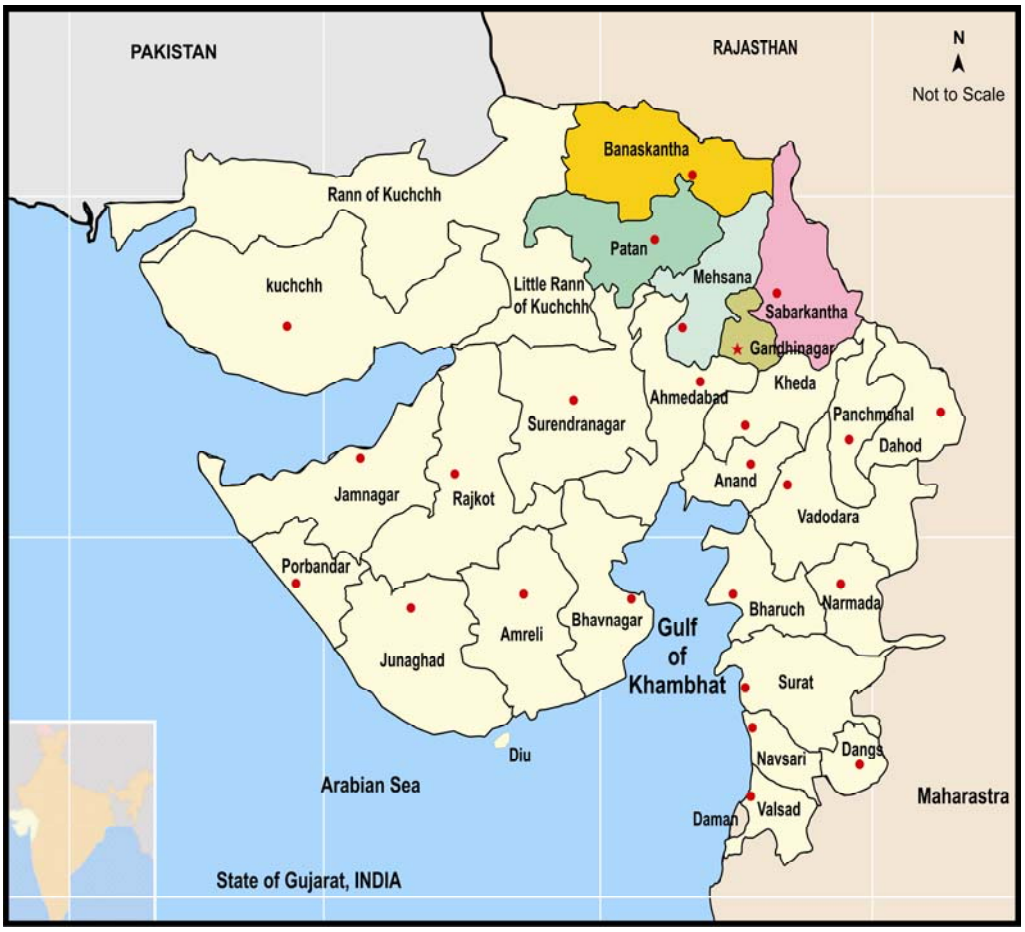
CHAPTER-1
STUDY AREA



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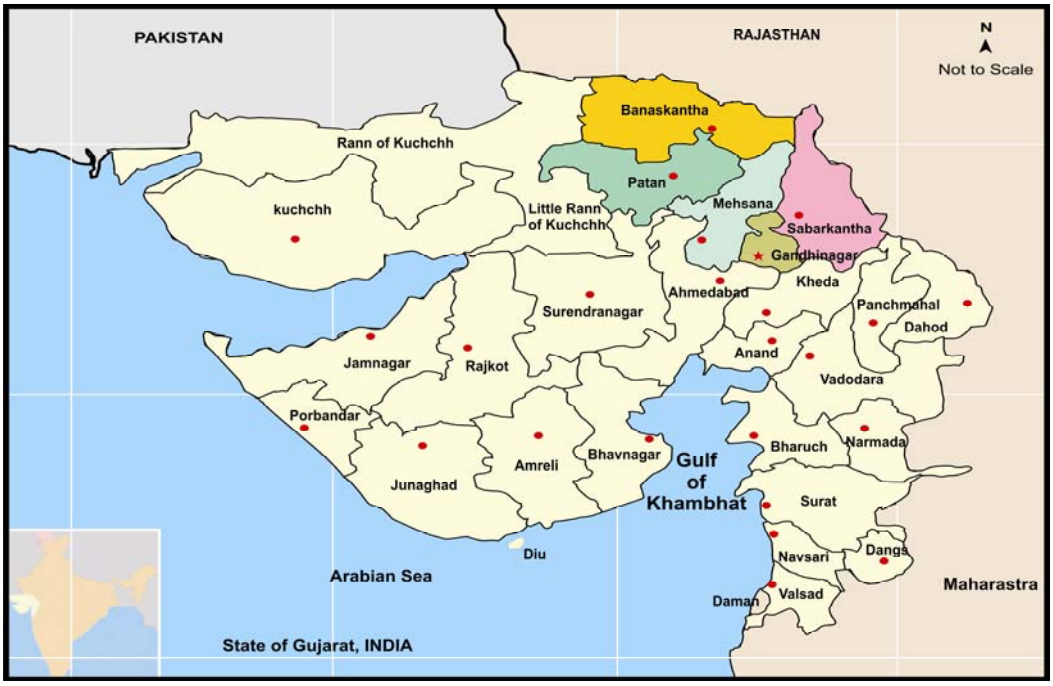
STUDY AREA

Gujarat state is situated on the West coast of India between 20.1 and 24.7 ºNorth latitude and 68.4 and 74.4 º East longitude. The boundaries of Gujarat are surrounded by the Arabian Sea in the West, Rajasthan in the North East, Madhya Pradesh in the East and Maharashtra in the South East. It shares a common border with Pakistan on the Northern side. Gujarat state was carved from the present Maharashtra in the year 1960. (map-1.1)

Map 1.1- Gujarat state



Gujarat is classified as a high income state, with a population of 6, 04, 39,692 out of which 3, 14, 19,260 are male and while 2, 89, 48,432 are female spread over a land area of 75,755 square miles. A large majority of the people (3, 46, 94,609) live in rural areas. And 2, 57, 45,083 people live in urban area.

Table 1.1 Gujarat total population census 2011

Population	Rural	Urban	Total
Male	1,77,99,159	1,36,92,101	3,14,19,260
Female	1,68,95,450	1,20,52,982	2,89,48,432
Total	3,46,94,609	2,57,45,083	6,04,39,692

GUJARAT URBAN POPULATION 2011

Out of total population of Gujarat, 42.60% people live in urban regions. The total number of population living in urban areas is 2, 57, 45,083 of which 1, 36, 92,101 are male and while remaining 12,052,982 are female. The urban population in the last 10 years has increased by 42.60 %.(table - 1.1)

Sex Ratio in urban regions was 880 female per 1000 male. Average literacy rate in urban regions was 86.31 %. Total literates in urban region of Gujarat were 19,672,516.(table-1.2)

GUJARAT RURAL POPULATION 2011

Out of the total population of Gujarat state, around 57.40 % live in the rural areas. In actual numbers, male and female were 1, 77, 99,159 and 1, 68, 95,450 respectively. Total population of rural areas of Gujarat state was 34,694,609. The population growth rate recorded for this decade (2001-2011) was 57.40%. Average literacy rate in Gujarat for rural areas was 71.71 %. Total literates in rural areas were 21,420,842. (table - 1.1, 1.2)

Gujarat is number 9 in most populous state and has diverse groups of people with respect to caste and religion, habitat, socioeconomic status, education level, life styles and food habits etc. Gujarat has witnessed impressive macroeconomic and industrial development. 16.63% people below poverty line as per 2013 data.

Gender inequality is known due to which the literacy rate in females is 70.26%.in urban area and 57.78 % is in rural area while males' literacy rate is 90.98% in urban area and 81.61% in rural area. Because of so many of the social indicators Gujarat dose not perform as well as other state with a similar status. Gujarat is no.15 in the amount spent on education and on the health it has no.7 among the all state of India. But now living conditions and other social indicator have improved. More children are going to school. Health care has also received more attention. Efforts have been made by the government and nongovernmental organisation to improve health care of the nation. This has been specifically targeted towards non-communicable and preventable diseases. Diabetes, cardiovascular diseases, hypertension and obesity are

some of the disorders where concerted efforts are being made to create awareness. The social and human development indices go hand in hand to overcome poverty, avoid disease and make state economically stable. Despite an improvement in health coverage facilities in state, many inadequacies and deficiencies still prevail. The main aspects are unhealthy environment, ignorance, lack of awareness, insufficient resources and inaccessibility to health service. The analysis of burden of disease shows a close relationship between health and poverty. Medical facilities are insufficient with a large gap between availabilities and requirements.

The majorities of doctors and hospitals are in cities and a town, the rural populations has much lower access to health facilities. Most people get medical care from private practitioners and very less people in government hospital.

The government has introduced a number of programmes to reduce the burden of diseases as malaria, tuberculosis AIDS and non-communicable diseases (NCDs) but NCDs have not received the due attention. Acute illnesses continue to get the priority and silent killers as diabetes and hypertension are taken as mild disorders and ignored.

Table 1.2 Rural –Urban population of Gujarat

Description	Rural	Urban
Population (%)	57.40 %	42.60 %
Total Population	34,694,609	25,745,083
Male Population	17,799,159	13,692,101
Female Population	16,895,450	12,052,982
Literates	21,420,842	19,672,516
Average Literacy	71.71 %	86.31 %
Male Literacy	81.61 %	90.98 %
Female Literacy	57.78 %	70.26 %

Gujarat is divided in north Gujarat; middle Gujarat, south Gujarat and saurashtra region. The north part of Gujarat is called North Gujarat. It includes Gandhinagar, Banaskantha, Sabarkantha, Mahesana and Patan district.

Population of the North Gujarat as per district is as below.

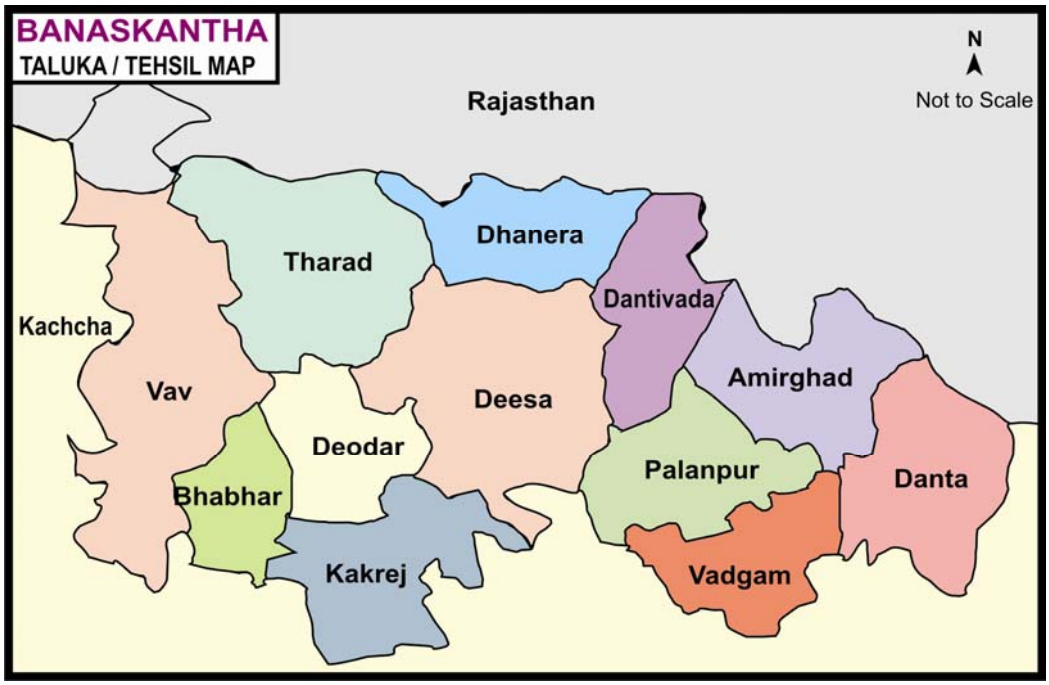
Table 1.3 Population of North Gujarat

District	Male	Female	Total population
Banaskantha	16,09,148	15,06,897	31,16,045
Sabarkantha	12,44,491	11,82,855	24,27,346
Patan	6,94,062	6,48,684	13,42,746
Mehsana	10,53,337	9,74,390	20,27,347
Gandhinagar	7,22,459	6,65,019	13,87,478
Total	53,23,496	49,77,845	10,300,961

1. BANASKANTHA DISTRICT

Banaskantha is situated on the north Gujarat between 24º 10´23" North latitude and 72º21´53" East longitude. Banaskantha district is bounded by Rajasthan state to the northeast, Kutch district to the west, and Patan to the south, Sabarkantha district to the east. Banaskantha district comprise palanpur, vav, tharad, dhanera, disa, diyodar, kakrej, danta, vadgam, amirghad, dantivada,bhabhar talukas. Population of the Banaskantha district is 31, 16,045. Economy of the district depends on agro & food Processing, tourism, textile and mineral based industries (ceramics). Banaskantha is one of the country's 250 most backward districts. Banaskantha has a sex ratio of 936 female for every 1000 males, and a literacy rate of 66.39 %.(table – 1.3).

Map no 1.2 Banaskantha district



2. SABARKANTHA DISTRICT

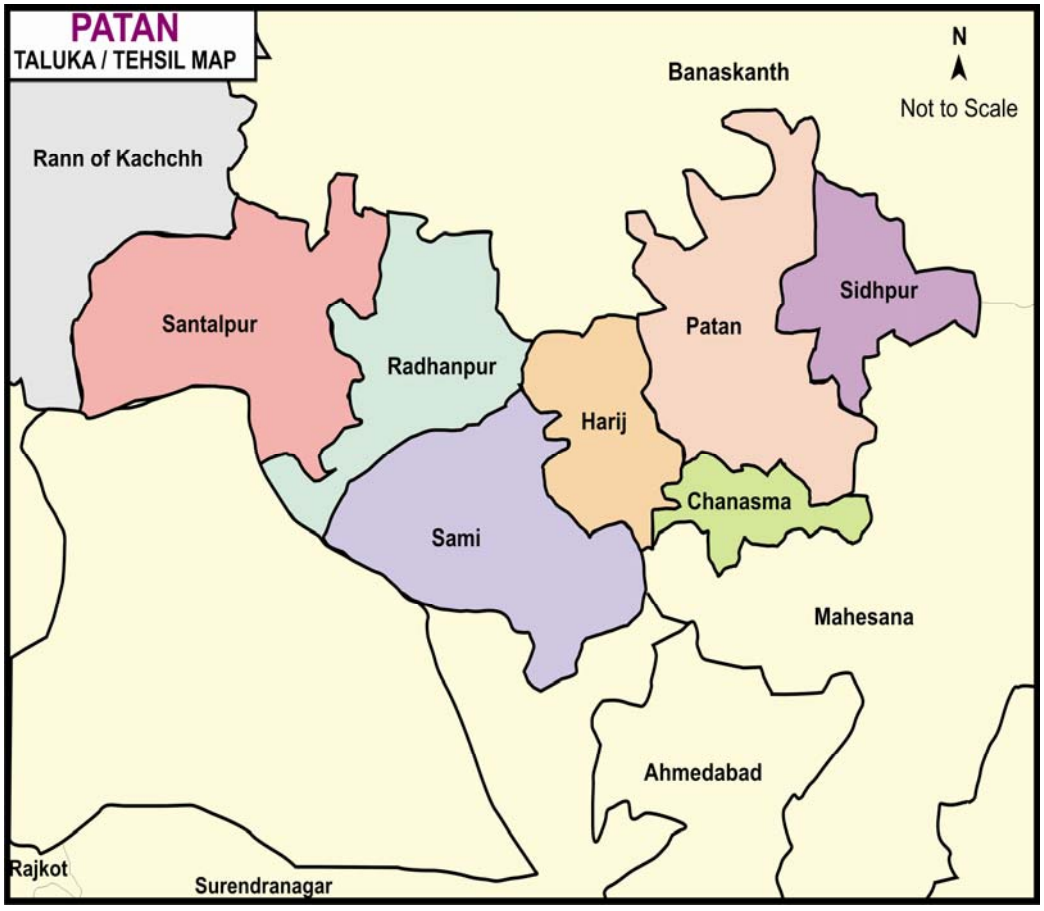
Sabarkantha is situated on the North Gujarat between 24º 06´ North latitude and 72 º 95´ East longitudes. Sabarkantha District is bounded by Rajasthan state to the northeast, Banaskantha and Mehsana districts to the west, Gandhinagar and Kheda districts to the south and Panchmahal District to the east. Sabarkantha district comprise Himatnagar, Modasa, Idar, Prantij, Talod, Bayad, Bhiloda, Khedbrahma, Shamlaji, Vadali, Vijaynagar, Dhansura, Meghraj, Malpur main places. As per census 2011 population of Sabarkantha district is 24,27,346. Sabarkantha one of the country's 250 most backward districts. District economy depends upon Agriculture, ceramics, chemicals and milk processing .Sabarkantha has a sex ratio of 950 female for every 1000 male, and a literacy rate of 76.6%.(table 1.3)

Map no 1.3 Sabarkantha district

3. PATAN DISTRICT

Patan is situated on the north Gujarat between 23º 83´ North latitude and 72º12´ East longitude This district is located in northern Gujarat and bounded by Banaskantha district in the north and northeast, Mahesana district in the east and southeast, Surendranagar district in the south and Kutch District and the *Kutch nu Nanu Ran* in the west. Patan district comprises seven talukas: Patan, Santalpur, Radhanpur, Siddhpur, Harij, Sami and Chanasma. According to the 2011 census Patan district has a population of 13, 42,746. Male constitute 53% of the population and female 47%. Patan has an average literacy rate of 72%, higher than the national average of 59.5%: male literacy is 78%, and female literacy is 65%. Economy depends upon tourism, agriculture, milk processing.

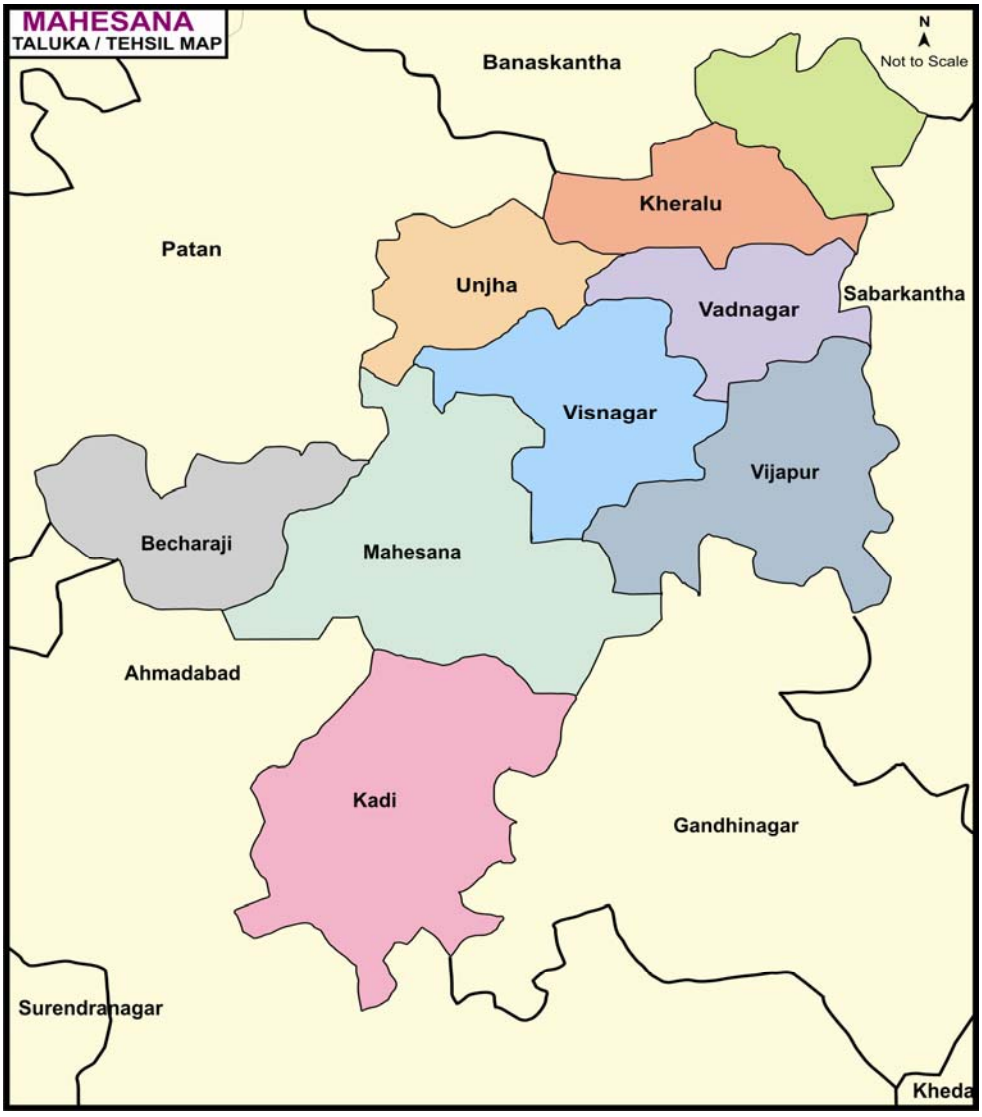
Map No. 1.4 – Patan District



4. MAHESANA DISTRICT

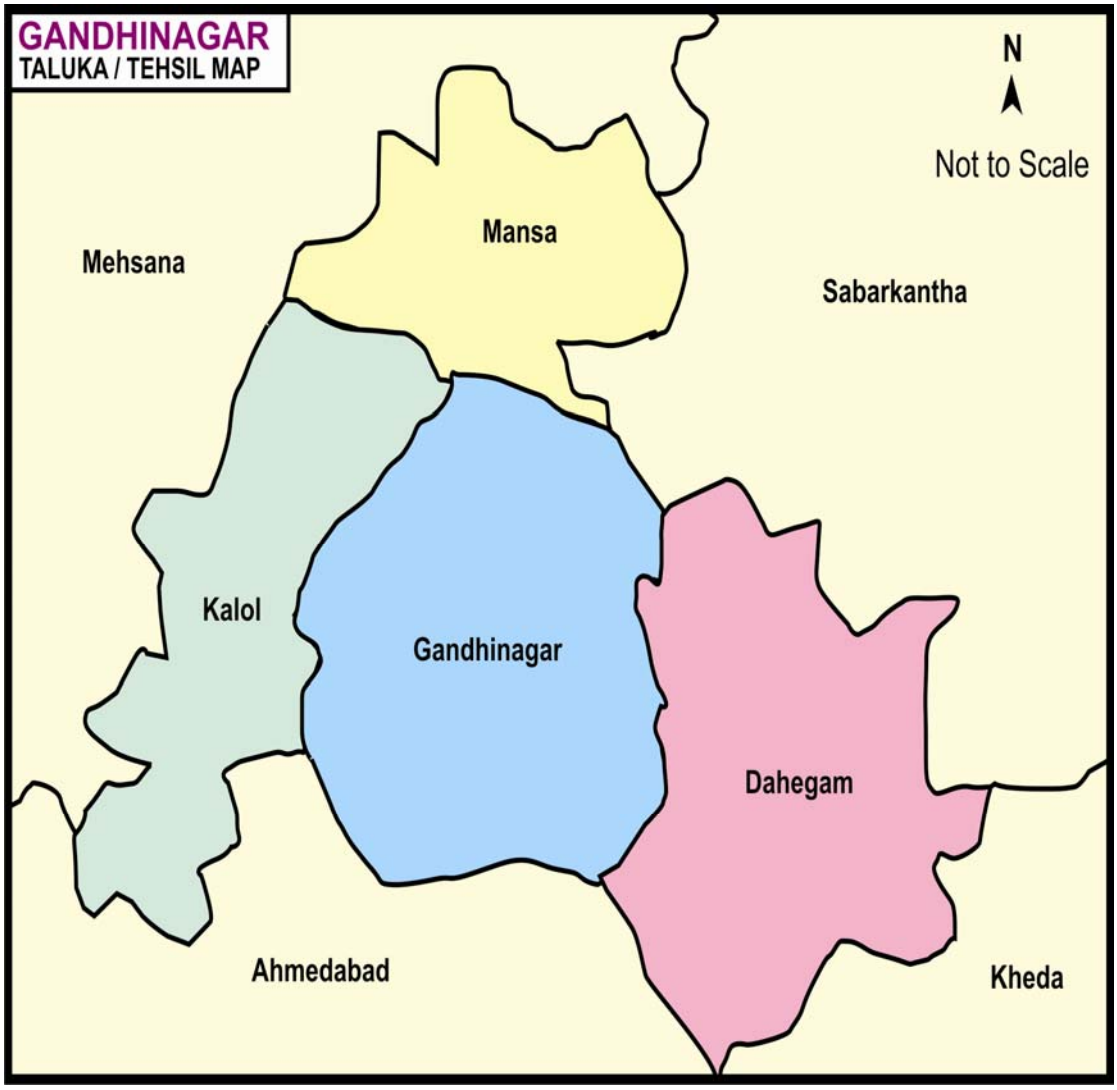
Mahesana is situated on the North Gujarat between 23.6º degrees North latitude and 72.4º East longitude. Mahesana district borders with Banaskantha district in the north, Patan and Surendranagar districts in west, Gandhinagar and Ahmedabad districts in south and Sabarkantha district in the east. According to the census 2011 Mahesana district has a population of 20, 27,346. Mahesana district comprise Mahesana, Satlasana, Kheralu, Vadnagar, Visnagar, Vijapur, Kadi, Bahuchraji, Unja Talukas. Economy depends upon agriculture, milk processing. Mahesana district is the largest on-shore oil producing asset of ONGC in India, with 1,200 flowing oil wells and 23 active gas wells. Mahesana has a sex ratio of 925 female for every 1,000 male. And a literacy rate of 84.26%.

Map No. 1.5 – Mahesana District



5. GANDHINAGAR DISTRICT

Gandhinagar is situated on the north Gujarat between 23º 21´67" North latitude and 72º68´33" East longitude. Gandhinagar has an average elevation of 81 metres (266 feet). The city sits on the banks of the Sabarmati River, in north-central-East Gujarat. Gandhinagar district comprises four talukas: Gandhinagar, Dehgam, Mansa, Kalol. Population of the Gandhinagar is 13, 87,478. Gandhinagar has an average literacy rate of 77.11%. Male literacy is 82%, and female literacy is 73%.Economy depends upon agriculture, milk processing, tourism government services and private services.(table 1.3).

As per my opinion the study of the risk factor and effect of diabetes mellitus type 2 is not done previously .Selection of Gujarat as a study area is become quite difficult for data collection. So researcher select north Gujarat region for this particular study.

Map No. 1.5 – Gandhinagar District