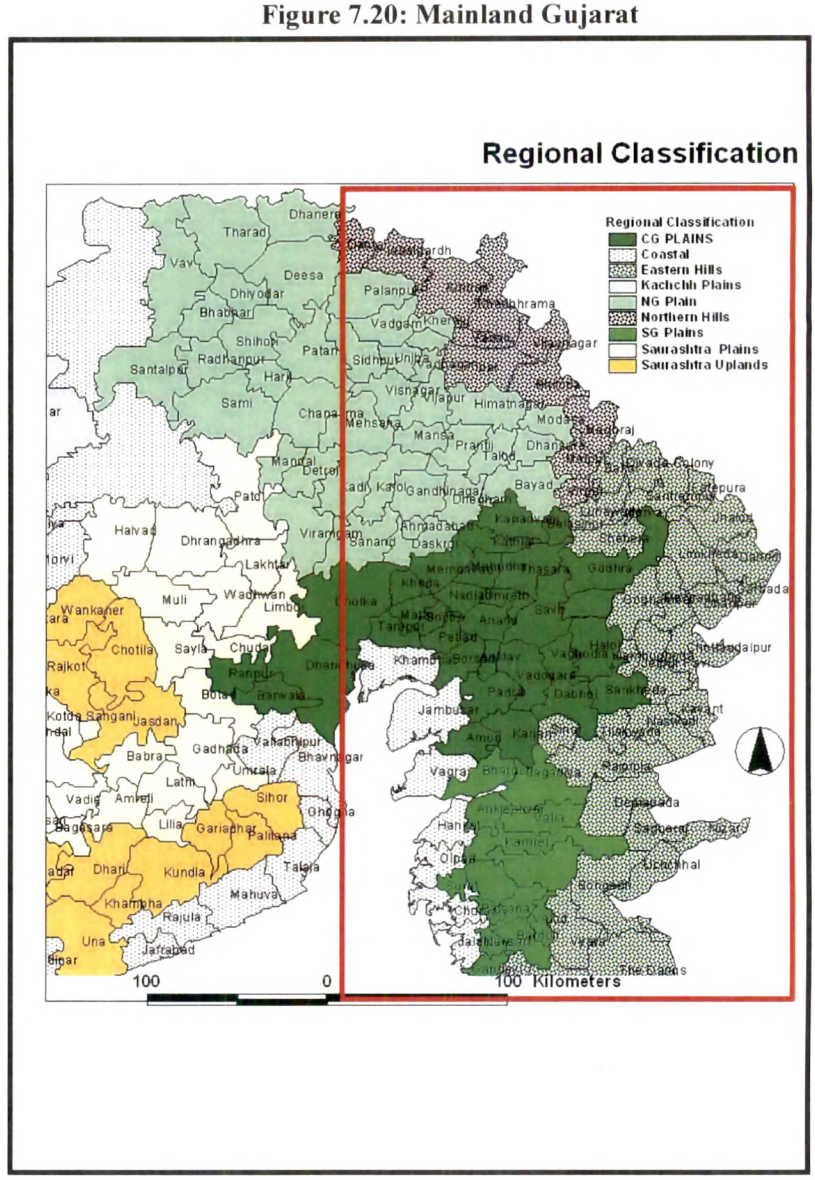
The policy makers and governments at the State and districts are responsible for implementation of schemes and related infrastructure. However, the people cannot be expected to give opinion on the logic of the programmes, rather they seek more such

programmes which elate them to receive aid, grant and funds from the Government. Across plan periods the people except during the elections have little say, the region specific policies are nonexistent in the State.

7. 6 Plains of Mainland Gujarat

The plains in the mainland Gujarat extends from Sabarkantha district in North Gujarat to Vapi in South Gujarat (Figure 7.20).

Figure 7.20: Mainland Gujarat



7.6.1 Physiographic Characteristics

The Gujarat plain is a part of mainland Gujarat extends from the northern district of Sabarkantha to thin plain region in Valsad district of the State. The State plains are interspersed between the eastern hilly regions and coastal regions in mainland Gujarat. The Gujarat Plains though has varied climatic conditions have been focus of agrarian as well as industrial development. Due to vast development potential and activities associated in the plains is also termed as *Golden corridor* all along the National Highway (NH 8). The plains can be bifurcated into three geographical sub-regions namely, Northern Plains (Palanpur-Mehsana-Ahmedabad), Central Plains (Memdabad-Kheda-Anand-Vadodara) and Southern Plains (Vadodara-Bharuch-Surat-Valsad).

7.6.2 Nature of Sub Regional Development

The Northern Plains covers majority of areas in North Gujarat, which is a dry region and 'dark zone' due to over exploitation of underground water resources. Now the inter-linking of rivers, field ponds and Narmada water is all set to revive the water table in this region.

The Central Plains, often referred to as the *food bowl* of the State is known as '*charotar*', and has been the source of green and blue revolutions in the State. The region has a network of irrigation canals originating from the reservoirs located in the eastern hills of the State.

The Southern Plains, also known as '*Choryasi*', has good agricultural potential and has also attracted industrial investments (post-1990s) leading to high concentration of chemical industries. The rich ecological characteristic due to its proximity to the coast on the west and hills on the east makes it environmentally sensitive. The rapid urbanization of the region and migration lead increase in population, particularly in the industrial areas along the major transportation corridors, has also exerted pressure on the land and environment.

7. 6.3 General Notes on Development Issues

The plains of Gujarat had been one of the developed corridors and area of major attraction for economic, social and political activities in Gujarat. The physiographic and geographical advantage of the plains has resulted in the development of irrigated agriculture and industries due to high investment and proximity to large urban centres. With well developed ports and a strong energy based economy, the region remained the economic engine of the State till the pre-liberalization era of the 1990s. The increased level of urbanisation fuelled by economic development has also impacted the industrial and agricultural development of the region. Thus, there is shift in locational choices under the new phase of development, particularly in Saurashtra and Kachchh regions.

The major issues of concern in the Gujarat Plains are water resources, availability of land, environmental quality, lower human development and high sub-regional disparity. The geographical constraints along with skewed demographic characteristics are also affecting the growth potentialities of the region. The subsequent section would emphasise on such changing scenario in the region.

(a). Water Problem

The plains has been the target of water scarcity phenomenon as evident from the abundance of literature and resultant construction of many dams in rain fed zones of the State including the Sardar Sarovar Dam. But this region has also shown neglect of water resources as shown in one of the study by Ashvin Shah (1995), where he notes,

'A scientific study of problem shows that Gujarat's acute water problem is not due to droughts. Gujarat's average rainfall of 27 inches or 105 million acre feet (MAF) is sufficient to provide water for all its needs. The problem is largely man made due to; (1) neglect of existing surface reservoirs and failure to create new reservoir of adequate capacity and number to store rain water; (2) deforestation and other degradation of land resulting in excessive runoff of the rain water, thereby reducing the natural replenishment (or recharge) of groundwater and retention of rainwater in the catchment area; (3) excessive withdrawal of groundwater, resulting in its depletion and deterioration of water quality and lack of a ground water recharge program; (4) wasteful use of the available water resources in the "water intensive" irrigation for cash crops and commercial agriculture suitable for national and international markets,

instead of efficient use in "protective" irrigation for crops suitable for local needs for food, fuel and fodder; and inequitable distribution of available surface and underground water.'[224]

(b) Agrarian Concerns

The plains have sustained pressure of agriculture as well as industries owing to its proximity to water resources and transportation linkages. The North Gujarat plains have given way to the urbanisation and industrialisation pressure resulting in agrarian regions moving closer to the semi-arid regions of Banaskantha and Patan. The North Gujarat plains have also extensively utilized underground water resources leading to depletion of water level , that require recharging through various measures undertaken by the State Government.

The *talukas* like Kadi, Kalol, Gandhinagar, Mehsana, Siddhpur, Palanpur, Vadnagar etcetera, have taken pressure of urbanisation led by rapid expansion of the Ahmedabad Urban Region (expected to enhance up to 12,500 sq.km.) covering 60 per cent area of the North Gujarat Plains.

The plains in Central Gujarat has supported the first 'Green Revolution' in the State and is going to support the second wave of agrarian reform backed by the technological inputs from the State agencies. The maximum utilization of irrigation water from the large reservoirs, such as Mahi, Kadana and currently the Narmada irrigation network, has taken place in this region. The Central Plains have no longer been supportive of the food crops but more encouraging for the cash crops.

The South Gujarat plain despite having good irrigation facilities and rainfall, the agricultural growth is limited to few blocks of the region. Moreover, the focus on the cash crops like cotton and sugarcane has increased the per hectare productivity. The stagnation of cultivated land associated with utilization of land for the non-agricultural purposes has affected the growth of irrigation potential thereby affecting the area available for cultivation.

The Narmada Command Area incorporates major portion of the Gujarat plains, while most parts of Central and North Gujarat regions remain outside it. This has

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[224] Shah, Ashvin A. (1995): "A Technical Overview of Flawed Sardar Sarovar Project and a Proposal for the Sustainable Alternative", in William F. Fisher (ed.), *Towards Sustainable Development? Struggling over India's Narmada River*, M.E. Sharpe Inc, New York, p.322.

negatively affected development of irrigation network in the two regions. The lack of availability of irrigation network and the pattern of urbanisation have affected the growth of agriculture in North Gujarat plains.

(c) Land Scarcity

Studies related to land alienation and displacement[225] report considerable loss of land in the region owing to the development projects in the region. The development projects are mainly irrigation projects, industrial estates/complexes, urbanisation and road networks. The major irrigation projects like, Kadana, Dharoi, Ukai and Narmada constructed to provide water to the plain areas, have also utilized land of the same areas for construction of canals. For example, Sardar Sarovar Project is likely to utilize over 18,000 hectares of land for laying the distribution canals (75,000 kms length) reaching up to Saurashtra and Rajasthan. Utilization this much area of land is unavoidable, but also is definite to have negative impact on the availability of agricultural land in the region.

The large industrial complexes in Central and South Gujarat, including the SEZs and SIRs, would further be adding to the shrinkage of agricultural land in the region. Future growth of industries in every region would gravely affect land availability for agriculture (see Chapter Four).

(d) Pressure of Industrialisation

The Gujarat plains have been the economic backbone of the State since its inception, leading in agricultural as well as industrial investments, with added emphasis on chemical industries. Despite the knowledge about environmental concerns of the chemical industries, the State does not deter to invest in such industries in the region. The mega scale of investment due to proposed industrial projects post 2003, have also posed immense pressure on land and environment of the Gujarat plains, especially along the '*Golden Corridor*'. Industrial investment pattern during the last decade has much exceeded the industrialisation pace of pre-1990. Availability land for industrial use has become scarce, yet the State is moving ahead heavy industrial investments which are eating up the common, forest and agricultural lands especially of South Gujarat.

[225] Lobo and Kumar (2009)

Oil exploration sites, laying of large scale infrastructure and pressure of urbanisation in North Gujarat, have already made an impact on the land utilization pattern and continue to exert pressure on agriculture. The Government of Gujarat, in order to achieve and maintain its double digit growth has started amendment of the land laws to facilitate the quick conversion of agricultural land to non-agricultural uses. It seldom understands that there is no reversal of land to agriculture in future. The data on the per capita availability of the net sown area has constantly declined in North and Central Gujarat.

(e) Environmental Concerns

Various representatives from Non-Governmental Organisations (NGOs) like, Paryavaran Suraksha Samiti and SETU have pointed out severe environmental damage caused by indiscriminate industrialisation and urbanisation in the Gujarat Plains. In addition, National and International environmental regulatory and monitoring organizations like, the Green Peace and Central Pollution Control Board (CPCB) had pointed out at the seriousness of land and water pollution in the region. The rivers in the regions have been carrying high pollution load despite the centralized treatment facilities (see Chapter Five).

Rivers like Sabarmati, Mahi, Tapi and Narmada have been bearing the brunt of pollution incurred due to discharge of industrial and human waste. The underground reservoirs surrounding Naroda-Vatva, Nandesri-Vadodara, Bharuch-Ankleshwar, Surat-Sachin and Valsad-Vapi have been declared unfit for consumption. The depleting water levels in the North Gujarat Plains and pollution of soil due to oil waste and leakages have been reported during the field interactions. The villages having oil wells have reported to have lost most of the agricultural lands and water resources to increased pollution load from the oil exploration.

7. 6.4 Social and Economic Concerns

(a) Social Status

The Golden Corridor or mainland Gujarat stretches over 85 *talukas* and 10 districts of North Gujarat, Central Gujarat and the coastal South Gujarat (Figure 7.20)

More than 6,000 villages of Gujarat Plains are situated along the Golden Corridor. With a total population of more than 2.5 million in 48 lakh households, these villages account for around 52 per cent of the total population of the State. The average household size is just above five members in the region.

Though Mehsana, Sabarkantha, Gandhinagar and Ahmedabad account for just 30 per cent of the total area of Northern Plains, they accommodate approximately half of the total population of Gujarat Plains, followed by Kheda, Anand and Vadodara in the Central Plains accommodating high per centage of population and area, and Bharuch and Surat, and Navsari and Valsad accommodating 16 and 11 per cent respectively. There has been a steady increase in the population density associated with urbanisation all along the plains.

The rise in agricultural income due to increased production and area under cultivation is recorded in North Gujarat, Central Gujarat and South Gujarat plains during the last 40 years. The shift from food crops to cash crops assisted with developed irrigation system, has added to the advantage of the major land holding communities like Patel's, Thakores and Chowdharies. The position of Other Backward Castes, Scheduled Castes and Scheduled Tribes of the plains has not improved or rather has been marginalized due to small land holdings, lack of inputs and poor access to technology. Most of the backward communities in the plains have turned agricultural labourers, construction workers and workers in other informal activities.

Though industrialization could have helped in alleviating the status of the backward communities, due to lack of literacy, poor opportunities and access, very few have been absorbed in private industries. The urban areas in the plains have, of course, provided some support to the backward communities in the service and informal sectors.

b) Literacy

According to the 2011 Census, the Gujarat Plains displays the best literacy rates in general, which is above the State average. The literacy rates are the highest in the *talukas* with large urban areas. The literacy rates in the districts of Mehsana (84.26%), Ahmedabad (86.36%), Gandhinagar (85.78%), Anand (85.79%), Kheda (84.31%),

Vadodara (81.21%), Surat (86.65%), Bharuch (83.23%), Navsari (84.78%) and Valsad (80.94%) have reached closer to the total literacy level.

However, the *talukas* of Gujarat Plains in its semi-arid parts and areas in the periphery of the hilly regions have performed rather poorly. Nonetheless, improvement in literacy rates in the region has been recorded between 2001 and 2008. The 2011 Census also reveals increase in both urban and rural literacy rates in the plains, with urban areas in the lead.

(c) Economic Status

For unparallel contributions to different sectors of the State economy, Gujarat plains are considered the economic base of the State Domestic Product. The region was first to get energized, industrialised and agriculturally developed after Independence. Except the Northern Plains which recently developed (2003 onwards) as agricultural region due to irrigation from the Narmada Canal, the rest of Gujarat plains region had sufficient canal networks and water resources available for development of agriculture.

Large investments in the urban areas of the plains have brought in unprecedented industrialisation to the region. Infrastructural developments in plains from north to south along the rail-road networks have lead to concentration of economic activities along it. The well known *Golden Corridor* has emerged from the huge potential offered by this transportation axis (North-South) for the economic development of the State.

The pace of urbanisation and industrialisation in the region has helped in improving the economic condition of the mainland Gujarat plains. The investments by the public sector organizations as well as private industries have helped in enhancing the economic potential.

7.6.5 Backward Sub Region: North Gujarat

The mainland Gujarat has two distinct backward regions, (a) North Gujarat and (b) Eastern Hilly Region. But due to differential complexities of issues, the two regions need to be addressed separately.

The Northern Plains is endowed with good quality soil, particularly in Mehsana district, but semi-arid conditions, particularly in the northernmost districts of Banaskantha and Sabarkantha, where annual rainfall is between 300 to 400 mm, has

doomed its agricultural prospects. The region has a good network of both National and State Highways linking it to Rajasthan in the North, Madhya Pradesh in the East and Maharashtra in the South. The interior parts of the regions are also connected with all-weather roads, connecting the villages with the *taluka* and districts headquarters. The Narmada Canal passes through the region and branch canals connect to the major cropping areas.

There is semi-arid and desert type of climatic condition towards the north-western part of the region, where extreme temperatures and dry air prove unsuitable for the cultivation of seasonal crops. The major agricultural areas of the region are in the middle of the region, spread over parts of Mehsana, Sabarkantha, Patan and Gandhinagar districts.

(a) North Gujarat Development Outlook

Until the Narmada Canal became operational in early 2000, North Gujarat was perennially facing scarcity of water resources. It was reported that, the number of 'dark *talukas*' in the State increased from only six in 1984-85 to 26 in 1998-99 mostly located in north Gujarat (Banaskantha, Mehsana and Sabarkantha district). About six per cent area of the region i.e. 11,000 hectares, is under non-agricultural use and a third under waste land. The area available for agriculture was low due to pressure from the industries, mainly for oil exploration (since 1980s), industrial estates and Special Economic Zones.

The Scheduled Caste and Scheduled Tribes in North Gujarat have remained neglected due to poor access to land and other natural resources. The rocky highlands of North Gujarat have remained backward due to limited potentiality. However, villages near to the study areas i.e., Mehsana and Gandhinagar, have high development potentials both in agriculture as well industries.

(b) Land use changes in North Gujarat

North Gujarat has shown an increase in forest cover of about 1.53 per cent (4,400 ha.) during 1984 to 2004. The region added 11,100 hectares of land under the non-agricultural usage showing 6.04 per cent increase in such land. The reason might be due to increased urbanisation and land utilization for the infrastructure projects. Other important changes are the reduction in land under current fallow and other fallow

category, and addition of 1.28 lakh hectares of land to net sown area could be due to improvement in irrigation facilities, particularly through the Narmada Canal.

As a result in the year 2004, Mehsana, Gandhinagar and Patan districts showed better net sown area whereas, Banaskantha district had low area under cultivation. This also shows the success of irrigation schemes and improved socio-economic conditions of the farmers in the region. This might be due to intervention of various NGOs, impact of watershed projects and availability of better technology. Although, there was around 9.3 per cent increase in the net sown area, amounting to 1.77 lakh hectares, a possible addition from the fellow lands, the barren and uncultivable lands also increased in the region.

(c) Industrial Investment in North Gujarat Districts

The region, till March 2010, could receive 7-8 per cent of the total investments in the State and about a similar per centage of people being provided with employment. About 80 per cent of the investment in the region has been made in Banaskantha district. The high investments can mostly be attributed to infrastructure development, like power and roads. Mehsana has about 9,600 persons employed in the new industries, one of the highest shares of employment in the region (see Chapter Three for Industrial Investment).

GIDC Estates in the Region

(i) Mehsana GIDC

The Mehsana district has two industrial estates located near the State Highway. While the Phase - I has the major machine tools and oil processing industries, the Phase - II has more than 500 plots with major industries related to manufacturing of machine tools and parts, fabrications, oil and other products.

(ii) Chattral GIDC (Kalol)

Kalol *Taluka* has the highest number of small scale industries and the trend is continuing since the last few years. This trend is due to Kalol's central location in the district of Gandhinagar and it is well connected by road and rail. Kalol has the highest concentration of the small scale industries in North Gujarat. This industrial area provides

employment to over 30,000 persons, connected with industrial estates and other industries on the major State Highway.

7.7 Coastal Region of Gujarat

On several counts, the Coastal Region is an important segment of Gujarat. The State has the longest coastline in the country stretching over around 1,600 kms. Twelve districts and 35 *talukas* of the State are located along this vast stretch of coastal shoreline.

The Gujarat coast is endowed with a variety of eco-systems including mangroves, sea weeds, coral reefs, salt marshes, marine life and wetlands. It is also a centre of economic activities including ports, shipping and trade, ship building and ship breaking, fisheries and aquaculture, salt production, mining industries, tourism, and defence. It is estimated that on an average a port exists for every 40 kms. of the seacoast of Gujarat. The coastal districts, particularly Rajkot, Jamnagar, Porbandar, Junagadh, Amreli and Bhavnagar of Kachchh and Saurashtra account for about 48 per cent of industrial investment of the State in 1996 (Gujarat State HDR).

7.7.1 Demographic Profile

According to the 2001 Census, the coastal districts of Gujarat account for 30 million people residing in 549 villages, which was approximately three fifth of the total population of the State. As estimated, there are around 5.8 million households along the coast mostly engaged in fishing, salt works and agriculture. Though, Ahmedabad accounts for only 6 per cent of the total area of the coastal districts, it has approximately one fifth of the total coastal population, followed by Surat (16%) and Rajkot (11%). Kachchh district which accounts for 35 per cent of the total coastal area of the State, has just 5 per cent of the total coastal population.

The population density along the coastal areas has increased to 359 persons per square kilometre in 2001 from 242 and 291 in 1981 and 1991 respectively. The district wise variation shows that population density is the highest in Ahmedabad (719 per square km.) followed by Surat (652) and Anand (631). The density is lowest in Kachchh (35 per square km.). As per the 2001 Census, females in the coastal areas constitute 48 per cent

of the total population. The sex ratio in 2001 has gone up to 929 from 909 recorded in 1991, which is slightly better than the State average of 920.

Literacy rate in the coastal districts is 70.55 per cent which varies from 59.8 in Kachchh to 79.8 per cent in Ahmedabad. However, there is a huge gap between the male (79.95%) and female (60.51%) literacy rates.

(a) Social status

The coastal districts in the State, mainly in Saurashtra and Kachchh, have a lower concentration (12%) of the Scheduled Tribes compared to the non-coastal districts. Among all the coastal districts, only Valsad and Navsari districts record a higher share of the Schedule Tribe population. The proportion of Scheduled Tribe population to total population at district level as per the 2001 Census is the highest in Valsad (55%), followed by Navsari (48%), Bharuch (32%), Surat (28%) and Kachchh (8%) districts among all the coastal districts of the State.

The Scheduled Caste population accounts for 7 per cent share of total population. The proportion of scheduled caste population to the total population is high in Kachchh (12%) followed by Ahmadabad (11%), Junagadh (10%) and Jamnagar and Amreli (8% each). In Bharuch, Surat, Navsari and Valsad, the scheduled castes are less than 5% of the total population.

(b) Economic status

The economic indicators show that about 40 per cent of the total coastal population comes under the category of workers of which approximately 85 per cent are main workers and approximately 15 per cent are marginal workers. Amongst the females workers about 18 per cent of the total main workers and 75 per cent are marginal workers. The work participation rate recorded in 2001 census is 38 per cent which is slightly higher than the 35 per cent recorded in 1991 Census. The district wise break up shows that work participation rate highest in Valsad (46%) followed by Navsari (44%), Surat and Amreli (43% each), Anand and Bharuch (42% each), and Porbandar (41%). The work participation rate is lowest in Ahmadabad at 35 per cent.

As per census 2001, among the workers, approximately 22 per cent of the total workers are agriculture labourers, 21 per cent are cultivators, 3 per cent are household industry workers and 54 per cent are other workers. About half of the agricultural labourers, over one third of the cultivators, over two fifths of the household industry workers and 15 per cent of the other workers are females. Surat has the highest number of agricultural labourers (18%) followed by Anand (11%) and Junagadh (10%) districts. Porbandar (2%) has the least number of agricultural labourers. Among the coastal districts, Junagadh has the highest number of cultivators (15%) followed by Rajkot (14%), Surat and Jamnagar (10% each). Navsari, Ahmadabad and Kachchh have less than 5 per cent workers as cultivators in their total workforce. This shows greater dependency on Fishing and allied activities in the coastal areas. Relatively a higher proportion of the workforce is engaged in household industries in Ahmadabad (19%), followed by Surat (17%), Bhavnagar (15%) and Kachchh (10%) districts.

7.7.2 Development Issues: Coastal Gujarat

Gujarat has a long coastline of about 1,600 kilometres, one of the longest in the country. The pressure of industrial activity, together with the density of population has created severe environmental challenges in this region. It is estimated that 41 per cent of the coastal population in Gujarat lives in urban centres as against 36 per cent in the State.

Industries along the coast discharge their solid and liquid waste into the sea. Pipelines carry industrial waste from inland areas to the coast and compound pollution levels. Added to this, Government promoted irrigation that relies on groundwater sources has, overtime led to the lowering of water table and growth of seawater ingress, resulting in salinization and deterioration in the quality of groundwater. Together these pressures have led to degradation of land, destruction of coastal ecosystems like mangroves, coastal erosion and degradation of coastal seawater. Problems of drinking water in coastal areas are common causing diseases like fluorosis, and dysentery.

The State Government is cognizant of such problems and has taken the lead in the country in preparing a Coastal Zone Management Plan (CZMP) and a Coastal Zone Management Information System (CZMIS) for tracking weather and environment related information through a Geographic Information System (GIS).

Table 7.12 summarizes the district level data on six indicators in Gujarat. As is evident, the average coastal district was better than those in the worst quartile in every indicator.

Table 7.12
District level Some Indicators for Six District

Regions	HCR	% of hungry households	IMR	% of Children getting Complete Immunization	Literacy Rate	Gross Enrolment Ratio
Worst Quartile	28.2-36.5	2.1-2.8	74-80	20.9-34.8	45.6-54.2	10.5-32.9
State Average	13.6	0.5	69	58.5	67.1	65.4
Coastal District Average	8.7	0.6	64	62.3	70.5	61.8
Non-Coastal District Average	19.3	0.3	74	54.3	63.8	69.3

Source: Debroy and Bhandari (2003)[226]

However, there were a few exceptions. The coastal district of Surat for instance, recorded a high proportion of hungry households (2.8 %), falling in the worst quartile of the districts in the State on this indicator. The gross enrolment ratio in Surat was also very low (25.7%). Likewise, Anand, Kachchh and Ahmadabad, all coastal districts, recorded relatively high infant mortality levels (80, 77 and 80 per 1000 live births respectively). The coastal districts of Porbandar and Junagadh were low on gross enrolment (10.5% in each); and Amreli, also along the coast, had a relatively higher proportion of hungry households (2.4%). Coastal areas in Gujarat are not immune to food insecurity. Chakravarty and Dand (2006)[227] in their survey of over a 1,000 households in two blocks in the coastal district of Rajkot, find that only 15 per cent of the sample households were food secure for all 12 months.

In general, Kachchh and Jamnagar performed relatively better, both in comparison to the State average and average for coastal districts with reference to the selected indicators. As noted earlier, Kachchh did worse only on the infant mortality rate.

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[226] Debroy, Bibek and Laveesh Bhandari (eds.) (2003): *District-level Deprivation in the New Millennium*, New Delhi: Konark.

[227] Chakravarty S. and Dand S.A. (2006): "Food Security in Gujarat: A Tale of Two Rural Population", EPW, XXXXI (3), pp. 2248-2258, June, 2006

Jamnagar did not feature in the worst quartile on any of the indicators. Only on one the indicators pertaining to education i.e. literacy, it was relatively worse off compared to the State average (63.2 % compared to the State average of 67.1%).

7.7.3 Poverty in Coastal Areas

The block level analysis of 2001 Census shows that there were pockets of poverty within Kachchh and Jamnagar districts. The coastal *talukas* of Lakhpat, Bhachau and Abdasa in Kachchh are ranked in the bottom 33 per cent on at least 5 of the 12 indicators from the census data (Table 7.13). Similarly, Khambalia and Kalyanpur were relatively poorer coastal *talukas* in Jamnagar. In contrast, none of the coastal blocks in Navsari, Porbandar and Surat ranked poor by this method.

Table 7.13
Pockets of Poverty in Coastal Districts in Gujarat*

District	Poor Blocks (Poor on x of the 12 indicators)
Kachchh	Lakhpat (7 indicators), Bhachau (6), Abdasa (6)
Ahmedabad	Dhandhuka (6)
Rajkot	Malia (5)
Jamnagar	Khambhalia (5), Kalyanpur (5)
Junagadh	Sutrapada (5), Kodinar (5), Una (5)
Amreli	Jafrabad (7), Rajula (5)
Bhavnagar	Talaja (6), Mahuva (6)
Anand	Borsad (7), Anklav (7)
Bharuch	Jambusar (5), Vagra (5), Hansot (7)
Valsad	Umbergaon (6)
Source: Based on Indicators as per Census 2001	

* Figures in parentheses are the number of indicators on which the *talukas* are ranked in the bottom 33%).

7.8 The Eastern Region – Tribal and Forest Areas of Gujarat

About 60 per cent of the tribal population of Gujarat is concentrated in the eastern tribal regions constituting hills, plains and coastal regions of mainland Gujarat. The distribution of the tribal population as part of Scheduled Areas (Constitutional provision) of the State can be traced from the northern part of Banaskantha, eastern hilly tracts of Sabarkantha, entire Dahod, Godhra and Panchmahals districts, Central Plains and Eastern hills of Vadodara district, Narmada, Eastern Surat, Tapi, Valsad, Navsari and The Dangs

districts. This region comprising of hills and foothills of Aravalli and Satpura ranges also encompasses the forest regions of the mainland Gujarat (See Figure 7.22).

There are five primitive tribal groups in Gujarat. These are Kotwalia, Siddhi, Kathodi, Kolga and Padhar. Out of these, except the Siddhis[228], rest can be located in the mainland Gujarat, such as Padhar (Ahmedabad and Surendranagar), Kotwalia (Tapi, Surat and Vapi), Kathodi (Surat and Tapi) and Kolga (Valsad).

The Rajpipla Hills in Narmada district are settled by Bhils and other tribes. The eastern boundary of the hills in Songadh and Vyara *talukas* in Tapi district is also hilly and is inhabited by Gamits, Chodhras, Vasava, Kotwalia and other tribes. The hilly areas of Bansda and Dharampur *talukas* in Valsad district are also inhabited by Gamits, Vasava, Dubla tribes. The Hansot and Vaghra *talukas* in Bharuch district are populated by Dublas.

The Scheduled Tribes (ST) is landless and poor forest dwellers and shifting cultivators, small farmers and pastoral and nomadic herders. The incidence of poverty amongst the STs still continues to be very high in Gujarat which is at 47.30 per cent in rural areas and 33.30 per cent in urban areas, compared to all India average of 28.30 and 25.70 per cent respectively in year 2004-05. It is estimated in the year 2001 Census for Gujarat that 81.56 per cent of the total ST workers, both rural and urban taken together, are engaged in the primary sector, of whom 44.71 per cent are cultivators and 36.85 per cent are agricultural labourers. The corresponding figures for all workers are 31.65 per cent (cultivators) and 26.55 per cent (agricultural labourers). This indicates that tribes of the State are essentially dependent on agriculture related activities.

[228] Siddhi, tribes are settled in Saurashtra region of the State, mostly in the Junagadh district.

Spatial Distribution of Tribal Population in Eastern Gujarat

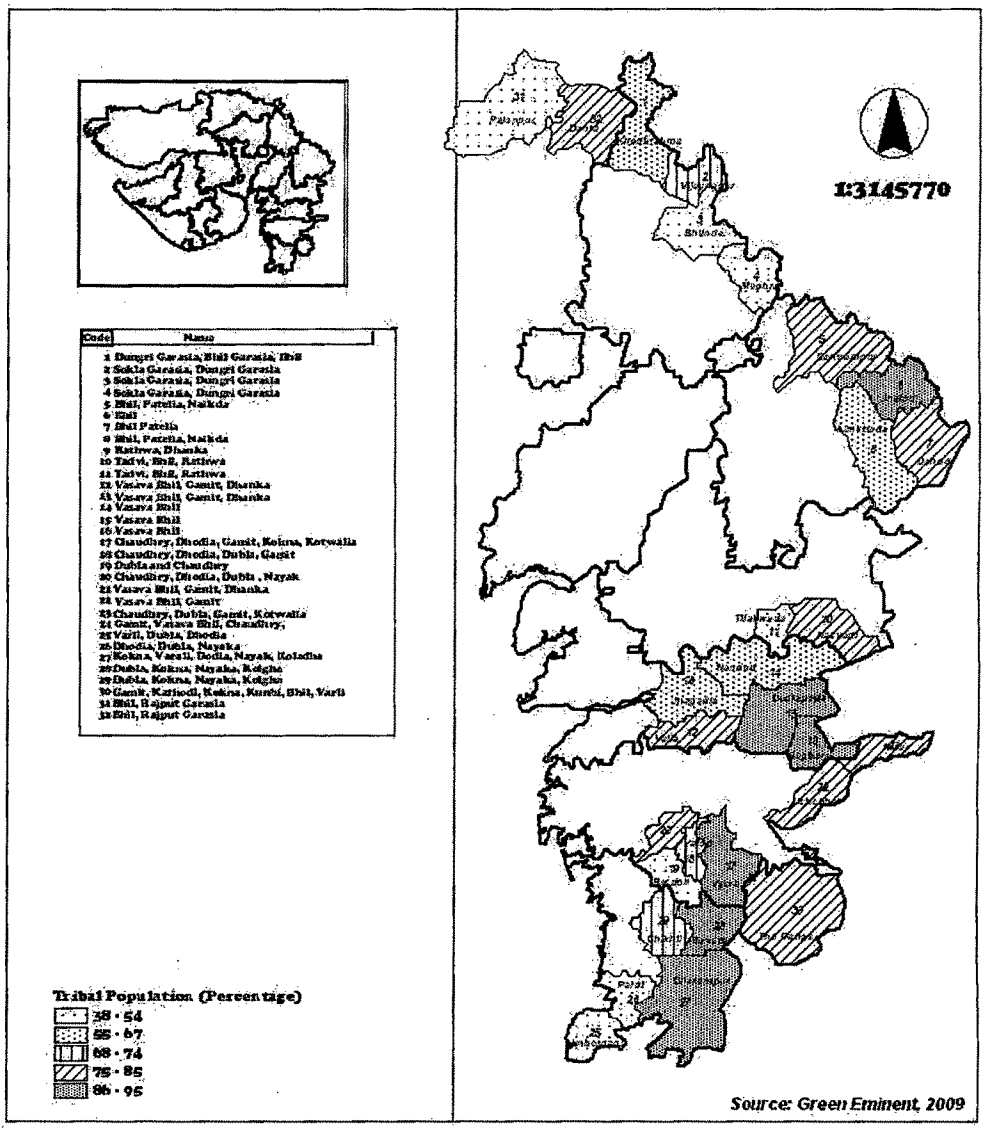

Figure 7.21: Spatial Distribution of Tribal's in Eastern Gujarat

7.8.1 Poverty in Tribal Areas

According to the latest estimates for 2004-05, incidence of rural poverty (HCR) in the State was 18.9 per cent. Against this, the HCR among tribal population in the State was 34.3 per cent (Table 7.14). It is imperative that the high growth scenario entails these marginalized communities, spread mainly over the eastern region in the State. Historically a number of factors have been associated with the sustained high level of poverty among the tribes, notwithstanding the slow improvements in the status of poverty over time. These include socio-cultural, physical, and political marginalization faced by the tribals as compared to other backward communities. Ironically, tribal communities continue to remain a minority even in the tribal designated areas

Sustained high level of poverty among tribal communities, despite the faster economic growth, has posed the most difficult challenge to contemporary discourse on development in the State. The incidence of poverty among tribal communities is both-severe as well as multi-dimensional in nature. This section highlights some important features of poverty among tribal communities, particularly among the 43 designated tribal *talukas* in the State.

Table 7.14
Poverty among Tribal Communities in Rural Gujarat: A Comparison

Year	HCR-Tribal	HCR-All
1983	57.6	29.8
1993-94	31.1	22.2
1999-00	29.1	13.2
2004-05	34.3	18.9

Note: The estimates for 1999-00 are not strictly comparable because of the difference in reference Period. *Source:* Thorat and Mahamallik (2007)[229]; For 2004-05 as per Table 1.

A similar picture is obtained while comparing the poverty estimates across regions in the State (Table 7.15). It is observed that, whereas poverty has declined in three out of the five regions, eastern region, consisting mainly of the tribal areas, along with the dry region, has experienced a marginal increase in the incidence of poverty.

[229] Thorat, S. and Mahamallik, M. (2007): "Chronic Poverty and Socially Disadvantaged Groups: Analysis of Causes and Remedies". CPRC-IIPA Working Paper 33, New Delhi: Chronic Poverty Research Centre, University of Manchester and Indian Institute of Public Administration.

Table 7.15
Poverty Ratios by NSSO-Regions

NSSO-Regions	HCR (1993-94)	HCR (2004-05)
Plains Northern	24.6	21.6
Plains Southern	22.4	17.9
Dry Areas	23.3	25.0
Saurashtra	18.8	02.7
Eastern	25.0	26.1
Gujarat state	22.8	18.9

Note: Based on Table 4 in Shah and Yagnik (2007)[230].

According to the latest estimates tribal communities have suffered further since 1993-94, the period coinciding with economic reforms and faster growth. The reduction in the State poverty level for the period 1993-94 to 2004-05, does not indicate any reduction in the dry areas (Northern dry lands, Parts of Saurashtra and Kachchh). But the poverty ratio rather marginally increases during the period in the Eastern Hilly regions.

7.8.2 Development Perspectives for Eastern Region

Mehta (2006)[231] on poverty in Eastern Tribal belt states, 'Gujarat has seen a decrease in level of poverty over the years, but the 15 per cent of tribal population of the State still accounts for 43 per cent of the rural poor.' She mentions that 'The hill districts where the tribal population resides are marked by persistent backwardness and have not experienced trickle down of growth benefits.'

For example, Kawant block of Vadodara district located in Eastern Hilly region with 133 villages has about 92 per cent of the tribal population in a total population of 170524. As per the report by Cowlagi Committee (2006), it ranks first as the most underdeveloped blocks in the State. As much as 71.2 per cent of the population is below poverty line. About 57.7 per cent is employed in agriculture. Agriculture/casual work fetches barely Rs.20 to Rs.25 per day; as a consequence about 30 per cent people migrate

[230] Shah, A. and Yagnik, J. (2007): "Estimates of BPL-households in Rural Gujarat: Measurement, Spatial Pattern and Policy Imperatives", Ahmedabad, Gujarat Institute of Development Research.
[231] Mehta, Niti (2006): "Poverty in Eastern Tribal Belt", Anveshak, Sardar Patel Institute of Economic and Social Research (SPIESR), XXXVI (1)

to other regions of the State to work as agricultural labourers or as construction workers where they get better wages (Rs.50 per day).[232]

On Fishing and Water Resources, Field observation during 2004-2005 along the Karjan Dam oustee's villages, the representatives of NGO Rajpipla Social Service Society, at Rajpipla (Narmada) stated,

> *'the reservoir no more provides fishing opportunities for the locals to earn their livelihood, as the reservoir management has auctioned the space for fishing to various agencies. This process does not allow locals to undertake fishing as a profession; at best they can take fishing for their own consumption.'*

Further, the discussion states, 'people are near to forest and reservoir but have no access to it. The land they cultivate is allotted to them by the Ukai resettlement agencies for cultivation but land was never transferred in their name. Nearly all the resettlers of Ukai Dam are yet to get the land for cultivation and right to fishing which they had been traditionally doing.' Most of the reservoirs in the State are now contracted to fishing corporates who have denied the tribal's and locals their fishing rights on their traditional source of livelihoods.

The outcome of this discussion suggests that uniform development path is followed in the State irrespective of the community's concerns. The tribal groups have distinct social and economic characteristics but the development agencies lack the vision for the milieu specific approach.

On personal discussion with the Secretary, Bhil Seva Mandal, Dahod (Vadodara District)

> *'Since 1927 Bhil Seva Mandal has been contributing towards the social upliftment of the people. The conditions of the people, though have improved, the new economic development policies of the State and continued deterioration of the natural resources (forest and water) force people to migrate to towns and cities of the State. The region now lacks organization that can help in retaining people in these areas. The long term regional perspectives are missing in the existing Government plans and schemes run by the field NGOs.'* (Field: 1/02/2011)

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[232] As reported by Deepak Foundation (Vadodara) in one of the development reports on Kawant *Taluka*

Based on discussion with a tribal scholar (Diploma in Tribal Development) in Adivasi Academy (Tejgadh: Chota Udepur) during December 2010, on forest resources and mining impacts, the following points emerged.

(a) Forest resources have depleted in general for the people due to natural as well as ownership of the forest department.

(b) Forests now provide little scope of employment to the tribal's in the eastern forest belts, since felling of trees; auction and market network is taken over from people to the organised market.

(c) People still have rights for the minor produce but have little access to the markets and organised finance required to sustain at long terms,

(d) Mining in the eastern region have not benefitted in social and economic development of people except selling their labour in return to wage.

(e) Mining have destroyed the ecological characteristics resulting in shifting of people from forest regions to plains or distant places.

(f) After the mining is over, restoration of mining areas has not taken place and people are facing acute shortage of water for drinking and irrigation.

(g) Large dams in the regions have increased their plight by acquiring their lands for various purposes and meagre compensation did not help them to sustain for longer periods.

(h) There is general dissent in the eastern tribal region about the Government policies which might force people to shift nearer to roads and major towns to take benefits of present investment in infrastructure in these regions.

7.8.3 Tribal Migration

Between 1960 to 1980 as the employment opportunities as forest labourers, unskilled labourers in public projects such as canals, railways or other works such as drought relief etcetera became scarce, Bhil farmers in Eastern Gujarat travelled further towards the mainland Gujarat and further afield to secure employment. They initially shifted from villages to plains to work as seasonal agricultural labourers in neighbouring *talukas* and districts and later moved to urban centers to work as daily wagers.

The study in 1996-97 by David Mosse and others (2005)[233] reported that,

[233] Mosse, David et. al (2005): "On the Margins in the City: Adivasi Seasonal Migration in Western India", EPW, XXXX (28), pp. 3026-3038.

'...at a conservative estimate around 65 per cent of households (up to 95 % in some villages) and 48 per cent of the adult population are involved in seasonal migration, overwhelmingly for casual urban construction work which has become the primary source of cash for Bhil families (contributing 86 per cent of cash income). With an average of half of the adult population of Bhil villages migrating for half of the year, leaving only the old, the ill or the disabled, migration has become a massive event in rural life'. (Mosse: p.3026)

A shift in the tribal population in the tribal regions from 1971-2001, reveals the changing nature of tribal concentration in the region (see chapter 3), there is concentration of tribal in the foot hill regions of the eastern tribal region. The migration of tribal's from the scheduled areas to non-scheduled areas are constrained by the decline in areas under forest and access to forest, increase in population in the tribal regions, poor per capita land availability and lack of employment opportunities in non-agricultural sector in the region. The recent studies conducted by the Center for Culture and Development (2010)[234], reveals the migration trend during 1961-2001 in the tribal regions of the Gujarat, which confirms that the tribes of the Vadodara, Surat, Panchmahal, Dahod and Kheda districts have been migrating to the plains.

It also reveals that the tribes in the Northern Hilly regions in Sabarkantha district, mainly that of Vijaynagar and Khedbrahma *talukas* have been migrating to the plains mostly to work as agricultural labourers or casual workers. Dahod district contributes considerably with almost 50 per cent of the migrating tribal population of this region. Among all the *talukas* contributing to the migrating population of Dahod, Zalod emerges as the major contributor with 5.38 per cent. Santrampur, Kadana and Ghoghamba contribute most in the population migration of tribal's in Panchmahals district, whereas in Vadodara, Jetpur Pavi, Chhota Udaipur, Kawant and Nasvadi *talukas* provide the main sources.

7.8.4 Changes in Forest Cover and Livelihood

The tribes whose traditional mode of livelihood in the remote past depended on hunting, gathering, fishing and shifting cultivation, have begun to adopt settled agriculture and farming. The symbiotic relationship between the tribes and the forest has

[234] Lancy Lobo and Jayesh Shah (2009): *Forest Changes and livelihood in Gujarat (1947-2008)*, Centre for Culture and Development, Vadodara (Mimeo).

been weakening.[235] Until recently, the dominant view was that tribal residence necessarily implied reliance on farming and forests as a means of income. Tribal areas were seen primarily as production areas for agriculture and Minor Forest Products (MFP), and tribal development was perceived as a derivative of agricultural development and MFPs. Policies for the development of tribal areas, when recognized as a relevant policy domain, focused solely on farming, and neglected other economic activities. Policy perceptions and visions about farming and the development of the agricultural sector have been long dominated by the paradigm of agricultural modernization, which advocates improving farm production through the use of more and improved technologies and more financial investments.

From the field visits and recent studies, it becomes evident that in recent times, the tribal's are not entirely as dependent for their livelihood on the forests or forest products as earlier.[236] They also depend on alternative sources of livelihood such as dairy farming, horticulture, and agriculture. This has resulted in continued alienation of the tribes from the forests, who have no way out except migrating seasonally, temporarily and permanently in search of livelihood.

The field interaction in Dahod and Panchmahals districts revealed that the tribal youths have reduced their dependence on the forests and prefer migrating to the cities in search of employment.

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[235] Viegas, P. and G. Menon (1986): Development Pattern, Forest Policy and Exploitation of Tribals, in W. Fernandes (ed.): *Inequality: Its Basis and Its Search for Solutions*, Indian Social Institute, New Delhi, pp. 57-84.

[236] Dash, Niladri Ranjan (2009): "Milieu Specific Approach to Sustainable Livelihood", in K. V. Sunderam, M. M. Jha and P. S. Tiwari (eds.): *Sustainable Development and Earth Care: Searching for Policy Initiatives*, Concept, New Delhi, pp. 232-248.

Table 7.16
Regional Changes (%) in Forest Cover (in Ha.) in Gujarat - 1971 & 2007

Regions with Districts		Geographical Area	Census Data on Forest Area		Change between 1971-2001	FSI Data on Forest Cover		Change between 2001-2007
			1971	2001		2001	2007	
	Banaskantha	9,85,800	83,072	94,592	13.87	1,15,700	1,02,800	-11.15
	Sabarkantha	7,39,000	101,287	1,11,470	10.05	1,13,900	89,200	-21.69
	Mehsana	8,54,000	3,194	5,340	67.19	14,000	26,600	90.00
I	Patan	3,33,200	15,459	43,113	178.89	17,000	10,700	-37.06
	Ahmedabad	8,70,700	1	1,717	0.00	21,100	16,000	-24.17
	Gandhinagar	6,49,000	1,958	1,884	-3.78	14,600	44,000	201.37
Region I – Total		**4,431,700**	**204,970**	**2,58,116**	**25.93**	**2,96,300**	**2,89,300**	**-2.36**
	Panchmahal	4,46,100	99,082	1,13,973	15.03	68,800	60,500	-12.06
	Dahod	4,40,500	51,465	85,146	65.44	73,000	73,700	0.96
II	Kheda	3,98,000	6,408	9,308	45.26	19,600	11,100	-43.37
	Anand	3,21,400	954	379	-60.27	17,600	59,000	235.23
	Vadodara	7,79,400	52,022	70,121	34.79	87,300	65,000	-25.54
Region II – Total		**2,385,400**	**2,09,931**	**2,78,927**	**32.87**	**2,66,300**	**2,69,300**	**1.13**
	Narmada	2,58,000	74,070	86,108	16.25	1,02,600	97,800	-4.68
III	Bharuch	6,45,800	18,649	21,219	13.78	30,700	32,200	4.89
	Surat	7,65,700*	28,562	31,851	11.52	1,70,300	1,33,300	-21.73
Region III – Total		**1,669,500**	**121,281**	**1,39,178**	**14.76**	**3,03,600**	**2,63,300**	**-13.27**
	Tapi	-	52,498	64,680	23.20	0	0	0.00
IV	Navsari	2,21,500	32,181	25,010	-22.28	34,300	29,600	-13.70
	Valsad	3,02,900	75,405	87,650	16.24	98,300	94,800	-3.56
Region IV – Total		**5,24,400**	**160,084**	**1,77,340**	**10.78**	**1,32,600**	**1,24,400**	**-6.18**
V	The Dang	1,76,200	95,330	91,485	-4.03	1,39,700	1,37,100	-1.86
Region V – Total		**1,76,200**	**95,330**	**91,485**	**-4.03**	**1,39,700**	**1,37,100**	**-1.86**
Gujarat		**9,187,200**	**7,91,596**	**9,54,047**	**20.52**	**1,138,500**	**1,083,400**	**-4.84**

Source: Census of India, 1971 & 2001 & Forest Survey India Reports (2001, 2007)

In a study concluded by Lancy Lobo and J. Shah (2009)[237], the authors conclude that forest areas in the Eastern Hilly region have increased with some exception in southern hills where forest depletion has been reported. The out-migration from these areas has been found to be directly related to insufficient forest resources for sustainable forest-based livelihood. Thus, it would not be wrong to conclude that, the Governments have contributed greatly in alienating tribes from the forested regions.

The demographic shifts recorded in the eastern tribal region, as reported in the earlier chapters, also indicate movement of the tribes from their traditional habitats to newer areas in search of livelihood. It is also observed that by increasing the area of forest under the reserved category (1947-2007), the tribes have lost access to and their traditional rights over forest resources resulting in decreased dependence on the forests. Rather, their age-old constructive dependence on the forests has turned into destructive dependence (Vegas & Menon: 1986).

Forest is no longer the abode of the tribal communities, rather has turned into an income generating source for the Forest Department since the last 60 years, resulting in raising the conflicts between the tribes and the Forest Department officials in particular and the Government in general. With the Forest Rights Act it is being recognized that the tribes have right to the forest land as they have been living there for centuries and have their own customary laws with reference to forest land. But, it is the State or the Forest Department which would decide the fate of the tribes in forested regions of the State.

7.8.5 Agrarian and Industrial Development

With no land or small holdings, the Dodia, Naik, Rathwa, Baria and other tribal communities predominantly concentrated in the hilly regions and at the foot hills, have not grown beyond subsistence farming. Most of the land in the hilly regions is less fertile, un-irrigated and yield a single crop. The improved agrarian practices did make some impact on the cropping pattern with introduction to cash crops and plantations which improved income from agriculture in some regions in the hilly areas. Lack of infrastructure like, Agricultural Produce Market Center (APMC) and road network

[237] Lancy Lobo and J.Shah, (2009): *Forest Changes and livelihood in Gujarat (1947-2008)*, Mimeo, Centre for Culture and Development, Vadodara, Excerpts from the discussion note in a National Seminar at Centre for Culture and Development 2008.

resulted in poor connectivity with the market. Despite Government initiatives to improve agricultural practices during the last decade, response has been poor and the trend of out migration remains unabated.

7.8.6 Situation of APMC in Tribal Areas

The location of the APMC has been decided based on the National Agriculture Policy which emphasizes on providing minimum facilities at all the development blocks/*talukas* in the State. The marketing system and farmers' marketing practices have undergone considerable changes during the last 50 years owing to the expansion in the size of the market, increased availability of infrastructure, changes in the pattern of demand and introduction of new methods of processing, packaging, storage and transportation.

(a) Location Analysis

The inter-linkages between the APMCs through the traders are important in deciding upon the ultimate destination of the produce procured from the farmers. The inter-APMC travel of goods or direct procurement by the industry is so far under consideration for reform. The direct procurement by the agro-industry from the farmers is not allowed under the current APMC Act. The linkages developed between the APMCs and traders are poor wherein, the procurement at the APMC at large district centers are higher than APMCs located in the remote tribal areas.

The distribution of the APMC in the hilly, tribal areas of North Gujarat is in the immediate neighbouring plains. The towns of Idar, Bhiloda, Modasa, Malpar and Lunawada etcetera play important role in linking the tribal farmers to the mainland markets and consumption areas. More than 100 villages are being serviced by the APMCs at Lunawada, Bhiloda, Santrampur and Meghraj. The villages located near the major National and State Highways; prefer the nearest and active markets. The markets in the tribal areas of Godhra, Dahod and Jhalod are located along the National Highway, which have benefited the market in terms of coverage and receipt of goods.

However, the sub-yards in the district show poor performance in terms of access to major roads resulting in poor receipt of goods. In addition, lack of storage facilities, traders and amenities in these market yards discourage the farmers to utilize the services.

Though the efforts are on to upgrade these APMCs, most of the facilities are granted on piecemeal basis, rather than comprehensively, resulting in slow growth of revenue.

Even the developed districts, like Vadodara and Surat, display poor performance at the APMCs located in the tribal areas, mainly due to poor production in these areas as well as their distance from the major urban centres and markets. The price fluctuations, insufficient facilities at the APMCs and lack of good connectivity with the respective district headquarters also create adverse circumstances for the tribal farmers. Realising this, the Dahod APMC has allowed the farmers to sell their produce at far off places instead of at the nearby APMC.

There is a need to provide proper micro-financing and interconnection between the farmer groups and collection centers in order to facilitate the movement of goods at selected main yards in the region, particularly at Chhota Udepur, Jetpur Pavi and Bodeli. At the main yards, provision of necessary facilities along with the basic infrastructure, such as increased capacity of storage, particularly the cold storage for the perishable goods, needs to be planned.

(b) Issues and Concerns for APMC in the Tribal Areas

APMCs in the tribal areas of the State have a long history since 1948, when the Dahod APMC was established. Before the formation of the State in 1960, APMC were established in Navsari, Bharuch, Dahod and Vyara (Tapi). Despite early establishment, many APMCs have not developed as per the plans or have collapsed due to misuse and mismanagement. Much more needs to be done in order to promote agriculture and related activities in the tribal districts. During the early part of 21st century (2001-02), a few APMCs received more attention and up gradation. But major changes in the APMC are noticed after the initiation of the *Rastriya Kisan Vikas Yojna* (RKVY) Scheme during 2008-09 and the conditions of many APMCs in the tribal areas are improving with construction of building structures.

But these constructions under the RKVY scheme for key buildings and facilities at the Main Yards and Sub Yards. As per the data received from the various APMC, there are more requirements of amenities and machines in the present APMC.

Most of the APMC have different facilities and operational requirements as per the facility assessment. Some APMC do have soil testing facilities, cold storage and wheat harvester. All these facilities add to the income generating capacities of the APMCs and sub yards. But most of APMC is lacking in common services which are required for regular auction of goods received.

Most of the APMC main yards are having basic facilities, but the sub-yards lack the required amenities and facilities as per the standards and business requirements. Given the choice, the farmers therefore would prefer to take the goods to the main yard instead of the sub-yard due to lack of facilities. There is under utilization of trading and storage facilities in most of the yards except at some big yards in Vadodara, Surat and Dahod. The traders need to be encouraged to use these facilities and extend the services to the farmers. More extension services are needed at the APMCs.

The education and facilitation of farmers are required in order to make them aware about the Government schemes such as RVKY (2007), Vanbandhu Kalyan Yojna (2007) and District Agriculture Plan (2008). On the whole, improvement in the human resources at the APMCs needs to be achieved in order to make them farmer friendly.

Vanbandhu Scheme

On the various occasions since year 2007, The State Government has been promoting Chief Ministers 10 Point Programme for development of tribes under the 11th Five Year Plan. This programme was later named as Vanbandhu Scheme with budgetary allocation of more than Rs. 11,000 crores for the benefit of tribals. Most of the tribes in the districts of the eastern tribal belt were expected to get benefited as per the Project. This has been factually an extension and renaming of the conventional Tribal Sub-Plan in operation since the last three decades in the State for the Scheduled Areas.

The State Government, in response to Question No. 25,093 by the Congress MLA, Dr. Anil Joshiyara, replied in writing that, '*funds allocated under the Vanbandhu Scheme are the same as funds allocated to different departments under the Tribal Area*

Sub Plan. Both funds are same. No money is allocated separately for Vanbandhu Scheme'.[238]

7.8.7 Struggle for Land Rights in Tribal Areas

Regional development in the region can also be gauged from the spatial spread of struggles for land rights in the tribal areas since pre-Independence to the present. The hilly regions of Gujarat from Sabarkantha in north to Dangs in south Gujarat, experiences cases of land alienation emanating from the development projects and expansion of forest areas. The traditional habitats of the tribes, mostly Bhils and their sub-tribes, have been within the forested and hilly regions of the State. The spatial spread of the tribal settlements in these forested areas varies from sporadic settlements to dense villages particularly in the southern hills. Over the last 50 years, the region has not only remained deprived from the development efforts but also been exploited for their abundant natural resources. The forests and rivers of this region are being used to provide forest produce and supply water to the rest of Gujarat. Thus, the tribal regions of the State play the role of resource supply regions for the benefit of the State, without getting suitable development returns.

As a consequence, the tribes in the region are compelled to work as agricultural and casual labourers in the plains and non-tribal areas due to alienation from their traditional economic resource base. Only a few tribal groups, such as the oustees of the Narmada Project, could be resettled in the plain areas with sustainable source of livelihood, such as agriculture. Large extent of destitution of the tribes has resulted in the backwardness of the hilly region till the early 21st century (2003-04) resulting in poor human resource development. The tribes like Dublas in South Gujarat have been forced to migrate to the sugarcane fields as bonded labourers and Dungri Bhils in northern hilly regions to work as construction labourers or brick kiln workers (See Breman, 1993[239]).

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[238] www.dnasyndication.com/dna/dna_english_news_and_features/No-Seperate-funding-for-Vanbandhu-scheme/DNAHM52779, reported on 3/07/2012

[239] Breman, Jan (1993): *Beyond Patronage and Exploitation: Changing Agrarian Relations in South Gujarat*, Oxford University Press, New Delhi.

(a) Case Study of Dangs District

Spread over an area of the 1,778 sq. kms. in the south-east corner, The Dangs is a rural and predominantly forested district of the State. Around 95 per cent of the population of the district belongs to the Scheduled Tribe category. The major tribes in the district are the Kukanas (40%), the Bhils (33%) and the Varlis (14%), who were traditionally shifting cultivators. The district was first annexed by the British in 1844, for leasing the forests from the local chiefs. The British exploited the rich timber resources of the district and for further exploitation, placed large areas under reserved forests and practiced scientific forestry for the regeneration of the forest. Thus, beginning with the British intervention, much of the land that was freely available were made inaccessible to the tribes for agriculture and allied activities and also placed restrictions on their movement in the area.

Forest cooperatives were formed after Independence (1948) in order to avoid conflict between forest contractors, money lenders and forest department with the traditional dwellers. The condition of the forest labourers improved during the initial period. The forest tribes now were part of these forest cooperatives due to increasing involvement of the political leaders to exploit the situation. These forest cooperatives (about 32) functioned till 1988, when the Government of India banned the cutting of trees in Dangs due to high deforestation, which affected functioning of forest cooperatives and livelihood of the people.[240]

Although the practice of exploiting the forests continued after Independence, about 50,000 hectares of land was granted to the tribes for settled agriculture. With continued growth of population from 42,282 in 1961 to 1,86,729 in 2001, the tribes now find it insufficient for cultivation purposes. Despite being the least populated district of the State, as per the 2011 provisional figures, it has now a population of 2,26,769 persons.

Land alienation in the district can be ascertained from the fact that 66 per cent was under cultivation in the late 19th century.[241] This proportion reduced to 54 per cent in 1956-57, 45 per cent in 1961 and to less than one third area of the district (31%) in 1987.

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[240] Discussion with Navin Pawar (2005) in Dangs and his group at Ahwa

[241] Joshi, Satyakam (2002): *Development, Deprivation and Discontent* in Shah, Ghanshyam and others (ed), Development and Deprivation in Gujarat, Sage, New Delhi, p.205

As per the given development requirement of the State, a mere 53,994 hectares of land, which is highly unsustainable for agricultural purposes, has been made available to the inhabitants. Consequentially, incidences of struggle for land in the district have been continuing until recently (Lobo and Kumar (2009), Jan Breman (1993), Ghanshayam shah (2002)[242]. The tribes have fought for their right to land with the help of many outsiders, who are not the residents of Dangs, like Barry Underwood (1979-83), Irfan Engineer (1989-1992) and Anil (1990-2011). These people have provided the needed leaderships to the Dangi people in their struggle for land rights.

Despite the tribes' claim on the forest land both as community and individual rights under the recent Forest Right Act, their rights have only been partially accepted by the State Government. The forest department still carries out a totalitarian regime in the district with more than 80 per cent of the area under its control. The declining per capita ownership of land without any alternate source of employment is forcing the tribes of the district to migrate out in search of alternative sources of livelihood. The district has no industries or services or cooperatives (other than defunct forest cooperatives) to provide employment to the people. Extremely serious lacunas were observed during the field interaction with the people pertaining to the rights of people and development action by the State.

(b) Case Study of Bharuch and Narmada Districts

Land alienation due to water resources (dams and canals) projects, mining and industrial activities has been the highest in the State in Bharuch and Narmada districts. There are a large number of villages in these two districts which have lost the agriculture as well as common property resources to the development projects (see Lobo and Kumar, 2009). The major tribes in the districts are Vasava - a Bhil sub-tribe settled in the eastern side of the districts mostly in the five *talukas* of Nandod, Jhagadia, Valia, Dediapada and Sagbara. Before Independence, these areas were governed by the king of Rajpipla. Distortions of land ownership pattern in the tribal areas, where non-tribes own a larger share of land has lead to conflicts between the two communities. For example, in Valia

[242] Shah, Ghanshyam, 2002, *Land reforms in India, Vol. 8: Performance and challanges in Gujarat and Maharashtra*, Sage Publication, New Delhi, p.520

72 per cent of the tribes own merely 26 per cent of agricultural land, in Sagbara 95.5 per cent of the tribes own 68 per cent of land and in Dediapada 95 per cent of tribes own 72 per cent of and. The other land owning non-tribal communities in the districts are Rajputs, Muslims, Kanbi Patel's and Vanias.

As a result, of above the districts till early 1990s reported assertion of tribal's towards claiming of the land rights which emerged in post independent India. The political leaders belonging both to the tribal as well as non-tribal communities exploited the situation to their advantage. The animosity between the communities resulted in the incidence of looting, destruction of crops and harassment of the non-tribal's mostly reported from the Valia and Jhagadia *talukas*. The region was also termed as 'Chambal of Gujarat' or 'Telangana of Gujarat' by the non-tribal land lords and the State media tried to crush the tribal assertion of land rights (Shah, Ghanshayam, 2002, Stany Pinto, 2002)[243].

Later in the districts, the Karjan Dam and the Sardar Sarovar Dam also displaced a large section of tribes from the villages falling under the reservoir area and deprived them of the sources of their traditional livelihood and source of income resulting in the large scale migration of tribes to the *taluka* headquarters in regions and other cities such as, Bharuch, Ankleshwar and Surat. The tribes could not cope up with the land provided to them under the rehabilitation programme under the two projects (see Lobo and Kumar 2009). The extent of alienation of the tribes has been huge and the rehabilitation measures have been meagre leading to accentuation of the backwardness of the *taluka.* Despite improvement in literacy levels and access to market, the sustainability of the tribes is in danger in the absence of State support.

The disgruntled population of the tribal dominated areas of Bharuch district had organised a movement called 'land for tillers' under the leadership of Motiram Vasava and Vestabhai Vasava with the support of the organization named 'Kisan Sabha' way back in 1957. Later the movement for self assertion of the tribes was supported by Kesrisingh of Karaswan village, Vyara *taluka,* who appealed to shun ties with the non-tribes, and boycott the non-tribal institutions including schools. Later, the mass

[243] Pinto, Stany (2002): "Land alienation and Adivasi assertion in Bharuch district" in Bremen, Jan et.al. (ed.), *Development and Deprivation in Gujarat,* Sage Publication, New Delhi, pp. 214-230

movement led through the 'Sati Pati' ideology by its proponent Narsing Vasava, who raised call for the tribal consciousness by emphasising on the rights of the tribes in claiming the land for agriculture.

The geographical spread of the discontent had extended from south of Bharuch along the hilly region up to Dangs. Politicizing different movements of the region, the ruling Congress established Adijati Vikas Paksh and Adivasi Ekta Parishad etcetera till the 1990s and raised the issue of autonomy of the region. However, the development targets were mainly for the exploitation of the natural resources, which the tribal population kept resisting through various socio-political movements. The tribal's wanted to have some say in the development and exploitation of their natural resources. But the development concerns were mainly to assign growth for the non-tribal's, corporations and governments. The tribal areas were considered as supply sources of cheap labourers for the industries located in Bharuch, Ankleshwar and Surat.[244]

After a series of interactions in the Mangrol, Valia, Vyara, Songadh and the tribal areas it was found that the land rights are disputed within the areas administered by the Forest Department. The tribes were traditionally cultivating the forested land by producing subsistence crops, which was disputed by the authorities. However, the claims by the tribal's (The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006) were rejected on the grounds of lack of evidence to prove their ownership to the Government of Gujarat.

(c) Case Study of Antarsuba (Vijaynagar – Sabarkantha, Northern Hills)

A serious conflict between the tribal's and the Forest Department staff was reported in February 2008. Times of India reported the incidence in the following words:

> *'two tribal's were killed on Wednesday in a clash with the police who opened fire when tribal's reportedly attacked a police station. The police were trying to disperse a mob of 500 tribal's who had attacked them and the forest officials in the Dholwani forest range near the Antarsuba police station. Three of the tribal's were seriously injured and were brought to the Ahmedabad Civil Hospital. Police said they opened fire only after the tribal's attacked them with bows and arrows, injuring nine forest officials and six policemen. However, the*

[244] As per discussion with social activists and NGO leaders - Avinash (Dangs), Ashok Chaoudhary (Valsad-Surat) and Fr. Xavier Manjurian (Rajpipla) during 2006 and 2011 in workshops related to land rights and field visits.

tribal's said five of their men had been detained at the Antarsuba police station and they had gone to release them. The officials said that the tribal's gheroaed the police station around 3.30 am and started pelting stones. The mob paid no heed to the policemen's orders after which the SRP (State Reserve Police) opened fire.[245]

The incident was enquired into by two enquiry committees; one, by the Government of Gujarat, headed by Mr. P. K. Laheri (2008) and, another by the Adivasi Maha Sabha, Gujarat - a right-based organization, which has been working among the tribes of Gujarat. Both the committees made the following recommendations:

P. K. Laheri Committee - Recommendations

i. The Forest Rights Act, 2006 had been implemented from the 1st of January, 2008. The tribal's and other beneficiaries of the forest dwellers would get their rights and it was stated that the authorities of the Forest Department should try to gain the trust of the people which would be helpful in the implementation of the Act. The Tribal Sub-Plan and the Forest Department should come up with some decisions to train their officials and staff regarding the Forest Rights Act, 2006. The Act should also be translated in a language which could be easily understood by the layman so that they are informed about their rights and provisions of the Act. Committees at the level of the Gram Sabha, Sub-Division and the State Government should also be formed.

ii. Individual claims should be filed according to the prescribed norms, rules and regulations of the Act in the prescribed form without any pressure on the claimant. It was also recommended that the processing of the forms should be decentralized.

iii. The Committee strongly stated that unlike other States, the tribal areas of Gujarat are more peaceful. But they also mentioned that there have been various elements to disrupt this peaceful existence of the tribal are which the State Government should not overlook. To divert the tribal's' mind from such activities they should be engaged in meaningful activities and provided with various developmental schemes through which income could be generated and they could earn a

[245] Times of India, 14-02-2008

livelihood. It was also recommended that strict action should be taken up against any individual or organization liable of creating misunderstanding and confusion among the tribal's.

iv. The conflicts and tensions which had come up between the Forest Department officials and the tribal's during the implementation of the Forest Rights Acts should be discussed and a peaceful solution should be sought for cordial relation in the future.

v. The State Government should try to compensate for the death of the deceased in the incident, so that the people of the area do not feel neglected.

vi. The Committee also recommended that the inquiry of this incident conducted according to the provisions of the Local Crime Branch would be better if handled by the Central Bureau of Investigation.

Adivasi Mahasabha Recommendations for the Government

i. Both the criminal cases (FIR 16/08 and FIR 15/08) against these persons should be immediately withdrawn.

ii. A criminal case of murdering and critically hurting these persons should be immediately filed against all those who ordered the firing and a high level Police probe as well as a Judicial probe be instituted.

iii. A firm assurance to be given to these people that they shall get the land for which they shed their blood.

iv. Compensation along with an unconditional apology should be given to these persons.

v. Strict action should be initiated against all those forest officials who spread false and grossly exaggerated stories about large scale destruction of forests by the tribal's.

vi. A firm commitment should be given to all the tribal's of Gujarat that the Forest Rights Act would be implemented in its true spirit and in a time-bound manner.

The case studies mentioned above show the kind of discontent and mistrust that have been prevalent among the tribes and the Government in the State. There is an intention to improve the socio-economic situation of the tribes but with lack of

understanding and confidence of people the development activities are not able to achieve the desired objectives.

7.9 Kachchh – Development Trends

Kachchh district has distinct regional characteristics in the State, which is also the largest district in the country, with the 45,652 sq.kms geographical area. Kachchh also has the longest coastline of 352 kms, amongst all the coastal districts of Gujarat. The district has one major port i.e. Kandla. Kachchh has a tourism potentiality due to its geographic location and distinct ecosystem like, coastal area, the Rann, hilly areas, mangroves, forest and the grass lands of Banni etcetera.

The Kachchh district consists with 10 *talukas* namely, Abdasa, Anjar, Bhachau, Bhuj, Gandhidham, Lakhpat, Mandavi, Mundra, Nakhatrana and Rapar. As per the 2011 Census, the region has 6 municipalities, 8 census towns and 924 villages which are governed by 615 *Gram Panchayats*.

7.9.1 Regional Linkages

Mumbai and Gandhidham – Palanpur - Delhi broad gauge railway lines and National Highways NH-8A and NH-15 are the major linkages of the Bhuj district connecting it to other cities of India. Gandhidham is one of the few cites of Gujarat, which is blessed with connection to the National grid for commercial traffic by all major modes of transport like road, rail, air and water. Bhuj airport caters to the needs of domestic and international passengers of Kachchh district. Another airport is located near Galpadhar village adjacent to Gandhidham and Anjar towns which is used mostly as a cargo airport. A new cargo airport has also been recently developed in the Mundra town for the transfer of goods from Mundra port and SEZ.

Total length of State Highways consisting of SH-42, SH-45, SH-47, SH-48, SH-49, SH-51 and SH-91 etcetera in the district is 1,727 kms. which connect the *taluka* headquarters in the District. Remaining road network consist of the Major district roads, other roads and village roads. The total length of roads, including National Highways, State Highways District Roads and Village Roads, increased by 2,399 kms from 5,905 kms. to 8,304 kms by 2001, particularly due to increase of length of National Highways

and Village Roads. The length Village Roads almost doubled during the last decade of the century (1991-2001).

7.9.2 Development Scenario of Kachchh

Kandla Port established in 1952 in the district as one of the 12 major ports of India. Subsequently in 1965, Asia's first Free Trade Zone (FTZ) was established adjoining Kandla town. IFFCO and other industries also setup in the district around this time. Salt pans developed along the coastal belt from Bhachau to Mundra and some portion of the Abdasa *taluka* near Jakhau port gave boost to salt industry in the district. Thereafter many salt based refineries came up in Gandhidham and Bhachau *talukas*. The Mundra Port came up in 1998 adjacent to Mundra town.

Most of the recent developments in the district are the result of investments after the devastating earthquake in 2001. The 2001 earthquake in the district, affected Bhuj, Anjar, Rapar and Bhachau *talukas*. The State Government declared various resettlement and rehabilitation packages in the district such as, incentives for industries and rehabilitation plan for urban areas.

Under these packages Bhuj, Anjar, Rapar, and Bhachau towns were rehabilitated and new infrastructure facilities and town planning schemes were planned for reducing the population density in the core areas. Although, in Bhuj area, the town planning schemes are set in the outer periphery of the town, in the other towns the schemes are implemented within the core area or at the same places where people lived prior to the earthquake.

Through these invectives, the damaged industries were provided with subsidy for reconstruction of infrastructure and building. During 2002, the Central and State Governments declared economic development incentives for Kachchh district. The policy aimed at providing incentives to major industries and exempting existing and new industrial units from excise duty and service tax. Thus, there was a sudden increase in industrial investment in the district during the next five years (2002 to 2007).

Besides, after the earthquake 2001, a Rs. 3.74 billion grant was provided by the World Bank and the Asian Development Bank for strengthening the road network in the

district against the total investment of Rs. 12 billion.[246] Thus, the Bhuj, Anjar, Bhachau, and Rapar towns got improved road network and better connectivity with the rural areas compared to the pre-earthquake period.

7.9.3 General Issues in Region

The section analyses specific issues pertaining to Kachchh region, these are (a) Migration (b) Land Use changes (c) Industrialisation and (d) Urbanisation. The discussion is based on the understanding that after the earthquake, several changes have taken place resulting in increased investment by the State Government in infrastructure and industries, thus, making a significant impact on urbanisation and land utilization in the region. The data on land utilization have mainly derived from the 2001 Census sources and satellite imageries in order to present the findings.

(a) Migration in Kachchh District[247]

Gujarat is witnessing in the recent years a large inflow of migrant labourers from different parts of the country. As per the 2001 Census, 18,810,592 persons or 37.12 per cent population of Gujarat are migrants. Though labourers from states as far as West Bengal, Bihar, Uttar Pradesh, Jharkhand, Madhya Pradesh, Rajasthan, Maharashtra and Orissa now flock to Gujarat, those from Maharashtra and Rajasthan outnumber others by a big margin. While a relatively small section of the migrants from other states are professionals and skilled workers, large majority of them are unskilled or semi-skilled workers engaged in construction, road works, pipe lying etcetera.

Kachchh district has 2.77 per cent of the total migrants of the State. With a total population of 5, 20,190 persons these migrants accounted for 32.86 per cent of the total population of Kachchh district in 2001. About 11.08 per cent of the migrants in the district were inter-state migrants in 1991, accounting for about 32.67 per cent of its population which decreased to 10.33 per cent in 2001.

Intra-district migration is the major type of migration in the Kachchh district, which is indicative of higher mobility of people within the district. Around 1.85 per cent of the district population in 2001 was of foreign origin, which migrated as refugees from

[246] Kutch Mitra, November 25, 2011
[247] Data sourced from Inter-state and district Migration Tables, Census of India 2001

Pakistan at the time of partition in 1947. During 1991-2001, 25,629 immigrants (by place of birth) came in to Kachchh. The growth rate of migrants increased in the district by 26 per cent during this decade.

During the same time period, inter-state and foreign migration decreased and inter-district migration increased, and more than 14,127 persons came into Kachchh district from the remaining districts of Gujarat. It may also be noted that the Kachchh district sends a large number of migrants to other parts of the State. The migrants, who come to work in the secondary and tertiary sectors mostly live in the urban areas, and those who come to work as agricultural labourers from the Dahod and Panchmahals and Vadodara (particularly from Chhota Udaipur *taluka*) districts live in the rural areas.

Under the rural to rural category of migrant's maximum movement of people was within the district followed by those who came from other districts. The highest per centage of migrants in the district belong to the intra-district migrant category. Within the district, rural to rural, rural to urban, urban to urban and urban to rural migrants respectively account for 43.89, 11.87, 8.11 and 8.54 per cent of the total migrants in the district. This means, proportionately rural to rural migration is the maximum and urban to urban migration is the minimum in the district.

In addition, the migrants are also employed for loading and unloading activities at Kandla Port, which is a major port of India. The migrant workers handle 16 per cent of the total cargo at the major ports at Kandla (Gujarat Infrastructure Board, 1999). Mithi Rohar village, adjacent to Kandla Port, has two large industrial complexes of the Gujarat Industrial Development Corporation (GIDC) which is also declared as a growth centre of industrial development in the district, with several small-scale industries (SSIs). A Free Trade Zone (FTZ) was set up near Kandla Port and was subsequently converted into a Special Economic Zone (SEZ). This cluster of activities has attracted large-scale labour in-migration into Kachchh.

Future Migration Potential

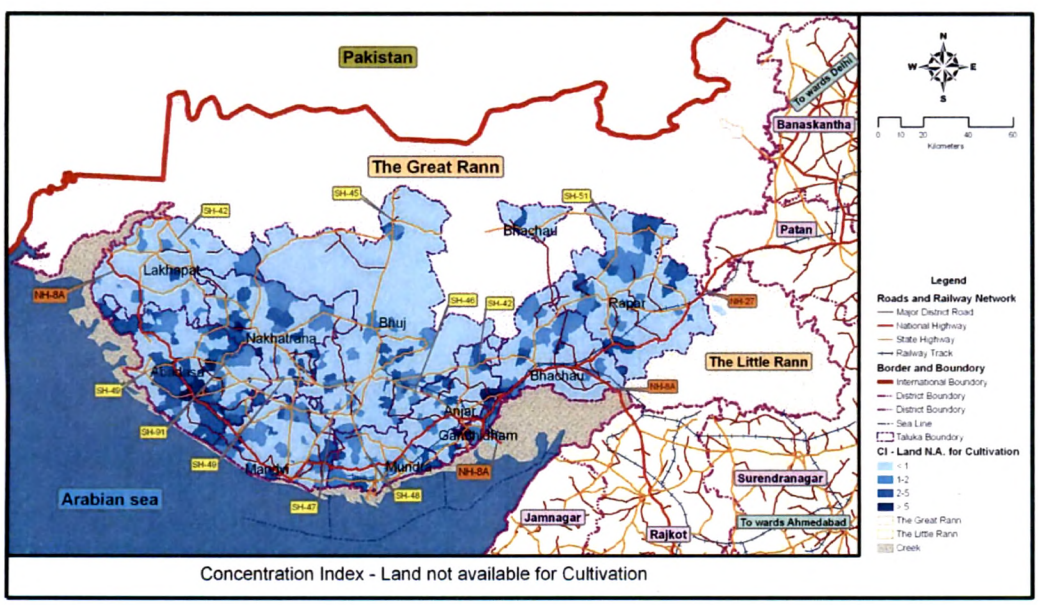
The migrants in Kachchh might have increased because of the rapid industrialization after 2001 and other economic developments. At present, most of the migrants in the region work as unskilled or semi skilled labourers in large projects like,

Mundra Port and SEZ, Welspun, Shanghi Cement, ABG Cement, Jindal Saw Pipe, Adani Power, TATA Power, Road and Railway projects and several mineral, timber and chemical based industries. It is expected that the Port, SEZ, and SIR based policies of the Government would result in high investments in the Kachchh district and attract the early emigrants, who are working outside the district particularly in Dubai, Muscat, Seychelles and East Africa etcetera, the NRIs from Kachchh who are working under poor conditions in these countries might prompt them to return to their homeland.

(b) Land Utilization in Kachchh

The land utilization pattern in the district exhibits its characteristics in terms of growth, development and activities. It also indirectly indicates the amount of land available for future development. It is important to note the changes in areas not available for cultivation in the region after 2001. The map prepared using satellite imageries for the period 2005-2011, suggests increase in activities along the coasts and the major towns.

Figure: 7.22
Distribution of Land not available for cultivation in Kachchh[248]



[248] Sorathia, Hitesh (2011): *Development Issues: Industrialisation and Urbanisation in Kachchh*, Masters of Urban Planning Dissertation, Unpublished, BCHS, APIED, V.V. Nagar.

The map depicts the spatial variation of the land not available for cultivation. The concentration of land not available for cultivation is high in the Abdasa, Nakhatrana and Rapar *talukas*. This type of land is used for purposes other than agriculture. Thus, such land provides opportunities for future development excepting in the agricultural sector[249].

(c) Industrial Changes (Post Earthquake, 2001)

During 2001-2011, Gujarat has emerged as the second most favoured destination of industrial investments after Maharashtra. From 1983 to 2000, projects worth of Rs. 96,998 crores were implemented in Gujarat. Out of this, only projects worth of Rs. 470.93 billion were implemented in the Kachchh district which was around 0.5 per cent of the total investments in Gujarat. Industrial progress attained a new momentum in Kachchh, after special incentives were provided following the 2001 earthquake. After 2001, projects with a total investment of Rs. 48,111 crores were commissioned in Gujarat, of which projects worth Rs.12,988 crores were in Kachchh, accounting for a remarkable 27 per cent of the total investments in the State. All together, during the period from 1983 to November 2007, industrial projects with an investment of Rs. 13,459 crores were commissioned in the region.

The industrial activity in Kachchh can broadly be classified into the local resources based industries and the linkages based industries. Some of the local resource based industries existed even before 2001, which were mostly SSIs and Micro enterprises. However, the earthquake related incentives have encouraged many more to establish medium and large industries, which have both backward and forward industrial linkages.

Discussions with industry representatives brought in a few lacunae in the way the SSI sector is functioning. The representatives expressed strong reactions against the laxity of the Gujarat Industrial Development Corporation (GIDC) in providing proper infrastructural facilities in the existing GIDC industrial estates. The low quality of development of infrastructure like roads was mentioned.

The second major issue that was raised pertained to the absence of or difficulty in availing credit by the SSIs. There are no schemes which expedite credit delivery to the

[249] Bhuvan, Thematic Service, http://bhuvan-noeda.nrsc.gov.in/theme/thematic/theme.php

SSIs, unlike for the large industries; the SSIs do not have much flexibility in fiscal operations.

The third issue raised was the lack of technical education. In the absence of proper focused technical training via industrial training institutes and polytechnics, thus there is a mismatch between the requirement of technical manpower and the availability in the district.

Another issue was that of procedural delay in getting the necessary permit and documents for setting up an industry. This was more or less similar with the larger industries too.

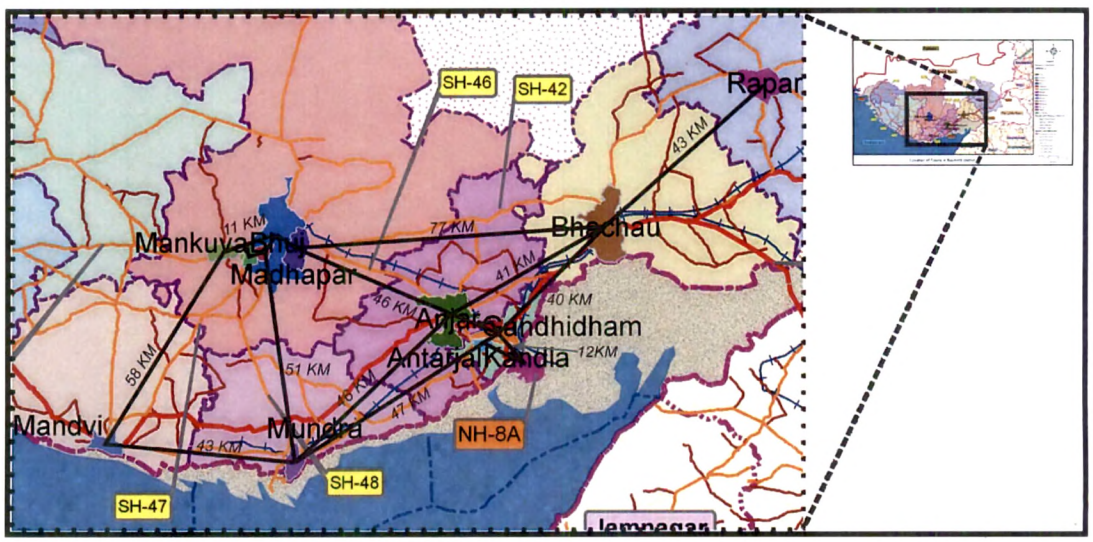
(d) Urbanization in Kachchh (1961-2011)

Urbanization is one of the significant aspects of social as well as economic transformation. Economic development of a region is generally correlated to the degree of urbanization and industrialization. The process of urbanization is dynamic and it changes through time and space. Though the process of urbanization in Kachchh has been very rapid, it is not uniform. Kachchh district is of course, not an exception in this matter.

The district urban population according to census of 1971 was 8,49,769 that reached up to 2,090,313 persons by the 2011 Census. There town were 11 and 8 towns respectively at the 1971 and 2001 Census a reduction in number of towns, which increased to 14 towns in the 2011 Census (Provisional).

Urban growth is varied in the region, Gandhidham, Bhachau and Mundra towns have higher growth, Bhuj, Anjar, Rapar towns have medium growth and Kandla, Mandvi towns have negative growth in 2011. The trend of urbanization level and growth rate of urban population from 1971 to 2011 shows that the total population growth of Kachchh district is 32.03 per cent whereas the urban population growth is 52.84 per cent.

Figure: 7.23
Location of Urban Centres in the Kachchh District.



The figure 7.24 shows the location of the 14 urban centres in the Kachchh district and the distance between them. The urban centres are located in southern coast and south eastern part of the region. The Rapar and Mandavi towns are located at a distance of 133 kms. which is the farthest distance between any two towns in the region. Otherwise, the average distance between the urban centres is 43 kms.

7.10 Saurashtra

The study of Saurashtra is important due to its distinct socio-economic and cultural characteristics in Gujarat. The growth of the region is largely dependent on the large coastal settlements and its economic exploits. From fishing villages to large ports, the settlements along the coast have provided considerable support to the economic development of Saurashtra. However, the agrarian development in the region has largely been dependent on the exploitation of underground water resources. The salinity ingress in the region had increased during 1980 and early 2000. Recently, after the adoption of remedial measures in the region, there is an indication of some improvement in ground water status.

The earlier inter-regional analysis (see chapter four) shows that considerable shift has taken place in terms of industrial investment and urbanisation. The new industrial investments, mainly concentrated along the coast, have lead to improvement in the non-agricultural employment (see chapter six). The negative growth of small and medium towns due to pull factor of the large urban centres has also resulted in the decline in importance of erstwhile princely states and towns. The present section focuses on two aspects, (a) groundwater depletion in Saurashtra, and (b) decline of small and medium scale industries.

7.10.1 Historical Evolution[250]

The Saurashtra State was named as United State of Kathiawar in November 1948. It was formed on 15 February 1948, out of approximately 200 large and small Princely States of Kathiawar Agency of British era. Among these Kathiawar Agency were 14 Salute Princely State, 17 Non-*Salute*[251] Princely States, 191 petty Principalities and 46 Estates. Most of the Rulers of the Kathiawar states entered into a covenant for the formation of the United States of Kathiawar on the 24th January 1948.

The large Kathiawar peninsula consisted of some prominent Princely States of India like the Baroda State, Nawanagar State, Bhavnagar State, Wadhwan, Porbandar, Idar, Dhrangadhra State, Rajpipla, Cambay, Gondal, Morvi, Wankaner, Baria, Dharampur, Dhrol, Limbdi, Rajkot, Palitana, Sachin and many others.

Once the Saurashtra Union came into existence, a second supplementary covenant was executed in January 1949, providing the integration of Junagadh with Saurashtra. A few days later on 20 February 1949, the administration of Junagadh State and also that of Mangrol, Manavadar, Babariawad, Bantva and Sardargarh were officially handed over to the Saurashtra Government.

On 1 November 1956, Saurashtra State ceased to exist as a State and became a part of Bombay State, the territory of which was enlarged on that day to include Kachchh

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[250] http://en.wikipedia.org/wiki/Kathiawar accessed 5/12/2012

[251] *Salute*, the title granted to the rulers to be accorded *salute* (from cannon while any formal occasion) by the British in order to maintain the status as per the agreements which includes their rights and grants to be received.

State, Saurashtra State, Marathwada and Vidarbha, while a southern portion was excluded, which went to Karnataka.

The Bombay State was again dissolved on 1 May 1960 to be carved into two separate states of Maharashtra and Gujarat, formed on linguistic basis. With this, the area of Saurashtra State again became a geographically defined region.

Demand of Statehood

Saurashtra and Kachchh have been demanding for separate statehood since several years, mainly due to the historical as well as socio-economic neglect with respect to mainland Gujarat. It was reported that,

> *'The movement for restoration of Saurashtra State has seen mobilizations in 1966-67, 1970 and 1971. In 2001, the banner was raised again by trade and industry circles as a reaction to the poor allocation of earthquake relief and rehabilitation. In 2005, it revived again, this time led by the Saurashtra Oil Millers Association (SOMA), which felt the State Government had neglected the region, its groundnut farmers and oil millers. In 2009 (partly triggered by the Union Government's decision to grant statehood to Telangana), the Saurashtra Sankalan Samithi returned to the issue supported by 300 business, industrial and social associations of Saurashtra and Kutch.'*[252]

However, the demand for statehood has never attained significance in the State. It may also be noted that the State is yet grant special status to Saurashtra and Kachchh as per the Constitution Article 371 (2) Provision[253] as under;

1. 'The Constitution (Seventh) Amendment Act 1956, provided for special provisions in respect of Andhra Pradesh and Punjab under clause (1) of Article 371 and in respect of the State of Bombay under clause (2) of Article 371. With the enactment of the Bombay Reorganisation Act, 1960, Article 371 (2) of the Constitution was made applicable to the States of Maharashtra and Gujarat with effect from 1.5.1960.
2. With the enactment of the States Reorganization Act, 1956, a new State of Bombay was formed on 1.11.1956 comprising the Marathi speaking areas of the erstwhile Bombay State, Vidarbha region of the erstwhile State of Madhya

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252 http://www.thehansindia.info/News/Article.asp?category=1&subCategory=5&ContentId=22234, reported 'Saurashtra and Kutch: States of Gujarat?' quoted by Dr. Gautam Pingle, Center for Public Policy and Governance, Administrative Staff College of India, Hyderabad.

253 http://www.mha.nic.in/uniquepage.asp?ID_PK=462

Pradesh, Marathwada region of the erstwhile Hyderabad State and the erstwhile States of Saurashtra and Kachchh. Subsequently, on 1.5.1960, with the enactment of the Bombay Reorganization Act, 1960 the former States of Kutch and Saurashtra were taken out from the State of Bombay to form the new State of Gujarat and the truncated State of Bombay was re-named as Maharashtra.

3. Article 371(2) was inserted in the Constitution by the Constitution (Seventh Amendment) Act, 1956 to ensure full integration of the people of Vidarbha and Marathwada areas with the areas of the erstwhile State of Bombay in which those areas were proposed to be merged as a result of reorganisation of States. It was contemplated that in case of inequitable development of these areas, the recourse could be had to Article 371 (2) whereby the Governor could be given special responsibility through a Presidential Order for: -
(a) the establishment of separate Development Boards for Vidarbha, Marathwada and the rest of Maharashtra or, as the case may be, Saurashtra, Kutch and the rest of Gujarat;
(b) the equitable allocation of funds for developmental expenditure over the said areas, subject to the requirements of the State as a whole; and
(c) equitable arrangement to provide adequate facilities for technical education and vocational training, and adequate opportunities for employment in services under the control of the State Government, in respect of all the said areas, subject to the requirements of the State as a whole.

The three Development Boards were established in Maharashtra viz. The Vidarbha Development Board, the Marathwada Development Board and the Development Board for the Rest of Maharashtra in pursuance of the said Constitutional Provisions and have been in existence since 1.5.1994 with the notification of the State of Maharashtra (Special Responsibility of the Governor for Vidarbha,. Marathwada and the Rest of Maharashtra) Order, 1994. The terms of these Development Boards had been extended up to 31.4.2010.'

Gujarat could not establish the development boards for the Saurashtra and Kachchh as enshrined in the special provision of the constitution. This had impact on the development differentials amongst the mainland Gujarat and Saurashtra.

7.10.2 Ground Water Depletion in Saurashtra

Sardar Sarovar Project has raised hopes for improvement in the water supply situation in Saurashtra and Kachchh. In the Project brief[254], it's mentioned that, 'All the

[254] As quoted from the SSNNL Ltd by Tramonti, Anna (2008): *Macro Decisions Micro Impacts: How Development Increase Beneficiaries Vulnerability*, A Dissertation Submitted for MA in Humanitarian and Development Practice, Oxford Brooks University, PDF, p.34.

villages and urban centres of arid region of Saurashtra and Kachchh and all "no source" villages and the villages affected by salinity and fluoride in North Gujarat will be benefited. Water supply requirement of several industries will also be met from the project giving a boost to all-round production.'

Almost the entire Saurashtra coastline has been badly affected by salinity ingress problem, as a result of which the entire stock of ground water has been rendered unsafe for drinking. Water is salty in 258 villages, while in 406 villages it has fluoride content. According to a study, in Surendranagar, water is salty in 47 villages while in 63 villages, it has fluoride content. Water is salty in as many as 30 villages of Rajkot, while in 38 villages, it has fluoride content. This equation is true respectively for 47 and 25 villages in Jamnagar, for 51 and 77 villages in Junagadh, 44 and 114 villages in Kachchh district, 29 and 109 villages in Bhavnagar and 10 and 80 villages in Amreli. According to the study, while 11.9 per cent fluoride content was detected in water supplied to people of Bhavnagar, it was 10.1 per cent in Amreli.[255]

It is also estimated that only about 9.24 per cent of Saurashtra and 1.6 per cent of cultivable land would be irrigated by Narmada Canal. Situated at the tail end of the canal, the likely reach of water to the fields is less. Despite the improvement in ground water situation due to better rains during the last decade, substantiated by micro irrigation facilities created by the Government through the help of community organisations and voluntary agencies, the present irrigation system, largely dependent on the groundwater exploitation through electrified wells, poses managerial difficulty for the irrigation department.

7.10.3 Damage of Green Belt on Saurashtra Coast

The natural protection against the sea water intrusion by a green belt locally called, '*Lili Nagher*' in Junagadh, at the southern part of Saurashtra, has been destroyed due extensive mining. The affected villages[256] in the area are, Mocha, Gorsar, Balej,

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[255] Times of India, Ahmedabad Edition, 28 August 2002.

[256] www.counterview.org/2012/11/11/green-belt-in-saurashtra-turns-into-a-haven-for-mining-mafia-says-report/ , accessed on November 2012.

Garej, Ratdi, Kuchhdu etcetera, where not only agriculture but also health of the population has suffered.

A study by Ashok Shrimali and Varsha Ganguly (2000)[257], reports on the seriously adverse outcome of mining in the coastal areas of Saurashtra and particularly on the availability of water. The study says, "The southern Saurashtra coast is a strip of fertile land, locally called *Lili Nagher* (green area). The soil here is rich in variety of minerals like limestone, bentonite, copper and bauxite. Limestone acts both as aquifer as well as buffer against the ingress of the sea. Salinity ingress, depleting water resources and land and air pollution are the serious problems of Saurashtra."

The study further point out that, "Removal of limestones has created serious problem of salinity ingress and depletion of recharging and maintaining the level of groundwater. The land losses humidity after the removal of limestones otherwise such land has potential to hold water. It turns into dust and sand, which is a threat in itself to ruin the agricultural land. In all 9.65 lakh hectares of lands in Saurashtra and Kachchh regions has been damaged. The local residents complain the drinking water being saline and water for irrigation being more saline. They cannot drink saline water neither they can use saline water for the crop. It is also observed that the salinity is increased between 1975 and 1993 extensively. The saline area in the State is increased more than eight times during this period, the coastal Saurashtra being one of the most affected areas."

During the field interaction in Bhavnagar, Junagadh (areas near Gir Forest and Protected Areas) and the coastal areas of Amreli, the locals reported the loss of agricultural production due to large amount of dust from the nearby cement and soda ash factories. Apart from the consumption of huge quantities of water, the villagers held these industries responsible for the pollution.

Recent agitation (2009-10) by the ex-MP in Bhavnagar also stresses on the impact of neglect of water resources by the industries on the agricultural practices. In this case, the artificial water body constructed for the group of villages has not been recognized by the Government agencies which allowed the industries to adopt negligent attitude and carry on their activities.

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[257] Srimali, Ashok and Varsha Ganguly (2010): "Man Made Desert by Mining in Sarurashtra and Kutch Regions of Gujarat", SETU, Paper Presented to MM&P Inaugural Workshop, Ahmedabad, May 2000.

A report entitled, 'State of Environment Report' (2011) on Land, prepared for Gujarat Ecology Commission by Promod K. Singh, Associate Professor, Institute of Management Studies (IRMA) point outs that, "The Gir Wildlife Sanctuary and National Park in Gujarat, the only home to the Asiatic Lion, have 100 odd mines within a 10 kms. Radius of protected area."[258]

The report further says, '*With increased population and industrialization comes increase in wastes, dumping of untreated domestic, hazardous and medical wastes lead to immediate and continuous degradation of soils and water resources.*'

The concerns expressed above are not new rather; similar view points have also been presented for other regions of the State. In fact, along with the huge investments on industrialisation in the State during the last decade (2001-2011), there have been no proper investments on waste reduction, recycling and treatment of hazardous wastes. The latter part of the last century was ridden with problems of technology, policy and regulatory mechanism, which have been overcome in the recent years. Under such an advantage state, Gujarat needs to devise appropriate policies to protect Saurashtra from further damage.

7.10.4 Status of Water Supply in Saurashtra

During field interaction in Rajkot, Jamnagar and Porbandar (July-August 2010) water supply situation was discussed. It was expected that Narmada water (from Sardar Sarovar Dam) would be within the reach of these towns around mid-2010. The regional water supply scheme is still under implementation by the Gujarat Water Supply and Sewerage Board (GWSSB). The people and decision makers responded to informal discussion on status of water supply in their areas. The following important points emerged out of the discussion;

(a) The water scarcity in Saurashtra has been acute since the last few decades. The urban areas are supplied water for 10-15 minutes daily, whereas to the villages

[258] As reported by times of India (timesofindia.indiatimes.com/city/Ahmedabad.Govt-Panel-decries-mining-near-Gir/articleshow/16551291) and Counterview (www.counterview.org/2012/09/19/state -of-environment-report-regrets-poor-government-efforts-to-fight-land-degradation/

water is supplied at an interval of 4 to 5 days. Worst situation prevails in the areas near Amreli, where water is supplied only at an interval of 12 to 15 days.

(b) The people are forced to withdraw water from underground sources which has depleted up 500-100 feet below the earth surface. The water in the region has excessive fluoride content, which cause diseases like Fluorosis.

(c) The salinity ingress in the region has extended up to 10 to12 kms. from the coast line. As a result women in the region are forced to travel beyond 5 kms. for collecting portable water. Thus, people in the region are forced to migrate to other parts of the State.

(d) More water supplies are provided to industries and large towns, while the smaller towns and villages have to depend on the private tankers.

Impact on Agriculture

Agriculture in Saurashtra has got transformed remarkably since Independence. Commercial crops (predominantly groundnut and then cotton) dominate with greater share in the gross cropped area replacing food crops (mainly millet, sorghum and wheat). The use of mechanized agricultural implements has increased and irrigation facilities have improved. However, Saurashtra being a drought-prone region, its agriculture is still subjected to the vagaries of climate. Scarcity and irregularity of water resources remain a main concern.

Initial progress from 1969 to early 1990 in agriculture was primarily due to increased energisation of wells. However, the depletion of the ground water and declaration of 'no source' village had negative impact on the crop cultivation specially the cash crops. This had resulted in declining agricultural income mainly along the coastal belt of Saurashtra.[259]

The surplus agricultural income was invested by small and medium farmers during government initiative for distribution of surplus land earlier owned by princely states/communities to farmers (i.e. from Rajputs to Kanbi Patel's).[260] Subsequently,

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[259] Interaction with Bhimji Vaghela at Halvad, Surendranagar (2005) and inputs from administrative officers at Irrigation circle, Junagadh, (2007)

[260] Dupont, Veronique (1992): "Impact of In-Migration on Industrial Development: Case Study of Jetpur in Gujarat", EPW., XXVII (45), pp. 2423-2436.

financial assistance providing by nationalized banks for energisation of bore wells and withdrawal of ground water beyond towns in the region, lead to sustained agricultural growth. However the shortage of water and further decline in income from agriculture lead to stagnation of economic growth in towns. The water intensive industries, like ceramics, salt, mining etcetera, contributed to further enhancing the crisis of ground water affecting the agricultural production in interior *talukas* of Porbandar, Junagadh, Jamnagar and Amreli.

7.10.5 Industries in Saurashtra

The region has concentration of mainly natural resource based (mining and fishing) and tourism industries. Among the districts of the region, Rajkot and Jamnagar districts have higher concentration of industries (Table 7.17). Rajkot has a large number of Small Scale Industries (SSI) manufacturing for motor parts, ceramics and other machine tools. The SSI industries of Jamnagar are mainly related to textile, tools and brass parts. After 1991, industrial giants like Reliance and Essar, established power, chemical and petrochemical units in Jamnagar district. All these developments attracted heavy investments in these Rajkot and Jamnagar districts. Bhavnagar and Junagadh districts also attracted investments, mainly related to ship breaking and recycling, mining and food processing industries after 1991.

Table 7.17
Industrial Units in Saurashtra

District	Functioning Medium and Large Units	Fixed Investment (Rs. Lakhs)	Production (Rs. Lakhs)	Employment	No. of SSI Units (2003)
Surendranagar	12	99,484	43,701	3,860	8,000
Rajkot	60	45,871	97,650	12,390	30,564
Jamnagar	24	2,145,678	3,586,933	11,440	12,475
Junagadh	28	2,99,511	191,774	12,746	7,834
Porbandar	10	72,372	59,463	5,103	**NA**
Amreli	06	1,69,320	86,629	1,432	4,644
Bhavnagar	46	132,521	43,932	4,838	11,422
Saurashtra	**186**	**2,964,757**	**4,110,082**	**51,809**	**74,939**
Total Gujarat	1,570	9,699,890	10,882,147	3,78,194	2,87,860
Saurashtra (% to Gujarat)	12	31	38	14	26

Source: Industries in Gujarat – Statistical Information, Industries Commissionerate, 2004.

The dispersal of industries was required in order to share the benefits of investment. However, a report in 2006 mentions that, 'the region accounts for 16 per cent of private investments in Gujarat as against a share of 3 per cent of total Government's investments since 2000. This prima facie seems to suggest a decline in public investments in the region. All these facts taken together seem to suggest that public investment would have to play a lead role in catalyzing further spin-off investments in the region.'[261]

Industrial Nodes in Saurashtra

(a) Bhavnagar

The key industries in the district include ship breaking, steel re-rolling, ship-building, plastic manufacturing, diamond polishing and cutting, chemicals, engineering products, foundry, salt, agro-product based units, rubber, textile machinery and tobacco products. It has significant reserves of limestone and lignite that could be suitably

[261] GIDB (2006): *Study of Saurashtra Coastal Corridors of Gujarat: Section 1 Industry Analysis*, Price Waterhouse Coopers (PwC) for Gujarat Infrastructure Development Board, PDF, accessed from http://www.gidb.org

exploited. Soda Ash industry can be promoted, as it needs more seawater and less sweet water. Major industrial units present are IPCL, Nirma and Excel.

(b) Porbandar

It is rich in limestone, bauxite, chalk and fisheries resources. Further, it has religious places of significance close-by including Somanth and Dwarka. It is also Mahatma Gandhi's birthplace. Major industrial units include Saurashtra Cement, Saurashtra Chemicals, Orient (Emery powder).

(c) Junagadh

The important industries in the region include oil mills, limestone and chalk powder mining and salt manufacturing. Attractive sites such as Sasan Gir, Girnar Forest, Ashok Shila Lake, Old Fort and Somanth offer potential for tourism in the district. It has extremely high tourism potential related to forest tourism (Sasan Gir – forest safari packages), coastal tourism and heritage tourism (existence of old forts, old building structures). Major industrial units present in Junagadh include, Gujarat Ambuja, Cement Corporation of Gujarat, Gujarat Heavy Chemicals etcetera.

(d) Amreli

It has the potential for supporting salt, fisheries and limestone based industries. The key industrial units present in Amreli are, Narmada Cement at Jafrabad (75 km. from Amreli), Ultra Tech at Rajula (19 km. from Amreli), Atco (weights at Savarkundla) and MicroInks. The GHCL factory at Sutrapada has salt pans in Amreli. Indo Rama is also planning to set up a cement plant in Amreli.

(e) Jamnagar

Major industrial units include Tata Chemicals, Reliance, Essar, Brass cluster at GIDC etcetera. It also has tourism potential in exploring the Marine Sanctuary and Dwarka a religious town.

Traditional Industries in Saurashtra

Since most of the districts in the region are endowed with coastal tracts, they have traditionally been large producers of salt and fish. These activities provide high employment opportunities to the population of the coastal villages.

7.10.6 Salt Cultivation

Gujarat is the highest salt producer in the country, accounting for 72 per cent of the total salt production in the country in 2004. It produces on an average, over 10 million MT of salt per annum. Salt works of the Gulf of Cambay region contribute around 18-19 per cent of the total salt produced in the State. Districts in Saurashtra contribute for over 50 per cent of salt production in the State.

Along the Saurashtra and the Kachchh coast, the coastal areas consist of flat impervious clay, which are suitable for the production of salt. Salt production in the State is carried out in the coastal districts (sea salt) and in Little Rann of Kachchh (inland salt).

The manufacturing of salt was traditionally carried out by salt workers also known as the '*Agariya*', who are the primary producers. However, the ownership of land for salt farming is undergoing change since Independence. Before Independence, the salt pans were the property of different rulers and the '*Agariya*' were the workers who cultivated salt on a piece-rate basis. After Independence, the ownership has shifted either to the Central or to the State Government. It is interesting to note that over successive periods, while there has been a change in the ownership of land, the piece-rated worker status of the '*Agariya*' continues to remain unaltered. The ownership of these salt pans has also changed the salt economy in the region. Under the existing arrangements, salt lands are leased out to four types of producers, viz, public, private, co-operative and individual manufactures.

Table 7.18
District-wise Production of Salt in Gujarat (2008-2009)

Sr .No.	District	Production (in Lakh Tons)
1	Ahmedabad	-
2	Anand	0.065
3	Amreli	7.06
4	Bharuch	12.05
5	Bhavnagar	15.61
6	Jamnagar	30.7
7	Junagadh	0.04
8	Kutch	48.60
9	Navsari	0.098
10	Patan	6.73
11	Porbandar	0.38
12	Rajkot	6.7
13	Surat	0.68
14	Surendranagar	19.94
15	Valsad	0.36
Total		**149.01**
Source: Salt Department, Bhavnagar, 2008-2009.		

Labour System in the Salt Industry

The salt industry is very highly labour intensive and the entire labour in the industry is engaged on a seasonal basis. On an average, about 1.4 lakh labourers are employed daily in the salt industry. The salt industry provides a secondary or an alternative of source of employment for the poor during the non-agricultural season. The villagers living in the coastal areas are either unemployed or under-employed for part of the year, as their agriculture land holding is small and rain-fed, making it difficult to undertake agricultural operations throughout the year. A majority of the villagers continue to remain under-employed even during the agricultural season. A large number of families of these workers living around these areas have a traditional background in salt manufacturing operations. They have maintained their skills at high level of efficiency during successive generations, and their services are very much in demand in the existing salt industries.

Gujarat Institute of Development Research (GIDR)[262] undertook a study of 12 villages in the periphery of the Little Rann of Kachchh to find out the number of households engaged in the salt industry. The study reveals that around 57.50 per cent of the households in the 12 villages of Little Rann of Kachchh are engaged in salt works as their main and secondary occupation. As this area has salinity ingress, salt industry emerges out to be the major industry, providing the largest employment opportunity to the households in the region. People are engaged either with public or private companies, private traders, co- operatives, or as independent *Agariyas*. The *Agariya* households are also engaged as daily labourers undertaking different operations of salt production.

To understand the functioning of salt works, GIDR undertook a survey of 90 salt works stratified across four different sets of producers, viz. public or private company, traders, co-operatives, or as an independent '*Agariya*'. Apart from trying to understand the production process under these producers, they also attempted to explore on certain issues, which are specific to the different sets of producers. The co-operative society, which provides a number of benefits to the '*Agariyas*', is supposed to be more lucrative for them in comparison to other sets of producers. In this study, they studied the occupational and educational profile of workers.

7.10.7 Fishing Industry

Total fish production from the State increased from 0.079 million MT in 1960-61 to 0.74 million MT in 1999-2000 and constituted 13.08 per cent of the National production. Marine fish production increased during this period from 0.079 million MT to 0.67 million MT and inland fish production from a zero base to 0.07 million MT in the corresponding period. Gujarat's contribution in fish production is the third largest in India, after West Bengal and Kerala and second largest in marine fish production after Kerala.

The Director of Fisheries, Rajkot[263] reports that 7 lakh tons of fish and allied products were produced from Gujarat, of which about 1 lakh tons was exported

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[262] GIDR (2006): "Socio-Economic Status of Agariyas (Salt Workers) in Kutch", Gujarat Institute of Development Research, Ahmedabad, PDF.

[263] Govt. of Gujarat (2011): *Annual Report - 2010-11*, Department of Fisheries, Government of Gujarat, Rajkot.

generating revenue of about Rs. 500 crores during the year 2010-11. The Junagadh district is the highest producer of the fish and allied products in the State, while Saurashtra as a whole produces half of the State's production.

As a part of the 11th Five Year Plan, the Government of Gujarat announced a development scheme named, 'Sagarkhedu Sarvangi Vikas Yojna' in year 2007, which intended to cover about 3,000 villages in 38 *talukas* of coastal Gujarat. Till the end of the financial year 2010-11, the Scheme could spend only two per cent of the allocated Rs.11,000 crores. Most of the expenditure went towards subsidy on diesel, which they were traditionally receiving form the Fisheries Department. The modification and construction of fishing ports and harbours are under progress.

Even fishing facilities were not improved suitably during the project. As reported by Business-Standard[264]

> *'The road connecting the Gujarat Maritime Board (GMB) dry dock is narrow and not motorable, even babool (a local shrub) growth is also hazardous. The fish drying area which is three kms away from the city has no lightning facility, even the boat grounding area is covered with babool leaving little space for boats. As many as 5,000 men and women live in 250-300 kuchha houses, with almost no proper hygiene facility available here.'*

Competition from big ships permitted by the Governments has also troubled small scale fishermen of Saurashtra. The loss of fish catches within the tradition catchment areas due to pollution in river has affected economy of fishing villages. About 2.2 lakh fishermen of Saurashtra and Gujarat coastline connected with fishing industry with their 18,000 fishing boat are facing scarcity of production in their catchment areas.[265]

Construction of major structures like the industrial complexes, jetties and ports has also affected the livelihood of small farmers. After construction of such structures, generally there is an alteration in the coastal characteristics, like sea temperature, availability of breeding grounds and ferry of transport ships affecting the marine habitat. Instances of protests by the farmers on the account of reduction in the catch have been reported by the media. The Hindu in 2010 reported that,

> *'Over 50,000 fishermen, their families and dependents would be affected by the construction of the jetty which would completely ruin the fishing in the areas. The community leaders claimed that, existing jetties of both Essar and*

[264] www.business-standard.com/india/news/saurashtra-fishermen-in-troubled-water/827/
[265] www.business-standard.com/india/news/dwindling-catch-leaves-saurashtra-fishermen-jobless/144899/

Reliance at Vadinar in close vicinity has already affected their livelihood. The pipelines which are carrying hazardous cargo poses danger to their habitat."[266]

7.10.7 Migration of Industrial Labour

The diamond industries in Surat are largely dependent on the migrant skilled labourers from Saurashtra. Particularly, the gems and jewellery sector in Surat has benefited from the migration of skilled labourers from Bhavnagar and Amreli. The migration as reported in GIDB study (2006)[267] is due to lack of development of the region in comparison to other regions of the State. The lack of education and poor employment opportunity in the backward *talukas* of Bhavnagar, Amreli, Junagadh, Jamnagar, Surendranagar and Porbandar are the major push factors for migration.

Low Development Status

All the districts of Saurashtra excepting Rajkot, accommodating around 20 per cent of the State population, are less developed as compared to other regions of the State.

Table 7.19
Districts by Level of Development (2001)

Level of Development	District
High	Ahmadabad, Anand, Kheda, Vadodara, Gandhinagar, Mehsana, Bharuch, Navsari, Surat and Valsad.
Medium	Dahod, Panchmahals, Rajkot, Sabarkantha and Dang.
Low	Amreli, Bhavnagar, Junagadh, Porbandar, Surendranagar, Jamnagar Kachchh, Banaskantha, Patan and Narmada.

Source: Socio-Economic Development in Gujarat: Journal of Rural Development

The poverty ratio also depicts that the rural poverty is much higher than the urban poverty in the State. While urban areas of the State recorded 20.1 per cent poverty level, the rural areas had almost double this figure (39.1%). The Saurashtra and the Kachchh are the least poor regions with the incidence of 18 per cent of poverty.

7.11 Summery

The regional development issues presented in the section shows the variation in the issues and concerns across the regions. The objective of the chapter in showing the

[266] www.hindu.com/2010/06/30/stories/2010063064250700, titled ' Jetty on Saurashtra coast opposed' by Manas Dasgupta,, June 30, 2010,
[267] Ibid, p.13

variety of development issues and concerns in terms of utilization of natural resources (forest and land), environmental issues, human development concerns (as in eastern Hills, North Gujarat and Saurashtra), industrialization pressure (as in Kachchh and South Gujarat) and many others. The geographical region by its location and distinct socio-economic characteristics also presents the development planner a challenge in providing for the strategies suitable for economic as well as human development in the region.

One can argue that the spatial development trends in the State is highly polarized towards some regions whereas the poor performance of the scheduled tribes and their regions also show the exploitation of natural resources without proper development efforts. The contradiction of the spatial development can be seen from the fact that the development corridors in the State are globally connected and competitive and backward regions of North Gujarat, Eastern Hilly region and coastal areas excepting port regions, were devoid of the development outcomes.

The developed regions on the other hand face huge environmental challenges with destruction of the resources and large scale pollutions in land, water and air. The concerns raised earlier in the decade, were by Gujarat Ecology Commission was put on sidelines to promote the industrial development which might result in the high economic growth of the State. There is increasing protests from the communities across the State for the land rights, development concerns and environmental degradation.

The Geographical analysis of the regions in the State also asserts the need for the careful planning for the regions for the protection of natural resources, fulfilling the needs of the community and sustainable development of the settlements. As urbanisation has gained momentum in the State, regional development would be focused more on the axis of the urban centres, but the agrarian concerns would loom large on the State. Human development concerns in the State has been of lesser priority given the scale of the development programmes by the State there is a need to focus on the key priority areas as specified in the Millennium Development Goals (MDG) by the United Nations.

Annexure-I

Physiographic Classification of Gujarat: *Taluka* / Blockwise Division of Sub - Regions

Region	Sub Region	District	Blocks
Gujarat Plains	North Gujarat Plain	Banaskantha	Vav, Tharad, Dhanera, Deodhar, Bhabar, Shihori, Deesa, Danta, Vadgam, Palanpur, Bhabar
		Patan	Harij, Sami, Santalpur, Radhanpur, Sidhpur, Chanasma, Patan
		Ahmedabad	Sanand, Ahmadabad, Daskroi, Detroj, Viramgam, Mandal
		Gandhinagar	Gandhinagar, Kalol, Dhegham, Mansa
		Mehsana	Kadi, Mehsana, Visnagar, Vijapur, Kheralu, Unjha, Kheralu, Vadnagar
		Sabarkantha	Himatnagar, Bayad, Dhansura, Talod, Prantij, Modasa
	Central Gujarat Plains	Vadodara	Karjan, Padra, Vadodara, Dabhoi, Sankheda, Savli, Vaghodia
		Ahmedabad	Dhandhuka, Dholka, Ranpur, Barwala
		Anand	Borsad, Petlad, Anand, Tarapur, Anklav, Sojitra, Umreth
		Kheda	Kheda, Thasra, Kapadvanj, Balasinor, Kheda, Kathlal
		Godhra	Halol, Godhra, Kalol
	South Gujarat Plains	Bharuch	Ankleshvar, Bharuch, Amod, Jagadiya, Valia
		Navsari	Gandevi, Navsari
		Surat	Palsana, Bardoli, Mahuva, Mandvi Mangrol, Kamrej, Valod, Surat
Hilly Regions	Northern Hills	Banaskantha	Ambaji, Danta, Iqbalgardh
		Sabarkantha	Idar, Vijaynagar, Khedbrahma Bhiloda, Malpur, Meghraj, Vadali
	Eastern Hills	Dahod	Devgadbaria, Limkheda, Dahod, Jhalod, Fatepura, Dhanpur, Garbada
		Narmada	Sagbara, Rajpipla, Tilakwada, Dediapada
		Navsari	Chikhli, Bansda
		Panchmahals	Shehera, Jambughoda, Santrampur, Lunawada, Goghamba, Bakor, Morva, Divada Colony
		Tapi	Songadh, Vyara, Uchchhal, Nizar
		Vadodara	Sinor, Naswadi, Chottaudaipur, Jetpur Pavi, Kavant

		Valsad	Kaprada, Pardi, Umbergaon, Valsad, Dharampur
		The Dangs	The Dangs
Kachchh Plains		Kachchh	Nakhatrana, Rapar
Saurashtra Plains		Amreli	Babra, Amreli, Vadia, Lilia, Lathi, Bagasara
		Bhavnagar	Umrala, Gadhada, Botad, Mahuva
		Jamnagar	Bhanvad
		Junagadh	Bhesan, Manavadar, Keshod, Junagadh, Vanthali, Mendarda
		Rajkot	Upleta, Dhoraji, Jetpur, Jamkandorna, Gondal, Kotda Sangani, Lodhika, Paddhari, Tankara
		Surendranagar	Patdi, Dasada, Halvad, Wadhwan, Sayla, Limbdi, Dhrangadhra, Muli, Lakhtar, Chuda
Saurashtra Uplands		Amreli	Khambha, Dhari, Kundla
		Bhavnagar	Palitana, Gariadhar, Sihor
		Jamnagar	Jamjodhpur, Kalavad
		Junagadh	Talala, Visavadar, Mendarda, Una
		Porbandar	Kutiyana
		Rajkot	Jasdan, Rajkot, Wankaner
		Surendranagar	Chotila
Coastal	Saurashtra	Amreli	Rajula, Jafrabad
		Bhavnagar	Mahuva, Vallabhipur, Ghogha, Talaja, Bhavnagar
		Jamnagar	Kalyanpur, Khambhalia, Lalpur, Jamnagar, Okhamandal, Dhrol, Jodiya
		Junagadh	Mangrol, Malia, Patan Veraval, Kodinar, Sutrapada
		Porbandar	Porbandar, Ranavav
		Rajkot	Morvi
	Kachchh	Kachchh	Mundra, Mandvi, Bhuj, Abdasa Lakhpat, Anjar, Bhachau
	Mainland	Anand	Khambhat
		Bharuch	Jambusar, Vagra, Hansot
		Surat	Chorasi, Olpad,
		Navsari	Jalalpore
		Valsad	Umbergaon

Source: Based on Administrative Atlas of Gujarat, Census of India, 2001