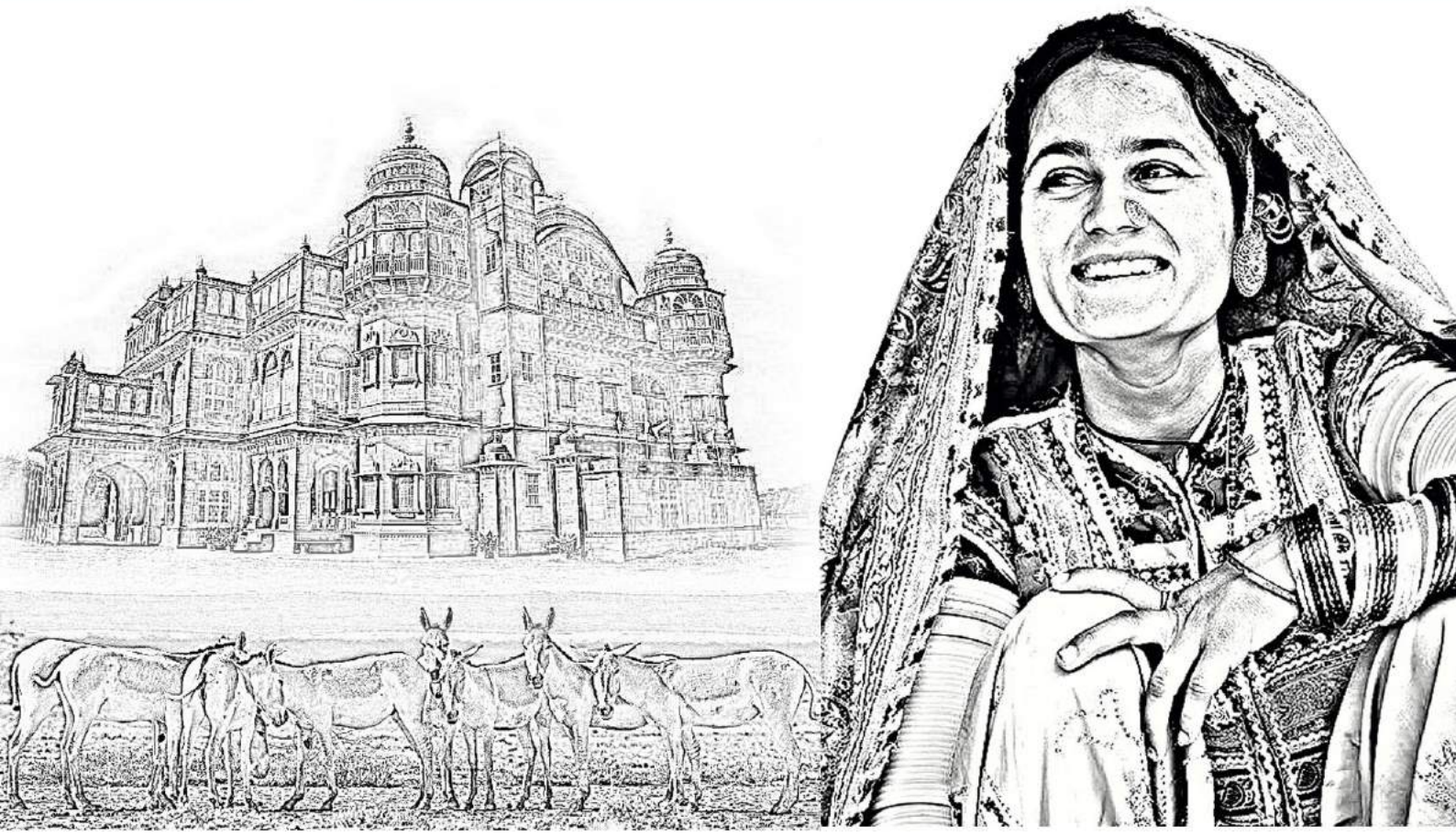
# District Human Development Report 2016

# KACHCHH



**Gujarat Social Infrastructure Development Society (GSIDS)**
**General Administration Department (Planning)**
**Government of Gujarat, Gandhinagar**

# DISTRICT HUMAN DEVELOPMENT REPORT

# KACHCHH

# District Human Development Report: KACHCHH



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**The report is prepared by Hemchandracharya North Gujarat University (HNGU), Patan as part of Tripartite MoU among Member Secretary, Gujarat Social Infrastructure Development Society (GSIDS), District Collector, Kachchh and Vice Chancellor, HNGU-Patan**

RAJENDRA TRIVEDI

सत्यमेव जयते

No. S.Y.C.A/P.G./ 965 /2016
**Minister of State**
**Sports, Youth & Cultural Activities**
**(Independent Charge)**
**Pilgrimage Development**
Government of Gujarat
Date: 18 OCT 2016

# *MESSAGE*

Gujarat enjoys the reputation of being the most progressive and well-administered State in the country. The State Government is aware that although progress has been achieved in various sectors since the State's inception much remains to be done in many fields. The Government is, therefore, making strenuous efforts to provide basic minimum services to the people, including drinking water, housing, health, education, livelihood opportunities, etc. The issues like securing peoples participation, poverty alleviation, social protection to the poor, removal of regional imbalances, good governance are also high priority areas of focus on the agenda of the Government. We are committed to the cause of Human Development.

I compliment the Hemchandracharya North Gujarat University (HNGU) - Patan for collaborating with the State Government in preparation of the District Human Development Report of Kachchh District, which provides an objective, in-depth analysis of the present status of various aspects of human welfare in the district. I also compliment the GSIDS, General Administrative Department (Planning) for undertaking this project.

I am sure, the comprehensive document, so meticulously prepared, providing a realistic assessment of the current status of the district and will serve as a guide for future planning in various fields which leads towards inclusive development of the people of the district.

I appreciate the endeavor.

Rajendra S. Trivedi

**(Rajendra Trivedi)**

सत्यमेव जयते
Government of Gujarat

# *MESSAGE*

Human Development is a development paradigm which is beyond mere rise or fall of national incomes. It is about creating an environment where people can develop their full potential and lead productive, creative lives in accordance with their needs and interests. People are the real wealth of nation. Development is thus about expanding the choices people have to lead lives that they value.

The District Human Development Report is a Document which gives the present status of Human Development in different talukas of the District. Human Development requires focus on the basic as well as crucial indicators of Human Development. Thus this report has highlighted three important pillars which are: Education, Health and Livelihood.

I commend the efforts put in by stakeholders in preparing this publication and hope that this will be useful to all the state & district level officials, policy makers and planners in working towards improving Human Development scenario of the District.

**(S. Aparna)**
**Principal Secretary (Planning) and**
**Chairperson, GSIDS**

**M. A. Gandhi**
I.A.S.
Collector &
District Magistrate

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# *PREFACE*

The objective of all the interventions is to bring in human development. A district human development report has to basically address the issue of formulation of a strategy, which will accelerate the pace of human development. Therefore, the objective of the present exercise is to build up a developmental path, which will address human development issues in Kachchh.

Normally a human development report covers three aspects related to human development- *standard of living, health and education*. Broadly the same format has been maintained in this exercise.

When we talk of building of a strategy, all concerned who are expected to participate in its execution must be involved at the formulation stage. In other words, the whole exercise has to be participatory in nature. An attempt has been made to involve all the line departments in this exercise. At the same time other stakeholders have also been involved in identification of the bottlenecks and solutions. We have included several case studies to capture the essence of the district and success stories from the district itself that can be scaled up to accelerate the pace of human development.

The formulation of Human Development Index (HDI) has not been attempted here. In the process of formulation of a strategy, intra-district scenario needs to be brought out. The quality of data varies from district to district and if the usual data available at the district level is used to formulate the HDI, the comparison across district may become erroneous. Since quality of data within a district is likely to be similar, a comparison within a district may provide us a relative picture of progress and a comparison of talukas over conveniently defined indicator will not be off the mark. In any case using the normal HDI formulae may not be able to capture the specific nuances and barriers to human development in different parts of a district. Since we need to build a strategy we should use a framework, which is flexible enough to capture the specific need of the district in terms of human development. HDI formulation is rather complicated and is difficult to comprehend, say, for panchayat level functionaries who are likely to participate in execution of schemes in the process of human development.

Considering the above, the Human Development Radar has been attempted which may be helpful. It is easily understandable and the weak areas can be quickly identified. In addition, the indicators may be selected as per the district specific issues.

This exercise started with formation of a district Core Committee involving all the line departments, other government officials and academicians. A Core committee was formed at the district level consisting of government officials, Panchayat functionaries, representatives of non-governmental organisations (NGO) and representatives from academia. Based on the issues highlighted in the district core committee meeting, weaker pockets under each sector in the district were identified. Identification of barriers to human development under each area in this district followed next. The process of documentation was initiated thereafter. Specific studies were also initiated and findings have been incorporated.

I put on record my sincere thanks to all who have been involved in this exercise. I am grateful to the officers of the line departments including the departments of Land, Forest, Agriculture, Animal Husbandry Development, Fisheries, Agri-irrigation, WASMO, District Industries Centre, Education, Health and Social Welfare. I was assisted by a dedicated band of officers from the Kachchh Collectorate which included the DDO, DPO, etc.

I express my deep gratitude to the representatives from Hemchandracharya North Gujarat University- Patan who have helped us in preparing this exercise. Special mention may be made of Dr. Manoj Lodha and his team from HNGU for all the efforts they put in for preparing this report.

Finally I express my sincere thanks to the GSIDS, General Administration Department (Planning), Government of Gujarat for their kind guidance and constant encouragement.

**M. A. Gandhi**
**Collector**
**Kachchh**

**September, 2016**
**Kachchh (Bhuj)**

C. J. Patel
I.A.S.
District Development Officer,
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Kachchh-Bhuj, PIN : 370 001

# FOREWORD

Human Development is a development paradigm that is about much more than the rise or fall of national incomes. It is about creating an environment in which people can develop their full potential and lead productive, creative lives in accord with their needs and interests. People are the real wealth of nations. Development is thus about expanding the choices people have to lead lives that they value.

The Human Development approach arose in part as a result of growing criticism to the leading development approach, which presumed a close link between national economic growth and the expansion of individual human choices. As of 1990, the human development concept was applied to a systematic study of global themes, as published in the yearly Global Human Development Reports under the auspice of the UNDP.

The Human Development story of India is unique in its kind. India initiated Human Development issues during 8th Five Year Plan (1992-97). In order to integrate Human Development into state planning in India the preparation of reports at state level has been started. Now-a-days the Gujarat State is on the fast track of development. NITI Aayog-Government of India and UNDP had partnered Strengthening State Plan for Human Development (SSPHD) programme, under which the Government of Gujarat had initiated the process of integrating Human Development in planning and policy documents.

The preparations of DHDR (District Human Development Report) marks the beginning of the process whereby people is mobilized and actively participate in the development process. In the year 2008-09, the state government has initiated the work of preparing District Human Development Report.

The DHDR is expected to be an important document for formulating the District Human Development Plan. The report has examined the status of Human Development in different talukas of Kachchh District. The report depicts the present status of the district with available information for various indicators of Education, Health and Livelihood.

It is hoped that this report will form a milestone in the overall planning and development of the district. DHDR will also be very useful to concerned State and District level Officials, to policy makers, to decision maker and NGOs.

**September, 2016**
**Kachchh (Bhuj)**

C.J.Patel
District Development Officer
kachchh

# PROJECT TEAM

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# Acknowledgement

*Last three decades of development have witnessed an increasing emphasis on the human development both at national and international levels. The development debate assumed the human development as the central point in the development strategies forwarded by contributions made by Mahbub ulHaq and Amratya Sen, both from the South Asian region. Late Mahbub ul-Haq advocated that development is about 'human well being' and not just about incomes and went a step further cautioning against the 'jobless, rootless and ruthless' income oriented growth.*

*The UNDP methodology of measuring quality of human development is based on the level of achievements in education, health along with per capita income of a country. The most basic and critical capabilities for human development are, to live a long and healthy life, to be educated and to have access to resources needed for a decent standard of living. Once these are attained, peoples' choices of opportunities will automatically get widened in the development process. The same methodology with some marginal changes has been adopted by most of the nations to measure the status of human development within their country. While the UNDP has been publishing these reports since 1990, the Government of India released the first National Human Development Report (NHDR) in 2001. A similar initiative was taken by the states to come out with their own Human Development Reports. Gujarat put forward the first Human Development Report in 2004. Today, India is acknowledged globally as having the largest body of work on human development reporting at the sub national levels in the form of State Human Development Reports (SHDRs) and District Human Development Reports (DHDRs).*

*Our initiatives to prepare District Human Development Report of Kachchh is an attempt to make an in-depth study and analysis of the quality of life of the people as well as to identify the areas where we need to intervene for enhancing their capabilities and to effectively address the grey areas. The report summarizes the overall development of the district. It is hoped that the DHDR will serve as an important tool in planning for growth, social justice and equity in the districts. This report is also expected to help in reassessing the investment strategy in the future. It is the product of wider interactions and participation at various levels as well as evident from its approach and content.*

*The Preparation of the Report was a huge responsibility and challenging task. Human Development being multi- dimensional, the report adopted broad based methodology and a set of taluka-level human development indicators for inter-taluka disparities in human development, gender inequality, child development, food security, urban development and composite taluka development. The Report also discusses meticulously various human development dimensions such as education, health, sanitation, livelihood standards, empowerment of women, status of marginalized sections, urban development issues and governance from human development perspective. The Report has seven chapters focusing on in-depth empirical analysis of all these human development related concerns. The concluding chapter, The Way Ahead, charts out thrust areas for intervention policies and strategies for enhancing comprehensive, inclusive, equitable and sustainable human development in the district.*

*The district human development profile is written with the support of the government officials. Human development is a State subject and it is important that the State Government is involved in the preparation of the Human Development Reports. True to the spirit Kum S Aparna, Principal Secretary –*

*Planning, Shri Kalpesh Shah, Joint Secretary (Planning) and District Collector of Kachchh M. A. Gandhi, IAS, were very forthcoming with their concerns, comments and helpful suggestions.*

*The Director & Member Secretary, Shri K D Vashi, GSIDS and Shri S S Leuva, Deputy Director, GSIDS took a keen interest and provided data on the economic and social dimensions. We take this opportunity to thank a large number of people and organizations who have participated in finalizing this report. We express our gratitude to District Planning Officer for providing all the statistical support for the project.*

*We are also thankful to District Planning Officer, Kachchh, G. D. Oza for associating with this exercise and also making efforts to provide data on key dimensions of human development. We also thank Mr Alap Patel SPA, GSIDS and Mr Chetan Sinh Gohil, SPAC, Kachchh for over-viewing the entire process and supporting in the preparation of the report.*

*The entire process of preparation involved close consultation with a large number of experts, line departments of Kachchh such as Education, Health and Family Welfare, Agriculture, Horticulture, Animal Husbandry, Women and Child Development, Social Welfare, Urban Local Bodies, District Industrial Center and others provided required data and participated actively in the deliberations of Core Committee. We would like to express my sincere thanks to all of them for their assistance and contribution.*

*Finally, we thank all those directly or indirectly involved in giving the Report its final shape. We sincerely hope that the Report would be of great policy relevance and provide basis for preparing district planning process from human development perspective and resource allocation by the State Government.*

***Dr. Manoj Kumar Lodha***

***Prof. SA Bhatt***

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# Conceptual Note

## Background

In the past, development was measured in terms of country's economic growth or increase in per capita income. But the problem of this approach was that it overlooked certain facts which are relevant such as people's quality of life and their choices of the way of life. In this approach, the people are considered only as a channel through which the productive progress is brought about rather than considering them as the ultimate aspect for which the production and prosperity is meant for. But the economic growth need not always necessarily lead to human progress. A country with high per capita income may have a population suffering from malnutrition, illiteracy, social exclusion, high mortality rates etc. People having no access to income, or enjoying only limited access will feel their choices being fairly constrained. Can an economic growth devoid of job opportunities and without people's participation and equity be called development? Here is the relevance of human development concept. Human development approach focuses on the expansion of people's capabilities and freedom. In this approach, rise of income is treated only as a path to development.

Development must not only be enhancing income but should also be expanding the range of things that a person can choose. The concept of human development was a 'paradigm shift' in development discourse as it drew attention to the more direct and important aspects of human life than growth in income. As stated in the HDR, 1990, Human Development is something more than GNP growth and even more than producing commodities and accumulating capital, which facilitates the expansion of people's choices. (UNDP, 1990) Mahbub al Haq said, "The objective of development is to create an enabling environment for people to enjoy long, healthy and creative lives"(UNDP, 2009).

## Shift from Gross Domestic Product to Human Development

Gross Domestic Product (GDP), which is the standard measure of a nation's economy, had been a dominant measure of a country's level of development for a long time. The economic paradigm, though important, does not capture adequately the multi-dimensionality of development like income inequality, unemployment and disparities in access to public goods and services like health and education. To judge the overall well-being of a country or State, mere estimation of the economic growth or the production of goods and services is not enough. Other aspects affecting human development such as long and healthy life, literacy and the standard of living of people also must be quantified and included for estimating various dimensions of human development. The human development concept was evolved by a group of Economists and thinkers led by Mahbub ul Haq and Amartya Sen during the eighties. The human development paradigm according to Mahub ul Haq essentially entails the following features

- Development must put people at the center of its concern.
- The purpose of development is to enlarge all human choices, not just income.
- It is concerned both with building up human capabilities and using the capabilities fully.

- Human development has four essential pillars – equality, sustainability, productivity and empowerment.
- It defines the ends of development and analyses sensible options for achieving them. (UNDP, 2009)

Thus the basic difference between the Gross Domestic Income approach and Human Development approach is that the former focuses exclusively on the expansion of only one choice that is income, where as the latter gives more importance to the expansion of all human choices whether they are economic, social, cultural or political.

## Definition of Human Development

The term 'Human Development' connotes an expansion of human capabilities, a widening of choices, an enhancement of freedom and a fulfillment of human rights (UNDP, 1990). The choices are:

- A healthy and long lasting existence,
- Access to knowledge in its different expressions,
- Material resources for a decent standard of living,
- Free participation in community life and collective affairs.

According to UNDP "Human development is about putting people at the centre of development. It is about making people realize their potential by increasing their choices and allowing them to enjoy the freedom to lead their lives as they wish." According to Amaritya Sen, "Human Development is an expansion of human capabilities and human freedoms" (College of Agricultural Banking, 2008).

Human Development approach is a holistic approach which places human beings at the core of development and emphasizes that people's development is not just a channel for the nation's development but is the most important aim of a country's development itself. The main concern of human development is the participation, especially of the vulnerable sections in the process of change and equity in development gains. As stated in the HDR, 1990, Human Development is about more than GNP growth, more than producing commodities and accumulating capital, which is only a means of enlarging people's choices (UNDP, 1990). Human Development is about people, about expanding their choices to live full, creative lives with freedom and dignity.

India during the three periods of 1960-70, 1970-80 and 1980-92 have been categorized as Vicious, Vicious and EG lopsided respectively. Madhusudan Ghosh has constructed a similar table for Indian states and Kerala has been categorized in it as HD lopsided – high HD with low economic growth – during all the three periods of 1981, 1991 and 2001 (Ghosh M, 2005).

## Indices

Four new composite indices for human development have been developed — the Human Development Index, the Human Poverty Index, the Gender-related Development Index, and the Gender Empowerment Measure.

## Human Development Index (HDI)

The Human Development Index (HDI) envisaged by UNDP looks beyond GDP to a broader definition of well-being. The HDI serves as a frame of reference for both social and economic development. The three dimensions of HDI calculated by UN:

- Health attainment, a long and healthy life (measured by life expectancy at birth),
- Educational attainment (measured by the adult literacy [with two-thirds weighting] and the combined primary, secondary and tertiary gross enrollment ratio [with one-third weighting]), and
- Economic attainment (measured by GDP per capita in US dollars at Purchasing Power Parity).

## Human Poverty Index (HPI)

The HDR, 1997 introduced a Human Poverty Index (HPI) as an attempt to bring together in a composite index the different features of deprivation in the quality of life to arrive at an aggregate judgment on the extent of poverty (UNDP, 1997). HPI uses three indicators of deprivation:

- The first deprivation relates to survival: the likeness of death at a relatively early age and is represented by the probability of not surviving to ages 40 and 50
- The second relates to knowledge: being excluded from the world of reading and communication and is measured by the percentage of adults who are illiterate
- The third relates to a decent standard of living, in particular, over economic provision.

## Gender Development and Empowerment

The shift towards human development approach streamlined further by incorporating the concepts of gender development and gender empowerment. The two most commonly used gender related indices are the Gender Development Index (GDI) and the Gender Empowerment Index (GEM).

**(a) Gender related Development Index (GDI)**

This index is an indication of the standard of living in a country by gender. It aims to show the inequalities between men and women in the area of long and healthy life, knowledge and a decent standard of living.

**(b) Gender Empowerment Measure (GEM)**

This is a measure of inequalities in opportunity between men and women. It combines inequalities in three areas: (i) political participation and decision making, (ii) economic participation and decision making, and (iii) power over economic resources.

## District Human Development Report (DHDR) - Relevance and Scope

While the national and state level HDRs provides inputs for central and state level plans, the District Human Development Reports (DHDRs) provide an opportunity for ensuring that human development is mainstreamed in district plans. Preparation of DHDR would help to gain a deeper understanding of the issues at the district level and also intra-district disparities. The purpose of preparation of a DHDR is to ensure that district plans are designed and implemented through a human development prism. It does so by analyzing the status of

human development attainment and key human development challenges faced with a special focus on efficiency of delivery systems and financial allocations.

The scope of the preparation of DHDR mainly lies in the decentralized planning process of local governments. The objective of DHDR as envisaged in the Guideline of UNDP is that the preparation of DHDR helps in preparing, designing and implementing district plans from a human development perspective. Special themes which are addressed during the preparation and implementation of district plans form the base of DHDR. Sub-district level analysis gives better insight to the issues to be addressed at grass root level through decentralized planning.
There are even more important reasons why DHDRs ought to have a place in the overall strategy to improve human development in the state. It can be argued that the problems of various services that are directly related to different dimensions of human development, such as health care and education, can be better diagnosed at the district level than at the state level. Programmes such as the District Primary Education Programme (DPEP) have explicit focus on districts as the relevant unit for implementation of the programme. Districts are also the basic implementation units of the state's health care programmes.

A District Human Development Report is therefore expected to

- Chart the progress the district has so far made on the human development front, in terms of various indicators;
- Reckon intra-district disparities of different kinds – between rural and urban areas, across development blocks, among social and community groups, between men and women;
- Analyse the evolution and current state of human development by linking them to the social, economic and demographic processes that characterize the district;
- Identify the possible strategies for human development in the district.

The report would focus on such basic dimensions of human development as education, health, and access to basic resources (as indicated by income and assets). However, in each of these areas district-specific factors will have to be identified and analysed. In the present report emphasis was laid on block-wise comparison of the attainment of welfare indicators expressed in terms of human development index in the district. Apart from quantitative analysis, in terms of income, health and education indices, an attempt has also been made to analyze qualitatively the evolution of decentralized planning and its effectiveness in each block; with special reference to the extent of people's participation, enabling environment and institutional set up.

# Executive Summary

Kachchh district is situated on the western end of the state. It is an ancient land possessed of great antiquity, which takes its name from its geographical characteristics and topographical features resembling a tortoise. This crescent shaped region called Kachchh forms part of north-west Gujarat. It lies between the parallels of latitude 220 .45' to 240 .40' and the meridians of longitude 680 .9' to 710 .45' The length from north to south of this territory is about 220.32 km. and from east to west about 376.80 km. It is bounded on the north and north-west by Pakistan , on the north-east by Rajasthan state, on the east by the Banas Kantha and Patan districts, on the south- east by Surendranagar district, on the south by the gulf of Kachchh and Rajkot district and on the south-west by the Arabian sea.

Bhuj town is the district headquarters for the administration. Besides, there are nine other talukas namely Mandvi, Mundra, Abdasa, Bhachau, Lakhpat, Anjar, Rapar and Gandhidham. There are 8 towns and 949 villages in the district. Moreover, six Nagarpalika in the towns namely Rapar, Bhachau, Ajjar, Bhuj, Mandvi, and Gandhidham are functioning as administrators. At local levels there are also 10 taluka Panchayats and 615 Gram Panchayats. The land utilization feature of the district is distinctive of the total geographical area, 7038 hectares (15.4 percent) is cropped area. The land utilized for non agriculture purposes is 1.6 percent. Net sown area is 14.0 percent and area sown more than once is 1.36 percent. However, permanent pastures and other grazing land is a 1.53 percent of the total geographical area of the district.

The distribution of population indicates that Bhuj is the most populous and Lakhpat is the least populous in the district while Gandhidham has been fastest growing taluka. So far as gender wise population make up of different talukas of the district is concerned, Bhuj is the largest block with the total population of 443269 with 21.19 percent in 2011. This is followed by Gandhidham, Anjar and Rapar with the total population of 327166, 235537 and 217315 respectively. These talukas account for 15.64, 11.26 and 10.39 percent of the total population in all the talukas of the district respectively in 2011. The urban population of the district accounted for only 34.82 percent of the total population.

In the light of rapid industrialization in the state it is shown from the table 1.11 that the share of urban population in Gujarat is increased to 25.74 million in 2011 i.e. 42.59 percent of total population of the state. Kachchh region is experiencing rapid industrialization which may lead to rapid urbanization and therefore the urban population increased to 0.72 million during 2011 from 0.47 million during the year 2001.

## Literacy and Education

Literacy is one of the important indicators of social development. Knowledge is linked with literacy and a formal education. And economic growth is related to degree of literacy. Thus literacy is one of the important needs of life as well as future development of a particular region.

The overall rural male literacy of Kachchh district was 65.1 percent, urban male literacy was 81.9 percent and rural-urban male literacy gap was 16.8 percent in 2001 whereas rural female literacy was 41.3 percent, urban female literacy was 65.3 percent and rural-urban female literacy gap was 24.0 percent but however in 2011 male rural literacy increases to 75.1 percent and urban male literacy to 87.1 percent. On the other side the female rural literacy also increases to 53.7 percent and urban female literacy increases to 73.9 percent. In 2011 male literacy regional gap decreases to 12.0 percent whereas in female literacy rural-urban gap decreases to 20.2 percent. Almost same and high gender gap has been reported in rural as well as urban areas.
In education, the performance is analyzed at primary, secondary and higher levels in terms of access, enrolment, retention, teacher-student ratio, quality, equity, educational attainments and infrastructure. The achievement of the district in most of these indicators, as shown in this study, is quite impressive. It is almost on the way to universal in primary and secondary education. The programmes such as Vidyalaxmi bond scheme, Vidyadeep insurance scheme, Model school scheme, ICT @ schools scheme, distribution of cost free text books, etc. have contributed significantly to this achievement.

## Health and Nutrition

Health is another important ingredient of human development. It determines both the longevity and the quality of life. Health also impacts learning outcomes, functioning capability and earning capacity of the people. Public sector health care infrastructure through PHCs, CHCs and taluka and district level hospitals renders health care services mainly to the weaker section of the community throughout the district. In rural areas, the government through PHCs/CHCs is the main provider of health care services. 277 sub centers, 42 public health centers and 14 community centers are running in the Kachchh district. These are the important health services providing medical facilities in the rural areas.

Malaria is a potentially life threatening parasitic disease and has been one of the major public health problems in India. The public health department has been spraying DDT to contain the incidence of malaria, although the coverage of DDT spraying is not satisfactory in the district. Also, Radical Treatment has been introduced against all malaria positive and fever cases. Tuberculosis has been a major public health problem not only in Kachchh district or Gujarat but also in different parts of India. Latest estimates show that in India, about 40 per cent of the population is infected with the tuberculosis bacillus (Ministry of Health & Family Welfare, Government of India, 2004). In 2013-14 the patients of Gastroenteritis, Injective Hepatitis, Enteric Fever, Aids and T.B were increased to 18654, 437, 904, 1420 and 2128 patients from 14880, 86, 676, 625 and 1750 in 2010-11. On the other side the patients of Malaria, Measles and Leprosy decreased to 840, 68 and 25 from 3237, 154 and 163 in 2010-11.

The annual workload in 2011 was 50000 whereas it decreased to 37000 in 2013-14. But the performance of ANC registration was 47490 in 2011 and it increased to 57023 in 2013-14 which is 94.98 and 154.12 percent respectively. 95.88 percent institutional delivery was recorded in 2012-13 which increased to 98.04 percent in 2013-14 and the percent of home delivery decreased to 1.96 percent in 2013-14 from 10.36 percent in 2010-11. The percentage of BCG immunization achievement decreased in the year 2013-14 to 124.9 percent from 126.4 percent in the year 2009-

10 while the percentage achievement of fully immunized increased to 114.1 percent in the year 2013-14 from 111.2 percent in the year 2009-10. Majority of the children are in category of moderately malnourished with 1.7 percent. The highest severe malnourished recorded in Abdasa taluka with 0.5 percent and it is followed by Mandvi taluka with 0.4 percent. These talukas in particular require greater attention and better health care services aimed at improving the nutritional status of the children.

## Agriculture, Animal Husbandry and Livelihood

Kachchh falls in the arid tract of Gujarat and has a tropical monsoon semi-arid climate and is not favourable for agricultural practices. It experiences extremes of weather conditions. The district observes three distinct seasons, winter, summer and monsoon. The winter season lasts usually from the middle of November to the end of February with January being the coldest month having an average minimum temperature of 4.6$^0$C with mercury occasionally dropping below the freezing point. Winter is followed by summer from March onwards and continues till late June with the maximum temperature ranging from 39 to 45$^0$C. The hot wet monsoon season commences in the last week of June or beginning of July with the onset of South-West Monsoon and continues till September. The annual average precipitation of Kachchh is a scanty 340 mm and about 95 per cent of occurs during June-September. Number of rainy days is very few; annual average is only 13 days. The variations in the timing and quantity of rainfall are very high having co-efficient of variability of about 60 per cent. This unreliability and uncertainty of rainfall has made Kachchh susceptible to droughts.

Over the years, horticulture has emerged as one of the potential agricultural enterprise in accelerating the growth of economy. Its role in the country's nutritional security, poverty alleviation and employment generation programmes are becoming increasingly important. It offers not only a wide range of options to the farmers for crop diversification, but also provides ample scope for sustaining large number of agro-industries which generate huge employment opportunities on account of significant increase in production in horticultural crops across the country, a golden revolution is in the offing and India has emerged as a leading player in the global scenario. It has now emerged as the world's the largest producer of and exporter of tea, coffee, cashewnut, spices exports of fresh and processed fruits, vegetables, cut flowers, dried flowers have also been picking up. As a result of a number of thoughtful research, technological and policy initiatives and inputs, horticulture in India, today, has become a sustainable and viable venture for the small, marginal and big farmers. It is a matter of satisfaction that their food consumption levels and household income have increased.

Animal husbandry is the second largest employment providing activities in Kachchh after agriculture. Animal husbandry is a supplementary activity with agriculture as well as it is adopted as sole activity by many castes and communities in Kachchh. Animal husbandry is the main source of livelihood for Shepherds and many nomadic tribes in Kachchh. Cows and Buffaloes are reared as milch cattle in all talukas of Kachchh, mainly by farming communities as a supplementary income source from milk. Sheep, Goat, Camel, Horse and Donkey are reared mainly by nomadic tribes and shepherds and this lot keeps on moving from one place to another, even outside Kachchh regularly. Sheep and Goat are reared for wool and meat

purpose, Camel, Horse and Donkey are reared for breeding purpose and selling them as load carrying animals. The highest cattle were found in Bhuj taluka whereas highest Buffalo is found in Bhuj taluka with 27.1 percent. But the highest sheep is found in Anjar taluka with 23.5 percent. The population of cattle was 334987 in Kachchh during 2003 but increased to 388717 in the period 2001. As well as the population of buffalo, sheep and goat was 178033, 495253 and 459442 respectively during 2003 but it increased to 225992, 575019 and 484982 respectively during 2007.

## Industry and Tourism

Kachchh has re-emerged from the ruins of one of the most disastrous earthquakes in the history that took place in January 2001 and today has become a major industrial hub. It contributes to significant share of salt production in the country. With large reserves of limestone, bauxite, lignite and bentonite, Kachchh district is one of the preferred destinations for most of the mineral based industries.

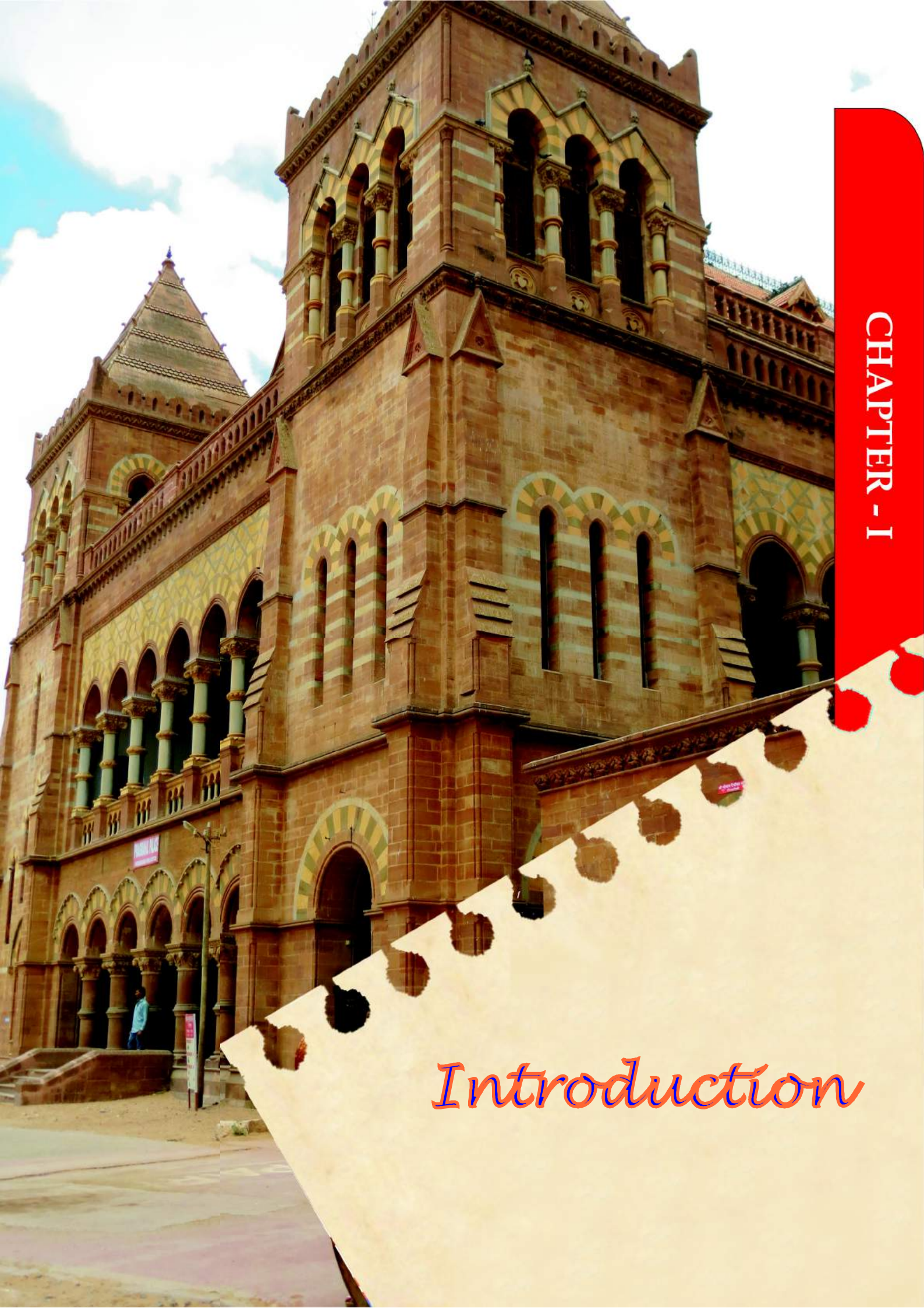
It boasts of being the world's largest manufacturer of Submerged Arc Welded (SAW) pipes. A good number of medium /large scale industries are supported by a sizeable number of small scale industries. Due to presence of two important ports, Kandla and Mundra, Kachchh district accounts for a very high cargo movement. Analysis of regional distribution of investments in Kachchh district indicates that industrial development is concentrated in Anjar, Gandhidham, Mundra, Bhachau and Lakhpat Talukas while other regions like Mandvi and Nakhtarana still remain backward. Over the recent years the state Government has initiated some measures to enhance the industrial growth in backward talukas of Mandvai and Abdasa through suitable incentives leading to an increased investment potential of these regions over the next decade.
Amongst the service sub-sectors, the tourism sector has been major driver of Kachchh economy. It is emerging strongly with the experiences of palaces, wildlife, fairs and festivals. The district accounted for 2.39 % of total tourist inflow in Gujarat during 2006-07. The key tourist attractions include Aina Mahal (Old Palace), Prag Mahal (New Palace), Indus Valley Civilization site, Swaminarayan Temple, Lakhpat, Wildlife Sanctuary, Chinkara Sanctuary and Mandvi Beach. Apart from the above, there are several festivals like the Kachchh Desert Festival and the Navratri Fair.

There are several opportunities for investment in the tourism sector in the form of deluxe and budget hotels, golf club, beach resorts and heritage & archeological site development. Amongst the higher education firms, the relevant ones are Shyamji Krishna Verma Kachchh University, Veerayatan Institute of Pharmacy and Vivekananda Research and Training Institute at Mandvi.
Kachchh has medium penetration in terms of medical institutions, with over around 31,671 people per institution. The district has 37 primary healthcare centers, 13 community healthcare centers and 5 hospitals. Apart from the above, Kachchh has G.K. General Hospital and Bidada Hospital. To sum up, the human development in district Kachchh has a long way to go. Education, health and livelihood need to be strengthened and made more inclusive. Vulnerable sections of the district need to be provided with a special care at a priority. Good practices and successful individual efforts need to be showcased and promoted.

# Abbreviations

| | | |
|---|---|---|
| AAY | : | Antodaya Cards |
| AIDS | : | Acquired Immune Deficiency Syndrome |
| ANC | : | Antenatal Check-up |
| ANM | : | Auxiliary Nursing and Mid-Wifery |
| APL | : | Above Poverty Line |
| BCG | : | Bacille Calmette Guerin |
| BPL | : | Below Poverty Line |
| BSY | : | Balika Samriddhi Yojana |
| CHC | : | Community Health Centre |
| CIC | : | Community Information Centre |
| DC | : | Deputy Commissioner |
| DPT | : | Diphtheria, Pertussis and Tetanus (Vaccine) |
| DHDR | : | District human Development Report |
| EAI | : | Economic Achievement Index |
| EDI | : | Education Development Index |
| ELI | : | Effective Literacy Index |
| EPI | : | Expanded Programme on Immunization |
| GAD | : | Gender and Development |
| GDI | : | Gender Development Index |
| GDM | : | Gender Development Measure |
| GDP | : | Gross Domestic Product |
| GEI | : | Gender Equity Index |
| GER | : | Gross Enrolment Ratio |
| GPI | : | Gender Parity Index |
| GSDP | : | Gross State Domestic Product |
| HDI | : | Health Development Index |
| HDM | : | Human Development Measure |
| HDR | : | Human Development Report |
| HHs | : | Households |
| HPI | : | Human Poverty Index |
| HRVD | : | Health Rate on Various Disease |
| HS | : | Higher Secondary |
| ICDS | : | Integrated Child Development Scheme |
| ICT | : | Information and Communication Technology |
| JSY | : | Janani Suraksha Yojana |
| IMR | : | Infant Mortality Rate |
| KM | : | Kilometre |
| MGNREGA | : | Mahatama Gandhi National Rural Employment Guarantee Act |
| MMR | : | Maternal Mortality Rate |
| MSME | : | Micro, Small & Medium Enterprises |
| MoU | : | Memorandum of Understanding |

| | | |
|---|---|---|
| MRVD | : | Morbidity Rate based on Various Disease |
| NER | : | Net Enrolment Ratio |
| NFHS | : | National Family & Health Survey |
| NGO | : | Non Governmental Organization |
| NLEP | : | National Leprosy Eradication Programme |
| NREGS | : | National Rural Employment Guarantee Scheme |
| NRHM | : | National Rural Health mission |
| OBC | : | Other Backward Classes |
| OES | : | Overall Education Score |
| OHS | : | Overall Health Score |
| OLS | : | Overall Livelihood Score |
| OP | : | Only Primary |
| OPS | : | Overall Positional Score |
| OPV | : | Oral Polio Vaccine |
| OUP | : | Only Upper Primary |
| PD | : | Public Distribution |
| PHC | : | Primary Health Centre |
| PTR | : | Pupil Teacher Ratio |
| R&D | : | Research and Development |
| SC | : | Sub-Centre |
| SC | : | Scheduled Caste |
| SEI | : | School Enrolment Index |
| SE Ratio | : | School Enrolment Ratio |
| SHC | : | Sub-Health Centre |
| SHDR | : | State Human Development Report |
| SHG | : | Self Help Group |
| SSA | : | Sarva Shiksha Abhiyan |
| SSI | : | Small Scale Industries |
| ST | : | Scheduled Tribe |
| STR | : | Student Teacher Ratio |
| SWOC | : | Strength, Weakness, Opportunity, Challenges |
| TB | : | Tuberculosis |
| TFR | : | Total Fertility Rate |
| TSC | : | Total Sanitation Campaign |
| UIP | : | Universal Immunization Programme |
| UNDP | : | United Nations Development Programme |
| UNICEF | : | United Nations Children Fund |
| UNO | : | United Nations Organization |
| UP | : | Upper Primary |
| WHO | : | World Health Organization |
| WPR | : | Work Participation Rate |



CHAPTER - I

# Introduction

# Chapter 1

# Introduction

Kachchh (also spelled as Kutch) is a district of Gujarat state in western India covering an area of 45,612 Sq.km. It is the largest district in the state of Gujarat and the second largest district of India after Leh.Kachchh literally means something which intermittently becomes wet and dry; large part of this district known as Rann of Kachchh is shallow wet-land which submerges in water during the rainy season and becomes dry during other seasons. The same word is also used in the languages of Sanskrit origin for a tortoise and garments to be worn while having a bath. It is interesting to note that when its map viewed upside down, it resembles a tortoise.

The modern history of Kachchh begins with the period of the Jadeja Chieftains in the 14th century AD. It was 1548, that Jam Khengarji comes the supreme ruler of the land. He made Bhuj his seat of power by formally making it the capital city in 1549. For the next 438 years, the jadejas ruled Kachchh until its merger with the Indian Union in 1948. Having a unique identity, Kachchh was created as a state within the union of India in 1950. However, in 1956 it was merged with the state of Bombay. Kachchh became a part of Gujarat state in 1960 when Bombay state was divided linguistically.

## 1.1 Physiography of the Region

The Kachchh is a unique and unusual unit of assemblage of geomorphic terrain of the Indian sub continent. The geographical terrain of Kachchh can be safely classified into four zones from north to south.

### The Two Ranns (includes Great and Little Rann of Kachchh)

The two Ranns can be described as a unique salt encrusted monotonously flat waste land. Annual inundation of the area has translated the Rann as a piece of peculiar ground. Every year the Rann of Kachchh gets flooded by water both fresh water from inland areas and saline water from the Gulf of Kachchh. Ranns spreads over the north – western, north, north – eastern and eastern part of district with an area of 23100 sq.km. The great Rann covering an area of 18000 sq.km; lies to the north of the rocky mainland beyond Pachham and Bela Island while Khadir Island lies in the midst of the Great Rann of Kachchh. Further, south east of it lies the Little Rann of Kachchh comprises with an area of 5100 sq.km.

### The Banni Plain

It lies in between the great Rann and the more stable rocky landmass i.e., mainland of Kachchh. It is covered with grass and other shrubs. This plain is drained by ephemeral rivers originating from the northern slope of Kachchh mainland and the southern slope of Pachham hills. The plain remains as a lake of intermediate salinity for few months after the monsoon, the duration largely depends upon the amount of rainfall it receives. During post monsoon season this plain becomes breeding ground for several migratory birds.

The Banni plain is the recent uplift and symbolizes the following edge of Allah Bund fault, which is shifting from south – west to north – east towards Asian plate. The leading edge of this fault is characterized by scattered and disintegrated uplifted range in the sequence of three uplifts as witnessed by the region. At micro level grassland of similar morphological characteristics can be seen in the fringe area of the Little Rann of Kachchh, where the fresh and saline water gets endosed within the relatively shallow areas.

### The Hilly Region

The hilly regions can be divided into three divisions:

(1) Island Belt, (2) Kachchh Mainland and (3) Katrol Hill

The island comprises of discontinuous hills and forms four islands viz; Pachham, Khadir, Bela and Chorar which runs west to east. Kala Dungar with a height of 465 meter in the Khavada hill is the highest point in Kachchh. There is marked and bold line of cliff for some 25 km. lengths on the northern end of Khadir Island, the cliff being about 80 – 160 meters high within a width of some 200 – 400 meters from the shore, such dead cliffs also occur round other islands, example – Kakinada Bet, Bhanjada Bet and Jalandar Island lying in the Little Rann of Kachchh. Such dead cliffs and ill-defined streams away from the coast suggest Transgression of Sea or submergence in the recent geological era.

The Kachchh Mainland is by far the most extensive, continuous, broad as compared to the other two hills and runs from Kori Creek in the west and merges to the little Rann of Kachchh in the east. This range exhibits hogback appearance with a relatively steep northern slope where as southern slope is relatively gentle. Dinodhar, with a height of 388 meter is the highest peak of the Kachchh Mainland. The Wagad highland lays in the north west of little Rann of Kachchh guides the orientation of small streamlets flowing towards the Little Rann in almost perpendicular direction.

### The Coastal Plains

The coastal plain is bordered by Katrol hill in the north and Arabian Sea from south and west. The coastal plain is of various characteristics. It is sandy at some places and at some place it is muddy and possesses a character of marshy area. The southern shore of Gulf of Kachchh is indented in spite of the low level coastal plain surface to its north. The shore line exhibits submergent characteristics through its marked indentations, number of offshore island, several estuanne river mouth and number of deep inlets, and thus, having multiple characters in terms of its coastal outline. The indentation in the coastline has facilitated a lot in the development of various port and jetties such as Kandla, Mundra, Jakhayu etc. the coastal region of Kachchh is formed by a belt of alluvium. It consists of wind blown loam and sand underlain by clay 5-16 km. wide. Solid rocks also appear at several points on the shoreline.

## 1.2 Eco-Climatic Setting of the Kachchh

### Temperature and Rainfall

The region is characterized by a high aridity index of over 40 percent, which indicates a very high deficiency of soil moisture. The Kachchh district falls under the semi-arid type of climatic

conditions, which belongs to the "Steppe-Bush type" as per the Koppen's classification. The climatic characteristics of area shows transitory phase between the arid and semi humid type in the west and east respectively. The intensity of heat goes on increasing from east to west in the Little Rann accept in the coastal zones. The area experiences a typical and climate may be because the tropic of cancer passes through the Kachchh. The mean annual temperature is $26^0$ C with mean maximum and minimum of $30^0$ C and $10^0$ C respectively. The maximum temperature in May is about $40^0$ C but some time it records a very ambient temperature of $48^0$ C, leading to the development of very low pressure cells.

The area receives rainfall from June last to August, followed by the setting up of winter from the middle of the November to the end of February. The area do not experiences a very cold climate but is associated with occasional cold waves. Further winter is followed by the summer from the march to July end. The period in between middle of May to the end of August is the monsoon period, of which July is the wettest month. The average annual rainfall is even less than 25 mm. in some area where as annual rainfall for the Kachchh district is 320 mm. with dependability of less than 40 percent; total rainy days are less than 15.

### Humidity

On an average the humidity of the area is less than 25 percent during most part of the year. However, humidity varies locally i.e., it is as much high as along the coastal area and it even increases to more than 85 percent during the monsoon season.

### Soil

The surface of Kachchh exhibits itself in terms of dark brown surface configuration with wide and deep cracks with veneer of salt. Generally in the semi arid regions of the tropics and sub tropics, there is pre dominance of deep dark colored clay soil, particularly in the flat topographical areas. Such deep and dark colored clay are called Vertisols. Dark color of soil is related to either parent material or presence of manganese oxides. The dark brown-black color of the Rann sediment is attributed to the parent material lying in its catchment area of basaltic geological structure.The soil of the mainland areas is characterized by varying depth and textures. The soil of this region is moderately calcareous and alkaline. The area exhibits the eroded face with a thin layer of soil at some places while at some the rocks are exposed on the surface. The soils in this area are loamy in texture and are excessively drained. Broadly, the soil of this region is divided into four types: Alluvial, Sandy, Swampy and Black Clay or Loamy.

### Flora and Fauna

Biogeographically, Kachchhis classified as desert as per the classification (WII, Dehradun, 1988)

| | | |
|---|---|---|
| Biogeographic Zone | 3 | The Indian Desert |
| Biotic Province | 3A | Kachchh Desert |
| Sub Divisions | 3A (I) | Little Rann salt marsh & Islands |
| | 3A (II) | Great Rann salt marsh & Islands |
| | 3A (III) | Southern Hills |

Little Rann of Kachchh with 23 islands encompassing 5180 sq. km. area, is the southward extension of the Great Rann & is similar in physiography, edaphic conditions, eco-climatic and vegetation but differs in inundation regime.

Greater part of the Kachchh except intermediate zone in between the hills possesses desolate landscape with very scanty vegetation. The entire eastern referred area drained by river Banas has a height less than 20 meters, a 20 meters contour is passing east of Degam, a village, approximately 18 km., lying north east of the mouth of river Banas. South of River Banas, lies River Saraswati, having a well defined extensive wide mouth opening into the Little ran of Kachchh. It does not have any prominent distributaries.

Further south, the area is drained by river Rupen. Rupenin its final course runs roughly straight east to west for 30 km. before draining into the Little Rann of Kachchh. Numerous small reservoirs have been made along the distributories of Rupen.Minor streams like Kharwa Ka Nala and many others unnamed small streams, even less than 2 km. in length, drains the surrounding rain water in the Rann. The plain topographical characteristics have a great role in the development of such numerous parallel independent streams.

The presence of three major streams that is Banas, Saraswati and Rupen has made this area fertile through annual flooding. Spasmodic floods are common phenomena in the area. Apart from the rivers, presence of Talav and Sarovar helps to meet the year around demand of water. Therefore, it is apparent that the area in spite of having harsh and tough ecological setup particularly in terms of climatic condition, hosts variety of flora and fauna.

## 1.3 Administrative Setup

Kachchh District forms part of the Saurashtra Region of Gujarat State having an area of 45652 Sq Kms. the Largest in India. It is situated in the South western corner of the Gujarat between 22.44° and 24.41° North Latitude and 78.89° and 71.45° East Longtitude.

**Table 1.1: Units of Administration in Kachchh District (2015)**

| Sr. | Heads | Nos. |
|---|---|---|
| 1 | Location | 22.44° and 24.41° North Latitude<br>78.89° and 71.45° East Longitude |
| 2 | Area (Sq. Kms.) | 45652 Sq.Km. |
| 3 | Sub Divisions | 06 |
| 4 | No. of Talukas | 10 |
| 5 | Patwar Circle | 429 |
| 6 | Nagar Palika | 6 |
| 7 | Panchayat Samities | 29 |
| 8 | Gram Panchayats | 615 |
| 9 | Revenue Villages | 949 |
| 10 | Assembly Area | 06 |

***Source: Registrar General of India***

Bhuj town is the district headquarters for the administration. Besides, there are nine other talukas namely Mandvi, Mundra, Abdasa, Bhachau, Lakhpat, Anjar, Rapar and Gandhidham. There are 8 towns and 949 villages in the district. Moreover, six Nagarpalika in the towns namely Rapar, Bhachau, Ajjar, Bhuj, Mandvi, and Gandhidham are functioning as administrators. At local levels there are also 10 taluka Panchayats and 615 Gram Panchayats. (Table 1.1)

## 1.4 Land Utilization Pattern

Kachchh district has a total geographical area of 45652 sq.km. in its command. This is 23.3 percent of the state total geographic area. Total cropped area in the district is 5.8 percent of the state total. It has 6.5 percent of net sown area and 2.8 percent of area sown more than once to that of the state total. Land put to non agricultural use is 6.3 percent of the state total. It is shown in the table 1.2:

**Table 1.2: Land Utilization Pattern of Kachchh District (2007-08)**

| Sr | Land Use | Kachchh | % of Total Area | Gujarat | % of Total Area |
|---|---|---|---|---|---|
| 1 | Total geographical area | 45652 | - | 196024 | - |
| 2 | Forest area | 3068 | 6.72 | 18340 | 9.36 |
| 3 | Land put to non agricultural use | 742 | 1.63 | 11711 | 5.97 |
| 4 | Barren and Uncultivable land | 16856 | 36.92 | 25515 | 13.02 |
| 5 | Permanent pastures and other grazing land | 701 | 1.54 | 8514 | 4.34 |
| 6 | Land under miscellaneous tree crops | 0 | 0.00 | 36 | 0.02 |
| 7 | Cultivable waste | 16633 | 36.43 | 19600 | 10.00 |
| 8 | Fallow other than current fallow | 0 | 0.00 | 189 | 0.10 |
| 9 | Current fallow | 1239 | 2.71 | 5097 | 2.60 |
| 10 | Net area sown | 6413 | 14.05 | 99100 | 50.56 |
| 11 | Area sown more than once | 625 | 1.37 | 22432 | 11.44 |
| 12 | Total cropped area | 7038 | 15.42 | 121532 | 62.00 |

***Source: Statistical Abstract, Gujarat, 2015***

The land utilization feature of the district is distinctive of the total geographical area, 7038 hectares (15.4 percent) is cropped area. The land utilized for non agriculture purposes is 1.6 percent. Net sown area is 14.0 percent and area sown more than once is 1.36 percent. However, permanent pastures and other grazing land is a 1.53 percent of the total geographical area of the district.

## 1.5 Irrigated Area

Net irrigated area in the district through various sources like canals, tanks, wells of both government and private sector and minor irrigation schemes is 3.9 percent of the state total. This is shown from the table 1.3:

**Table 1.3: Net Area Irrigated by Source (2007-08) ('00 hect.)**

| Sr | Source | Kachchh | % of Total | Gujarat | % of Total |
|---|---|---|---|---|---|
| 1 | Government canals (incl. panchayat canals) | 215 | 13.07 | 7710 | 18.21 |
| 2 | Tubewells and other wells | 1423 | 86.50 | 33027 | 78.02 |
| 3 | Tanks | 3 | 0.18 | 454 | 1.07 |
| 4 | Other sources | 4 | 0.24 | 1142 | 2.70 |
| | **Total** | **1645** | **100.0** | **42333** | **100.0** |

***Source: Statistical Abstract, Gujarat, 2015***

It is shown from the table 1.3 that 86.5 percent area is irrigated by tubewells and other wells while 13.07 percent area is irrigated by government canals.

## 1.6 Gross Irrigated Area

During the year 2007-08, Kachchh district accounted for 3.5 percent of gross area under irrigation for all crops of the state total. (Table 1.4)

**Table 1.4: Crop Wise Gross Area under Irrigation (2007-08)**

| Sr | Crop | Kachchh | % of Total | Gujarat | % of Total |
|---|---|---|---|---|---|
| 1 | Cereals | 341 | 17.44 | 19416 | 34.58 |
| 2 | Pulses | 7 | 0.36 | 1313 | 2.34 |
| 3 | Other Food Crops | 350 | 17.90 | 9845 | 17.54 |
| 4 | Oilseeds | 676 | 34.58 | 8304 | 14.79 |
| 5 | Cotton | 333 | 17.03 | 14203 | 25.30 |
| 6 | Other Non Food Crops | 248 | 12.69 | 3060 | 5.45 |
| | **Total** | **1955** | **100.00** | **56141** | **100.00** |

***Source: Statistical Abstract, Gujarat, 2015***

The table 1.4 shows that the share of area under irrigation of important crops are oilseeds with 34.58 percent, cotton 17.03 percent, cereals 17.44 percent and irrigated area for pulses is 0.36 percent of the total.

## 1.7 Demographic Features

Kachchh is a key district in Gujarat witnessing rapid strides in industrial growth leading to inward migration. District has registered a significant human resource growth over the past decade due to immigration led by industrial activities in Kandla and Mundra regions. During 2001-11 period district has witnessed a staggering rise in population from 15.8 lakhs to 20.9 lakhs with a growth rate of 32.03 percent in comparison to state average of 19.17 percent. Kachchh is predominantly rural with these regions accounting for 65.28 percent of the total population. Population spread in the district is significantly low with a density of 46 persons per sq.km as against state average of 308 persons per sq.km. Low population density is attributed to the fact that nearly fifty percent of the total area of the district is uninhabitable (Rann of Kachchh region).

## Table 1.5: Population and Decadal Change by Residence & Gender

| State/ District/ Taluka | T / M / F | Total Population | | | | | | % of Decadal Change | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Total | | Male | | Female | | T | M | F |
| | | 2001 | 2011 | 2001 | 2011 | 2001 | 2011 | 2001-2011 | | |
| GUJARAT | T | 50671017 | 60439692 | 26385577 | 31491260 | 24285440 | 28948432 | 19.3 | 19.4 | 19.2 |
| | R | 31740767 | 34694609 | 16317771 | 17799159 | 15422996 | 16895450 | 9.3 | 9.1 | 9.6 |
| | U | 18930250 | 25745083 | 10067806 | 13692101 | 8862444 | 12052982 | 36.0 | 36.0 | 36.0 |
| **Kachchh** | **T** | **1583225** | **2092371** | **815152** | **1096737** | **768073** | **995634** | **32.2** | **34.5** | **29.6** |
| | **R** | **1108333** | **1363836** | **567470** | **713524** | **540863** | **650312** | **23.1** | **25.7** | **20.2** |
| | **U** | **474892** | **728535** | **247682** | **383213** | **227210** | **345322** | **53.4** | **54.7** | **52.0** |
| Lakhpat | T | 50120 | 62552 | 25996 | 32274 | 24124 | 30278 | 24.8 | 24.2 | 25.5 |
| | R | 50120 | 62552 | 25996 | 32274 | 24124 | 30278 | 24.8 | 24.2 | 25.5 |
| | U | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| Rapar | T | 198000 | 217315 | 102674 | 111065 | 95326 | 106250 | 9.8 | 8.2 | 11.5 |
| | R | 174943 | 188908 | 90817 | 96677 | 84126 | 92231 | 8.0 | 6.5 | 9.6 |
| | U | 23057 | 28407 | 11857 | 14388 | 11200 | 14019 | 23.2 | 21.4 | 25.2 |
| Bhachau | T | 147891 | 186035 | 76566 | 97897 | 71325 | 88138 | 25.8 | 27.9 | 23.6 |
| | R | 122502 | 146503 | 63256 | 76236 | 59246 | 70267 | 19.6 | 20.5 | 18.6 |
| | U | 25389 | 39532 | 13310 | 21661 | 12079 | 17871 | 55.7 | 62.7 | 48.0 |
| Anjar | T | 160292 | 235537 | 82583 | 123401 | 77709 | 112136 | 46.9 | 49.4 | 44.3 |
| | R | 91949 | 148354 | 47242 | 78229 | 44707 | 70125 | 61.3 | 65.6 | 56.9 |
| | U | 68343 | 87183 | 35341 | 45172 | 33002 | 42011 | 27.6 | 27.8 | 27.3 |
| Bhuj | T | 345013 | 443269 | 177232 | 228136 | 167781 | 215133 | 28.5 | 28.7 | 28.2 |
| | R | 208584 | 229755 | 106176 | 116990 | 102408 | 112765 | 10.2 | 10.2 | 10.1 |
| | U | 136429 | 213514 | 71056 | 111146 | 65373 | 102368 | 56.5 | 56.4 | 56.6 |
| Nakhatrana | T | 129249 | 146367 | 65673 | 74380 | 63576 | 71987 | 13.2 | 13.3 | 13.2 |
| | R | 129249 | 146367 | 65673 | 74380 | 63576 | 71987 | 13.2 | 13.3 | 13.2 |
| | U | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| Abdasa | T | 97508 | 117538 | 49740 | 61387 | 47768 | 56151 | 20.5 | 23.4 | 17.6 |
| | R | 97508 | 117538 | 49740 | 61387 | 47768 | 56151 | 20.5 | 23.4 | 17.6 |
| | U | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| Mandvi | T | 170573 | 203373 | 85813 | 103983 | 84760 | 99390 | 19.2 | 21.2 | 17.3 |
| | R | 128218 | 151997 | 64193 | 77908 | 64025 | 74089 | 18.6 | 21.4 | 15.7 |
| | U | 42355 | 51376 | 21620 | 26075 | 20735 | 25301 | 21.3 | 20.6 | 22.0 |
| Mundra | T | 83010 | 153219 | 42311 | 89871 | 40699 | 63348 | 84.6 | 112.4 | 55.7 |
| | R | 70079 | 132881 | 35661 | 78986 | 34418 | 53895 | 89.6 | 121.5 | 56.6 |
| | U | 12931 | 20338 | 6650 | 10885 | 6281 | 9453 | 57.3 | 63.7 | 50.5 |
| Gandhidham | T | 201569 | 327166 | 106564 | 174343 | 95005 | 152823 | 62.3 | 63.6 | 60.9 |
| | R | 35181 | 38981 | 18716 | 20457 | 16465 | 18524 | 10.8 | 9.3 | 12.5 |
| | U | 166388 | 288185 | 87848 | 153886 | 78540 | 134299 | 73.2 | 75.2 | 71.0 |

*Source: Census of India, Gujarat, 2011*

Taluka wise distribution of population indicates that Bhuj is the most populous and Lakhpat is the least populous in the district while Gandhidham has been fastest growing taluka. So far as

gender wise population make up of different talukas of the district is concerned, Bhuj is the largest block with the total population of 443269 with 21.19 percent in 2011. This is followed by Gandhidham, Anjar and Rapar with the total population of 327166, 235537 and 217315 respectively. These talukas account for 15.64, 11.26 and 10.39 percent of the total population in all the talukas of the district respectively in 2011. The urban population of the district accounted for only 34.82 percent of the total population.

Gender wise and by residence make up of the population for the census of 2001 and 2011 is presented in the table 1.5:

It is evident from the table 1.5 that female population is less than the male population in the district. Female population forms 47.58 percent of the total population of the total district. Similarly, rural female population accounted for 47.68 percent of the total rural population in 2011.

Taluka wise changes in male and female population in 2011, over the census of 2001, shows that the female population increased by about 60.86 percent in Gandhidham taluka followed by 55.65 percent in Mundra taluka. The increase in male population was highest in Mundra taluka. This increase is shown to be 112.41 percent in 2011 over the census of 2001.

Other prominent taluka with regard to increase in male population are Anjar (49.43%), Bhuj (28.72%), Bhachau (27.86%) and Lakhpat (24.15%). In case of urban population the increase over 2001 census recorded was 51.98 percent in case of female and 54.72 percent in case of male population.

The gender wise and by residence the 0-6 years population is shown in the table 1.6:

It is evident from the table 1.6 that the population of 0-6 years children increased to 318412 during the year 2011 from 254448 during the year 2001. It is shown from the table 1.6 that female child population is 47.95 percent of total 0-6 years population where as rural 0-6 years female population accounted for 48.09 percent of total rural population. Taluka wise changes in male and female population in 2011 over the census of 2001, shows that the 0-6 years female population increased by about 59.28 percent in Mundra taluka followed by Gandhidham taluka by 54.61 percent. These two talukas were followed by Anjar (40.14%) and Bhuj (25.52%) taluka.
As in case of female population, the increase in male population was also highest in Mundra taluka. This increase is shown to be 58.12 percent in 2011 over the census of 2001. Other prominent taluka with regard to increase in male population are Gandhidham (55.55%), Anjar (38.52%) and Bhuj (24.08%) taluka.

## Table 1.6: Child Population (0-6 years) and Decadal Change by Residence & Gender

| State/ | P/ | 0-6 Years Population | | | | | | % of Decadal Change | | |
|---|---|---|---|---|---|---|---|---|---|---|
| District/ | M/ | Total | | Rural | | Urban | | T | R | U |
| Taluka | F | 2001 | 2011 | 2001 | 2011 | 2001 | 2011 | 2001-2011 | | |
| GUJARAT | P | 7532404 | 7777262 | 4000148 | 4115384 | 3532256 | 3661878 | 3.25 | 2.88 | 3.67 |
| | M | 5085941 | 4824903 | 2668527 | 2521455 | 2417414 | 2303448 | -5.13 | -5.51 | -4.71 |
| | F | 2446463 | 2952359 | 1331621 | 1593929 | 1114842 | 1358430 | 20.68 | 19.70 | 21.85 |
| **Kachchh** | **P** | **254448** | **318412** | **132411** | **165739** | **122037** | **152673** | **25.14** | **25.17** | **25.10** |
| | **M** | **189354** | **222543** | **98264** | **115533** | **91090** | **107010** | **17.53** | **17.57** | **17.48** |
| | **F** | **65094** | **95869** | **34147** | **50206** | **30947** | **45663** | **47.28** | **47.03** | **47.55** |
| Lakhpat | P | 9545 | 10966 | 4898 | 5654 | 4647 | 5312 | 14.89 | 15.43 | 14.31 |
| | M | 9545 | 10966 | 4898 | 5654 | 4647 | 5312 | 14.89 | 15.43 | 14.31 |
| | F | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0.00 |
| Rapar | P | 36739 | 40074 | 18984 | 20756 | 17755 | 19318 | 9.08 | 9.33 | 8.80 |
| | M | 32805 | 35447 | 16958 | 18337 | 15847 | 17110 | 8.05 | 8.13 | 7.97 |
| | F | 3934 | 4627 | 2026 | 2419 | 1908 | 2208 | 17.62 | 19.40 | 15.72 |
| Bhachau | P | 24908 | 31292 | 12952 | 16297 | 11956 | 14995 | 25.63 | 25.83 | 25.42 |
| | M | 20624 | 25056 | 10653 | 13027 | 9971 | 12029 | 21.49 | 22.28 | 20.64 |
| | F | 4284 | 6236 | 2299 | 3270 | 1985 | 2966 | 45.56 | 42.24 | 49.42 |
| Anjar | P | 25351 | 35312 | 13306 | 18432 | 12045 | 16880 | 39.29 | 38.52 | 40.14 |
| | M | 15492 | 23589 | 8071 | 12343 | 7421 | 11246 | 52.27 | 52.93 | 51.54 |
| | F | 9859 | 11723 | 5235 | 6089 | 4624 | 5634 | 18.91 | 16.31 | 21.84 |
| Bhuj | P | 52873 | 65968 | 27620 | 34271 | 25253 | 31697 | 24.77 | 24.08 | 25.52 |
| | M | 36382 | 40492 | 19022 | 20961 | 17360 | 19531 | 11.30 | 10.19 | 12.51 |
| | F | 16491 | 25476 | 8598 | 13310 | 7893 | 12166 | 54.48 | 54.80 | 54.14 |
| Nakhatrana | P | 20685 | 21786 | 10706 | 11337 | 9979 | 10449 | 5.32 | 5.89 | 4.71 |
| | M | 20685 | 21786 | 10706 | 11337 | 9979 | 10449 | 5.32 | 5.89 | 4.71 |
| | F | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0.00 |
| Abdasa | P | 16052 | 18602 | 8404 | 9737 | 7648 | 8865 | 15.89 | 15.86 | 15.91 |
| | M | 16052 | 18602 | 8404 | 9737 | 7648 | 8865 | 15.89 | 15.86 | 15.91 |
| | F | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0.00 |
| Mandvi | P | 25312 | 27256 | 13067 | 14114 | 12245 | 13142 | 7.68 | 8.01 | 7.33 |
| | M | 19827 | 21075 | 10260 | 10917 | 9567 | 10158 | 6.29 | 6.40 | 6.18 |
| | F | 5485 | 6181 | 2807 | 3197 | 2678 | 2984 | 12.69 | 13.89 | 11.43 |
| Mundra | P | 13627 | 21623 | 7087 | 11206 | 6540 | 10417 | 58.68 | 58.12 | 59.28 |
| | M | 11852 | 18776 | 6145 | 9704 | 5707 | 9072 | 58.42 | 57.92 | 58.96 |
| | F | 1775 | 2847 | 942 | 1502 | 833 | 1345 | 60.39 | 59.45 | 61.46 |
| Gandhidham | P | 29356 | 45533 | 15387 | 23935 | 13969 | 21598 | 55.11 | 55.55 | 54.61 |
| | M | 6090 | 6754 | 3147 | 3516 | 2943 | 3238 | 10.90 | 11.73 | 10.02 |
| | M | 23266 | 38779 | 12240 | 20419 | 11026 | 18360 | 66.68 | 66.82 | 66.52 |

***Source: Census of India, Gujarat, 2001 & 2011, Registrar General of India***

Table 1.7 presents the changes in scheduled caste population by gender wise and by residence of the different taluka in the district.

## Table 1.7: Scheduled Caste Population in Kachchh District (2001-2011)

| State/ | P/ | SC Population | | | | | | % of Decadal Change | | |
|---|---|---|---|---|---|---|---|---|---|---|
| District/ | M/ | Total | | Rural | | Urban | | T | R | U |
| Taluka | F | 2001 | 2011 | 2001 | 2011 | 2001 | 2011 | 2001-2011 | | |
| GUJARAT | P | 3592715 | 4074447 | 1866283 | 2110331 | 1726432 | 1964116 | 13.41 | 13.08 | 13.77 |
| | M | 2180441 | 2281573 | 1127423 | 1176107 | 1053018 | 1105466 | 4.64 | 4.32 | 4.98 |
| | F | 1412274 | 1792874 | 738860 | 934224 | 673414 | 858650 | 26.95 | 26.44 | 27.51 |
| **Kachchh** | **P** | **185932** | **258859** | **95994** | **133224** | **89938** | **125635** | **39.22** | **38.78** | **39.69** |
| | **M** | **132435** | **170304** | **68039** | **87247** | **64396** | **83057** | **28.59** | **28.23** | **28.98** |
| | **F** | **53497** | **88555** | **27955** | **45977** | **25542** | **42578** | **65.53** | **64.47** | **66.70** |
| Lakhpat | P | 5273 | 6379 | 2744 | 3305 | 2529 | 3074 | 20.97 | 20.44 | 21.55 |
| | M | 5273 | 6379 | 2744 | 3305 | 2529 | 3074 | 20.97 | 20.44 | 21.55 |
| | F | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0.00 |
| Rapar | P | 20894 | 25296 | 10893 | 13046 | 10001 | 12250 | 21.07 | 19.76 | 22.49 |
| | M | 17531 | 21005 | 9112 | 10834 | 8419 | 10171 | 19.82 | 18.90 | 20.81 |
| | F | 3363 | 4291 | 1781 | 2212 | 1582 | 2079 | 27.59 | 24.20 | 31.42 |
| Bhachau | P | 14993 | 18213 | 7807 | 9417 | 7186 | 8796 | 21.48 | 20.62 | 22.40 |
| | M | 12296 | 14434 | 6376 | 7464 | 5920 | 6970 | 17.39 | 17.06 | 17.74 |
| | F | 2697 | 3779 | 1431 | 1953 | 1266 | 1826 | 40.12 | 36.48 | 44.23 |
| Anjar | P | 14101 | 20256 | 7247 | 10496 | 6854 | 9760 | 43.65 | 44.83 | 42.40 |
| | M | 9274 | 14637 | 4734 | 7588 | 4540 | 7049 | 57.83 | 60.29 | 55.26 |
| | F | 4827 | 5619 | 2513 | 2908 | 2314 | 2711 | 16.41 | 15.72 | 17.16 |
| Bhuj | P | 32159 | 43551 | 16520 | 22241 | 15639 | 21310 | 35.42 | 34.63 | 36.26 |
| | M | 24398 | 29146 | 12501 | 14815 | 11897 | 14331 | 19.46 | 18.51 | 20.46 |
| | F | 7761 | 14405 | 4019 | 7426 | 3742 | 6979 | 85.61 | 84.77 | 86.50 |
| Nakhatrana | P | 19519 | 25319 | 9957 | 12887 | 9562 | 12432 | 29.71 | 29.43 | 30.01 |
| | M | 19519 | 25319 | 9957 | 12887 | 9562 | 12432 | 29.71 | 29.43 | 30.01 |
| | F | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0.00 |
| Abdasa | P | 10331 | 13689 | 5306 | 6982 | 5025 | 6707 | 32.50 | 31.59 | 33.47 |
| | M | 10331 | 13689 | 5306 | 6982 | 5025 | 6707 | 32.50 | 31.59 | 33.47 |
| | F | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0.00 |
| Mandvi | P | 21145 | 27062 | 10784 | 13695 | 10361 | 13367 | 27.98 | 26.99 | 29.01 |
| | M | 17454 | 22296 | 8844 | 11231 | 8610 | 11065 | 27.74 | 26.99 | 28.51 |
| | F | 3691 | 4766 | 1940 | 2464 | 1751 | 2302 | 29.12 | 27.01 | 31.47 |
| Mundra | P | 13839 | 20311 | 7169 | 10616 | 6670 | 9695 | 46.77 | 48.08 | 45.35 |
| | M | 12543 | 17823 | 6495 | 9277 | 6048 | 8546 | 42.10 | 42.83 | 41.30 |
| | F | 1296 | 2488 | 674 | 1339 | 622 | 1149 | 91.98 | 98.66 | 84.73 |
| Gandhidham | P | 33678 | 58783 | 17567 | 30539 | 16111 | 28244 | 74.54 | 73.84 | 75.31 |
| | M | 3816 | 5576 | 1970 | 2864 | 1846 | 2712 | 46.12 | 45.38 | 46.91 |
| | F | 29862 | 53207 | 15597 | 27675 | 14265 | 25532 | 78.18 | 77.44 | 78.98 |

***Source: Census of India, Gujarat, 2001 & 2011, Registrar General of India***

A perusal of the table 1.7 reveals that Gandhidham taluka has the highest SC population (22.71%). The taluka is followed by Bhuj and Mandvi in this regard which account for 16.82 percent and 10.45 percent of the total scheduled caste population in the district.So far as gender wise changes in scheduled caste population in different talukas is concerned it can be noted from the table 1.7 that female population increased by about 75.31 percent in Gandhidham

taluka, followed by 45.35 percent in Mundra and 42.40 percent in Anjar taluka. Similar trend was found in case of increase of male population in different talukas. Overall female population increased by 39.69 and the male population by 38.78 percent in the district.Total scheduled caste population in the district is noted to have increased by 39.22 percent in 2011, over the data of 2001 census. The decadal growth of SC population in urban areas was recorded 65.53 percent. The taluka wise percentage share of SC population to total population of the district and taluka is shown in the table 1.8:

**Table 1.8: Taluka Wise Percentage Share of Scheduled Caste to Total Population of the District and Taluka (2001-2011)**

| Sr | Talukas | % share of SC Pop.to Total SC Pop. of the District | | % share of SC Pop. to Total Pop. of the Taluka | |
|---|---|---|---|---|---|
| | | 2001 | 2011 | 2001 | 2011 |
| | **Kachchh** | **100.00** | **100.00** | **11.74** | **12.37** |
| 1 | Lakhpat | 2.84 | 2.46 | 10.52 | 10.20 |
| 2 | Rapar | 11.24 | 9.77 | 10.55 | 11.64 |
| 3 | Bhachau | 8.06 | 7.04 | 10.14 | 9.79 |
| 4 | Anjar | 7.58 | 7.84 | 8.80 | 8.60 |
| 5 | Bhuj | 17.30 | 16.82 | 9.32 | 9.82 |
| 6 | Nakhtrana | 10.50 | 9.78 | 15.10 | 17.30 |
| 7 | Abdasa | 5.56 | 5.29 | 10.60 | 11.65 |
| 8 | Mandvi | 11.37 | 10.45 | 12.40 | 13.31 |
| 9 | Mundra | 7.44 | 7.85 | 16.67 | 13.26 |
| 10 | Gandhidham | 18.11 | 22.71 | 16.71 | 17.97 |

***Source: Census of India, Gujarat, 2001 & 2011, Registrar General of India***

It is evident from the table 1.8 that the highest SC population is found in Gandhidham with 18.11 percent of the total population of district during 2001 and it is followed by Bhuj and Mandvi taluka accounted 17.30 percent and 11.37 percent respectively. During the year 2011, the highest SC population is also found in Gandhidham with 22.71 percent of the total population of district and followed by Bhuj (16.82%) and Mandvi (10.45%) talukas. It is noticed that the decrease in SC population is found in all the talukas of district except Mundra and Gandhidham.On the other side the highest SC population from the total population of taluka is found in Gandhidham with 16.71 percent during the year 2001 and it is followed by Mundra and Nakhtrana taluka accounted 16.67 percent and 15.10 percent respectively where as the percentage share of SC population from total population of taluka is increased to 17.97 percent in Gandhidham taluka duringthe year 2011. It is followed by Nakhtrana (17.30%) and Mandvi (13.31%).

Similar information with regard to the scheduled tribe (ST) population in different taluka of the district is presented in table 1.9:

A cursory glance at the table 1.9 reveals that ST population in district has declined over the ten years time spam. The table reveals that Gandhidham taluka has the highest ST population (24.61%). The taluka is followed by Bhuj and Mandvi in this regard which account for 18.21

percent and a6.71 percent respectively of the total scheduled tribe population in the district during the year 2011.

**Table 1.9: Scheduled Tribe Population in Kachchh District (2001-2011)**

| State/ | P/ | ST Population | | | | | | % of Decadal Change | | |
|---|---|---|---|---|---|---|---|---|---|---|
| District/ | M/ | Total | | Rural | | Urban | | T | R | U |
| Taluka | F | 2001 | 2011 | 2001 | 2011 | 2001 | 2011 | 2001-2011 | | |
| GUJARAT | P | 7481160 | 8917174 | 3790117 | 4501389 | 3691043 | 4415785 | 19.20 | 18.77 | 19.64 |
| | M | 6866637 | 8021848 | 3471002 | 4042691 | 3395635 | 3979157 | 16.82 | 16.47 | 17.18 |
| | F | 614523 | 895326 | 319115 | 458698 | 295408 | 436628 | 45.69 | 43.74 | 47.81 |
| **Kachchh** | **P** | **130138** | **24228** | **67868** | **12825** | **62270** | **11403** | **-81.38** | **-81.10** | **-81.69** |
| | **M** | **106284** | **14287** | **55307** | **7629** | **50977** | **6658** | **-86.56** | **-86.21** | **-86.94** |
| | **F** | **23854** | **9941** | **12561** | **5196** | **11293** | **4745** | **-58.33** | **-58.63** | **-57.98** |
| Lakhpat | P | 2162 | 508 | 1113 | 260 | 1049 | 248 | -76.50 | -76.64 | -76.36 |
| | M | 2162 | 508 | 1113 | 260 | 1049 | 248 | -76.50 | -76.64 | -76.36 |
| | F | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0.00 |
| Rapar | P | 41935 | 682 | 21927 | 364 | 20008 | 318 | -98.37 | -98.34 | -98.41 |
| | M | 39274 | 417 | 20517 | 228 | 18757 | 189 | -98.94 | -98.89 | -98.99 |
| | F | 2661 | 265 | 1410 | 136 | 1251 | 129 | -90.04 | -90.35 | -89.69 |
| Bhachau | P | 27535 | 2122 | 14317 | 1101 | 13218 | 1021 | -92.29 | -92.31 | -92.28 |
| | M | 24899 | 1601 | 12941 | 836 | 11958 | 765 | -93.57 | -93.54 | -93.60 |
| | F | 2636 | 521 | 1376 | 265 | 1260 | 256 | -80.24 | -80.74 | -79.68 |
| Anjar | P | 10023 | 2557 | 5241 | 1370 | 4782 | 1187 | -74.49 | -73.86 | -75.18 |
| | M | 4936 | 2092 | 2555 | 1143 | 2381 | 949 | -57.62 | -55.26 | -60.14 |
| | F | 5087 | 465 | 2686 | 227 | 2401 | 238 | -90.86 | -91.55 | -90.09 |
| Bhuj | P | 14933 | 4413 | 7866 | 2316 | 7067 | 2097 | -70.45 | -70.56 | -70.33 |
| | M | 9824 | 1317 | 5118 | 712 | 4706 | 605 | -86.59 | -86.09 | -87.14 |
| | F | 5109 | 3096 | 2748 | 1604 | 2361 | 1492 | -39.40 | -41.63 | -36.81 |
| Nakhatrana | P | 6696 | 1422 | 3503 | 751 | 3193 | 671 | -78.76 | -78.56 | -78.99 |
| | M | 6696 | 1422 | 3503 | 751 | 3193 | 671 | -78.76 | -78.56 | -78.99 |
| | F | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0.00 |
| Abdasa | P | 5538 | 534 | 2850 | 299 | 2688 | 235 | -90.36 | -89.51 | -91.26 |
| | M | 5538 | 534 | 2850 | 299 | 2688 | 235 | -90.36 | -89.51 | -91.26 |
| | F | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0.00 |
| Mandvi | P | 8970 | 4048 | 4593 | 2126 | 4377 | 1922 | -54.87 | -53.71 | -56.09 |
| | M | 6156 | 3983 | 3184 | 2095 | 2972 | 1888 | -35.30 | -34.20 | -36.47 |
| | F | 2814 | 65 | 1409 | 31 | 1405 | 34 | -97.69 | -97.80 | -97.58 |
| Mundra | P | 4449 | 1979 | 2275 | 1056 | 2174 | 923 | -55.52 | -53.58 | -57.54 |
| | M | 3724 | 1867 | 1888 | 989 | 1836 | 878 | -49.87 | -47.62 | -52.18 |
| | F | 725 | 112 | 387 | 67 | 338 | 45 | -84.55 | -82.69 | -86.69 |
| Gandhidham | P | 7897 | 5963 | 4183 | 3182 | 3714 | 2781 | -24.49 | -23.93 | -25.12 |
| | M | 3075 | 546 | 1638 | 316 | 1437 | 230 | -82.24 | -80.71 | -83.99 |
| | F | 4822 | 5417 | 2545 | 2866 | 2277 | 2551 | 12.34 | 12.61 | 12.03 |

***Source: Census of India, Gujarat, 2001 & 2011, Registrar General of India***

It is also noticed that in all the taluka, the ST population decreased with 81.38 percent during the year 2001-2011. The rural ST population decreased with 86.56 percent whereas the urban ST population decreased with 58.33 percent. On the other side the male and female population also decreased with 81.10 and 81.69 percent respectively in the district.

The taluka wise percentage share of ST population to total population of the district and taluka is shown in the table 1.10:

**Table 1.10: Taluka Wise Percentage Share of Scheduled Tribe to Total Population of the District and Taluka (2001-2011)**

| Sr | Talukas | % share of ST Pop. to Total ST Pop. of the District | | % share of ST Pop. to Total Pop. of the Taluka | |
|---|---|---|---|---|---|
| | | 2001 | 2011 | 2001 | 2011 |
| | Kachchh | 100.00 | 100.00 | 8.22 | 1.16 |
| 1 | Lakhpat | 1.66 | 2.10 | 4.31 | 0.81 |
| 2 | Rapar | 32.22 | 2.81 | 21.18 | 0.31 |
| 3 | Bhachau | 21.16 | 8.76 | 18.62 | 1.14 |
| 4 | Anjar | 7.70 | 10.55 | 6.25 | 1.09 |
| 5 | Bhuj | 11.47 | 18.21 | 4.33 | 1.00 |
| 6 | Nakhtrana | 5.15 | 5.87 | 5.18 | 0.97 |
| 7 | Abdasa | 4.26 | 2.20 | 5.68 | 0.45 |
| 8 | Mandvi | 6.89 | 16.71 | 5.26 | 1.99 |
| 9 | Mundra | 3.42 | 8.17 | 5.36 | 1.29 |
| 10 | Gandhidham | 6.07 | 24.61 | 3.92 | 1.82 |

***Source: Census of India, Gujarat, 2001 & 2011, Registrar General of India***

It is evident from the table 1.10 that the highest ST population is found in Rapar with 32.22 percent of the total population of district during 2001 and it is followed by Bhachau and Bhuj taluka accounted 21.16 percent and 11.47 percent respectively. During the year 2011, the highest ST population is also found in Gandhidham with 24.61 percent of the total population of district and followed by Bhuj (18.21%) and Mandvi (16.71%) talukas. It is noticed that the decrease in ST population is found in Rapar, Bhachau and Abdasa talukas of district.On the other side the highest ST population from the total population of taluka is found in Rapar with 21.18 percent during the year 2001 and it is followed by Bhachau and Anjar taluka accounted 18.62 percent and 6.25 percent respectively where as the percentage share of ST population from total population of taluka is decreased in all the talukas of district.

## 1.8 Urban Population and Urbanization

According to 2011 census, the proportion of people living in urban areas in Kachchh was 34.82 percent against 42.59 percent in the state. Kachchh has four urban areas (2 Class I, 1 Class II, 3 Class III and 2 Class IV) accommodating 728535 persons (Census of India, 2011) which are concentrating in the eastern, central and in the south-eastern coastal areas.Share of urban population in Gujarat and Kachchh is shown in the table 1.11:

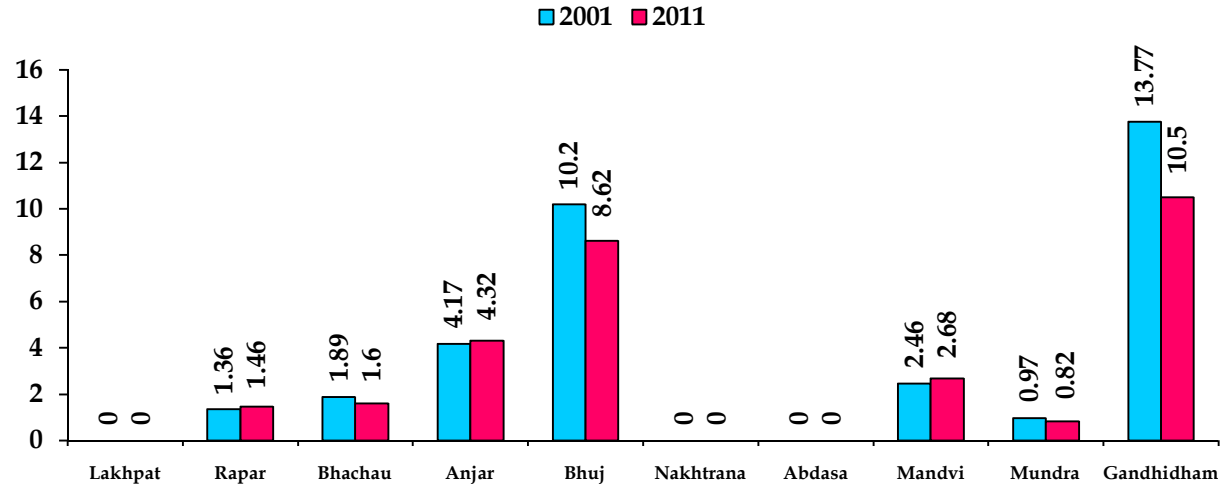
**Table 1.11: Percentage of Urban Population in Kachchh District (in Million)**

| Years | Kachchh | | Gujarat | |
|---|---|---|---|---|
| | Total Popu. | Urban Popu. | Total Popu. | Urban Popu. |
| 1961 | 0.70 | 0.14 | 20.63 | 5.32 |
| 1971 | 0.85 | 0.21 | 26.70 | 7.50 |
| 1981 | 1.05 | 0.27 | 34.09 | 10.60 |
| 1991 | 1.26 | 0.39 | 41.31 | 14.25 |
| 2001 | 1.58 | 0.47 | 50.67 | 18.93 |
| 2011 | 2.09 | 0.72 | 60.43 | 25.74 |

*Source: Census of India, Gujarat, 2001 & 2011, Registrar General of India*

In the light of rapid industrialization in the state it is shown from the table 1.11 that the share of urban population in Gujarat is increased to 25.74 million in 2011 i.e. 42.59 percent of total population of the state. Kachchh region is experiencing rapid industrialization which may lead to rapid urbanization and therefore the urban population increased to 0.72 million during 2011 from 0.47 million during the year 2001. The urbanization in various talukas of Kachchh district during 2001 and 2011 is shown in the figure 1.1:

**Figure 1.1: Urbanization in Kachchh District (2001-2011) (in percentage)**




*Source: Census of India, Gujarat, 2001 & 2011, Registrar General of India*

Presently, Gandhidham is the largest urban centre in the region with a population of 13.77 percent from the total population of the district during the year 2011 and is the centre for commerce and industry. The city was planned and established to accommodate migrants from Sindh in Pakistan during partition of India. Being closely linked to the Kandla port and the Special Economic Zone in Kandla and as the major centre in the NH8A corridor, Gandhidham is a rapidly growing city. Bhuj the district head quarter of Kachchh is the second largest in the region with a population of 213514 and is also a growing city. Anjar and Mandvi are other two important towns in the region in terms of population. Although Bhachau and Mundra exhibit smaller population sizes, but are important and growing towns due to infrastructure, investments, newly found economic dynamism and port related activities.

## 1.9 Sex Ratio

Traditionally, sex ratio in the region has been higher than the same for Gujarat. From 1911 to 1971 sex ratio of the district was above 1000 but since then ratio is changing and in 2011 it became 908, which is still slightly less than the state's data at 919. It may be attributable to increase in migration of male workers to the region for port and road transportation related activities and extensive out migration of households to Mumbai and other places in India. The sex ratio for the year 2001 and 2011 is shown in the table 1.12:

**Table 1.12: Taluka Wise Sex Ratio of Kachchh District (2001-2011)**

| Sr | Taluka | 2001 | | | 2011 | | |
|---|---|---|---|---|---|---|---|
| | | Total | Rural | Urban | Total | Rural | Urban |
| | Gujarat | 920 | 945 | 880 | 919 | 949 | 880 |
| | **Kachchh** | **942** | **953** | **917** | **908** | **911** | **901** |
| 1 | Lakhpat | 928 | 928 | - | 938 | 938 | - |
| 2 | Rapar | 928 | 926 | 945 | 957 | 954 | 974 |
| 3 | Bhachau | 932 | 937 | 908 | 900 | 922 | 825 |
| 4 | Anjar | 941 | 946 | 934 | 909 | 896 | 930 |
| 5 | Bhuj | 947 | 965 | 920 | 943 | 964 | 921 |
| 6 | Nakhtrana | 968 | 968 | - | 968 | 968 | - |
| 7 | Abdasa | 960 | 960 | - | 915 | 915 | - |
| 8 | Mandvi | 988 | 997 | 959 | 956 | 951 | 970 |
| 9 | Mundra | 962 | 965 | 945 | 705 | 682 | 868 |
| 10 | Gandhidham | 892 | 880 | 894 | 877 | 906 | 873 |

***Source: Census of India, Gujarat, 2001 & 2011, Registrar General of India***

The table 1.12 shows that during the year 2001, the highest sex ratio is found in Mandvi with 988 females per 1000 males and it is followed with Nakhtrana (968) and Mundra (962) taluka. But in 2011 the highest sex ratio is shifted to Nakhtrana i.e. 968 sex ratio and it is followed with Rapar (957) and Mandvi (956) taluka.It is also noticed from the table that the rural sex ratio is highest than urban sex ratio. The highest sex ratio in rural area was found in Mandvi taluka i.e. 997 during the year 2001 but in the year 2011 it is shifted to Mandvi with 968 females per 1000 males.The sex ratio for 0-6 age group is shown in the table 1.13:

The table 1.13 shows that during the year 2001, the highest sex ratio is found in Lakhpat with 949 females per 1000 males and it is followed with Mandvi (937) and Rapar (935) taluka. But in 2011 the highest sex ratio is found in Lakhpat i.e. 940 sex ratio and it is followed with Rapar and Mandvi with 931 sex ratio.It is also noticed from the table that the rural sex ratio is highest than urban sex ratio. The highest sex ratio in rural area was found in Lakhpat taluka i.e. 949 during the year 2001 but in the year 2011, the highest sex ratio is also found in Lakhpat with 940 females per 1000 males.

**Table 1.13: Taluka Sex Ratio Wise of 0-6 Years Age-group in Kachchh District**

| Sr | Taluka | 2001 | | | 2011 | | |
|---|---|---|---|---|---|---|---|
| | | Total | Rural | Urban | Total | Rural | Urban |
| | Gujarat | 883 | 906 | 837 | 890 | 914 | 852 |
| | **Kachchh** | **922** | **927** | **906** | **921** | **926** | **910** |
| 1 | Lakhpat | 949 | 949 | - | 940 | 940 | - |
| 2 | Rapar | 935 | 934 | 942 | 931 | 933 | 913 |
| 3 | Bhachau | 923 | 936 | 863 | 920 | 923 | 907 |
| 4 | Anjar | 905 | 919 | 883 | 916 | 911 | 925 |
| 5 | Bhuj | 914 | 913 | 918 | 925 | 932 | 914 |
| 6 | Nakhtrana | 932 | 932 | - | 922 | 922 | - |
| 7 | Abdasa | 910 | 910 | - | 910 | 910 | - |
| 8 | Mandvi | 937 | 932 | 954 | 931 | 930 | 933 |
| 9 | Mundra | 923 | 929 | 884 | 930 | 935 | 895 |
| 10 | Gandhidham | 908 | 935 | 901 | 902 | 921 | 899 |

***Source: Census of India, Gujarat, 2001 & 2011, Registrar General of India***

## 1.10 Migration

Migration plays a very important role in rapid urbanization. During 1991-2001, the population of urban Gujarat increased from 14.2 million to 18.9 million i.e. an increase of 4.7 million. Out of this, an increase of 2 million is due to migration from rural areas of Gujarat and other states.

A similar rural-urban migration is also applicable to Kachchh. But Kachchh also has a history of migrations both in and out. Being a border district and a land of errant rains as well as frequent natural disasters, it has experienced movement of people at different point of times. According to the old Kachchh Gazetteer, "from the uncertainty of rainfall and from the pushing, vigorous character of the people, there is much more migration in Cutch than in most parts of Bombay Presidency. The higher class of traders, among Hindus, Bhatias, Oswal Vanias, and Lohanas, and among Musalmans, Khojas, Memans, and Bohoras, are always ready to leave their homes in search of employment. Many of them have permanently settled in Bombay. And among the young men, a very large number, both of Hindus and Musalmans, leaving their families in Cutch go to push their fortunes not only in Bombay and other parts India, but in Persia, Arabia, Africa and China. Many of them amass considerable fortunes and return to spend their gains in jewellery, feasts, house, and temple building, and purchase of land …….Mass displacement of people took place just after independence. Kachchh received in 1947-48 as many as 10884 persons displaced from Sindh, for whose settlement a new township was established at Gandhidham"(District Gazetteer: Kachchh, 1971).

There are incidences of seasonal migration too. But after considerable amount of investments in infrastructure during past decade and subsequent industrialisation in the district, in the recent years people from various parts of the country have migrated to urban areas and other intensive activity areas.

## 1.11 Total Workforce

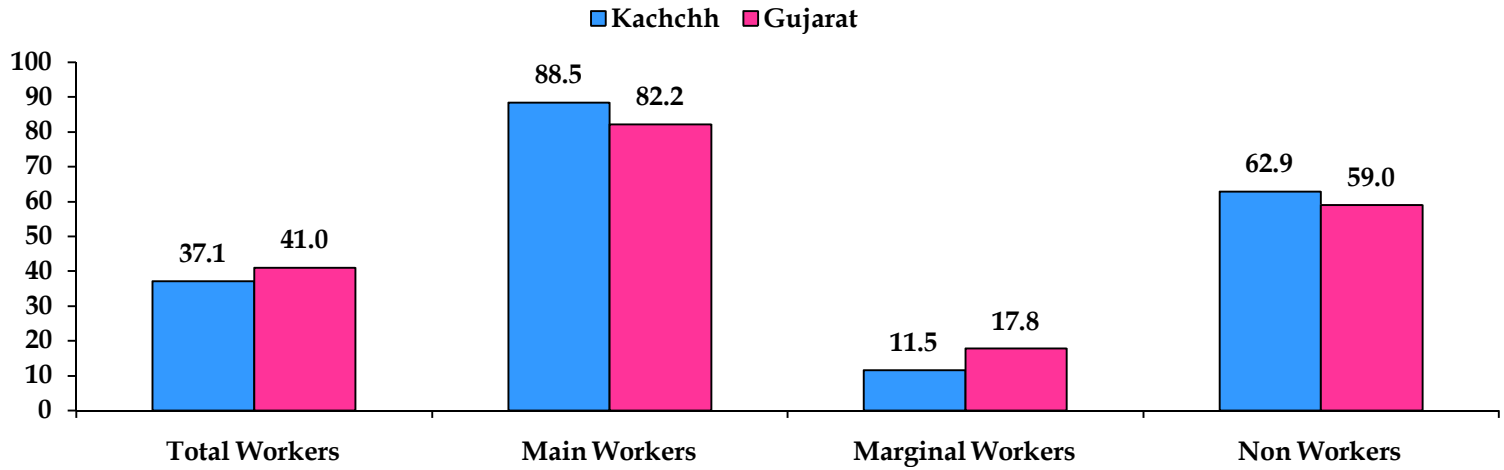
The total workforce of Kachchh district is presented in the table 1.14:

**Table 1.14: Total Workforce in Kachchh District (2011)**

| Category | Kachchh District | | | | | | Gujarat State | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total | | Male | | Female | | Total | | Male | | Female | |
| | No | % | No | % | No | % | No | % | No | % | No | % |
| Total Workers | 776228 | 37.1 | 624704 | 57.0 | 151524 | 15.2 | 24767747 | 41.0 | 18000914 | 57.2 | 6766833 | 23.4 |
| Main Workers | 686937 | 88.5 | 591369 | 94.7 | 95568 | 63.1 | 20365374 | 82.2 | 16567695 | 92.0 | 3797679 | 56.1 |
| Marginal Workers | 89291 | 11.5 | 33335 | 5.3 | 55956 | 36.9 | 4402373 | 17.8 | 1433219 | 8.0 | 2969154 | 43.9 |
| Non Workers | 1316143 | 62.9 | 472033 | 43.0 | 844110 | 84.8 | 35671945 | 59.0 | 13490346 | 42.8 | 22181599 | 76.6 |
| **Total Population** | **2092371** | | **1096737** | | **995634** | | **60439692** | | **31491260** | | **28948432** | |

*Source: Census of India, Gujarat, 2001 & 2011, Registrar General of India*

**Figure 1.2: Comparison of Workforce of Kachchh District with Gujarat State (2011)**




*Source: Census of India, Gujarat, 2001 & 2011, Registrar General of India*

The table 1.14 shows that out of total workers population in the state which is 24767747, the district has 776228 workers. The percentage of total workers to total population in the district is 37.1 percent.

## 1.12 Roads and Transport

Roads constitute the major chunk of transport infrastructure through a network of national highways, state highways and district roads. The road length is presented in the table 1.15:

**Table 1.15: Road Length in Kachchh District (2013) (in km)**

| Sr | Roads | Kachchh | Gujarat | % of State |
|---|---|---|---|---|
| 1 | National Highway | 412 | 3251 | 12.67 |
| 2 | State Highway | 1581 | 18255 | 8.66 |
| 3 | District Roads | 1489 | 29996 | 4.96 |
| 4 | Village Approach Roads | 1886 | 23855 | 7.91 |
| 5 | Total Unsurfaced Roads | 339 | 2220 | 15.27 |
| | **Total** | **5707** | **77577** | **7.36** |
| | Road Length per 100 Sq. Km. | **13** | **40** | |
| | Road Length per Lakh Population | **260** | **153** | |

***Source: Statistical Abstract, Gujarat, 2015***

The table 1.15 presents that out of the total national highway of 3251 km in the state, the district shares 412 km which is the 12.67 percent of the state. The length of state highway is 18255 km maintained by PWD, of this district shares 1581 km. The total length of district roads in the state is 29996 km. Of this district shares a total of 1489 km of district roads which is 4.96 percent of total district roads.

## 1.13 Educational Institutions

District has educational institutions of all categories; general education, professional colleges and teacher training schools. The educational institutions are shown in the table 1.16:

**Table 1.16: Number of Educational Institutions in Kachchh District (2014-15)**

| Sr | Particulars | Kachchh | Gujarat | % of State |
|---|---|---|---|---|
| 1 | Primary/Pre Primary Schools | 48 | 2145 | 2.24 |
| 2 | High Schools | 177 | 4424 | 4.00 |
| 3 | Higher Secondary Schools | 171 | 6387 | 2.68 |
| 4 | University | 1 | 41 | 2.44 |
| 5 | Arts, Science & Commerce College | 24 | 860 | 2.79 |
| 6 | Teachers Training Schools | 6 | 327 | 1.83 |

***Source: Statistical Abstract, Gujarat, 2015***

The table 1.16 shows that the district represents 48 primary and pre primary schools which is 2.24 percent of the total. Out of 41 universities in the state, Kachchh represents only one university. Other important categories in the district are high schools with 4.00 percent, higher

secondary schools with 2.68 percent, arts, science and Commerce College 2.79 percent and teachers training schools are 1.83 percent in the district.

## 1.14 Health Related Institutions

Health related institutions in the district are mainly 2 government hospitals, 15 community health centers, 34 primary health centers, 210 sub centers and 12 ayurvedic hospitals. The health institutions are shown in the table 1.17:

**Table 1.17: Number of Health Infrastructure in Kachchh District (2014-15)**

| Sr | Particulars | Kachchh | Gujarat | % of State |
|---|---|---|---|---|
| 1 | Community Health Centers | 15 | 322 | 4.65 |
| 2 | Primary Health Centers | 52 | 1300 | 4.00 |
| 3 | Sub Centers | 251 | 7274 | 3.45 |
| 4 | Government Hospitals | 3 | 81 | 3.70 |
| 5 | Ayurvedic Hospitals (Govt.) | 12 | 308 | 3.90 |
| 6 | Homeopathic Hospitals (Govt.) | 8 | 202 | 3.96 |

***Source: Statistical Abstract, Gujarat, 2015***

The table 1.17 illustrates that the share of community health center in Kachchh district is 4.65 percent of the state total whereas the share of public health center is 4.00 percent of state total. The district consists of 3 government hospitals, 12 ayurvedic hospitals and 8 homeopathic hospitals which is 3.70 percent, 3.90 percent and 3.96 percent of state total.

## 1.15 Condition of Houses

The condition of houses in Kachchh district is presented in the table 1.18:

The table 1.18 shows that out of 12181718 houses 8193176 are in good condition, 3801407 houses are in livable condition while 187135 houses are dilapidated which is 67.26 percent, 31.21 percent and 1.54 percent respectively in district. The material of roof is presented in the table 1.19:

The table 1.19 shows that out of 444761 houses, 11433 has thatched roof which is 2.57 percent of the total houses. On the other side out of total houses plastic, tiles, brick, metal sheet and concrete roof is found in 0.85 percent, 38.59 percent, 1.68 percent, 13.51 percent and 42.69 percent houses respectively.

**Table 1.18**
**Condition of Houses in Kachchh District (2011)**

| Condition | Kachchh | | Gujarat | |
|---|---|---|---|---|
| | No | % | No | % |
| Good | 8193176 | 67.26 | 333462 | 74.98 |
| Livable | 3801407 | 31.21 | 106518 | 23.95 |
| Dilapidated | 187135 | 1.54 | 4781 | 1.07 |
| **Total** | **12181718** | **100.00** | **444761** | **100.00** |

***Sources: Housing Tables, Gujarat, 2011***

**Table 1.19: Material of Roof in Houses (2011)**

| Sr | Material | Kachchh | | Gujarat | |
|---|---|---|---|---|---|
| | | No | % | No | % |
| 1 | Thatched | 11433 | 2.57 | 186678 | 1.53 |
| 2 | Plastic | 3771 | 0.85 | 59221 | 0.49 |
| 3 | Tiles | 171617 | 38.59 | 3835738 | 31.49 |
| 4 | Brick/Stone | 7462 | 1.68 | 440639 | 3.62 |
| 5 | Metal Sheets | 60082 | 13.51 | 2300893 | 18.89 |
| 6 | Concrete | 189872 | 42.69 | 5346603 | 43.89 |
| 7 | Any Other | 524 | 0.12 | 11946 | 0.10 |
| | **Total** | **444761** | **100.00** | **12181718** | **100.00** |

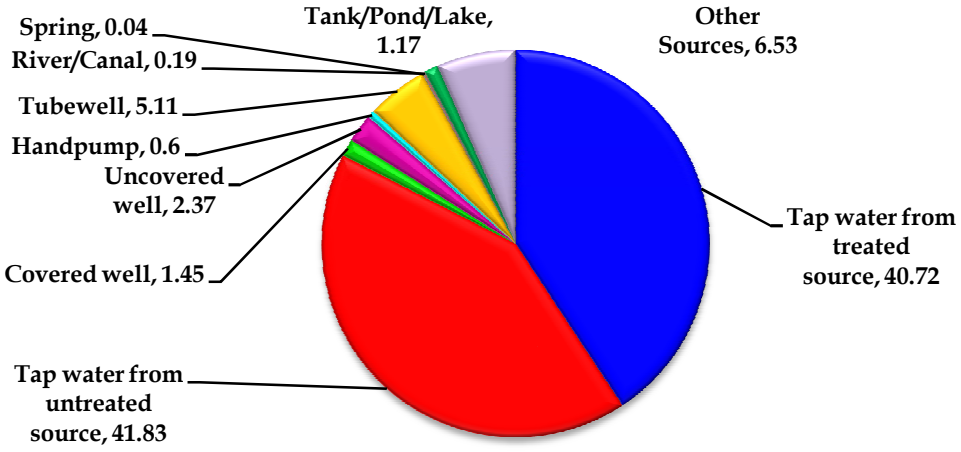
*Sources: Housing Tables, Gujarat, 2011*

## 1.16 Source of Drinking Water

The main source of water for Gujarat is surface water. The state has 185 river basins and the available quota of water in the state is 55608 million cubic meters, out of which 38100 million cubic meters is surface water, which is only 2% of the entire quota of surface water of the country. Moreover, the available quota of surface water is also not distributed properly. Gujarat, Saurashtra and Kachchh have water resources of 89%, 9% and 2% respectively, against the total geographical area of these regions which is 45%, 31% and 24% respectively. The underground water resources of state are 17508 million cubic meters.

The source of drinking water for households of Kachchh district is given in the figure 1.3:

**Figure 1.3**
**Percentage of Households with different Source of Drinking Water (2011)**




*Source: Census of India, Gujarat, 2011, Registrar General of India*

It is evident from the figure 1.3 that out of total 444761 households, only 40.72 percent households are having facility of drinking water from tap water from treated source, 41,83 percent households depends on tap water from untreated source and rest of the households depends on wells, handpump, tubewell, spring, rivers, canals, tanks and other sources. The taluka wise drinking water tap connectivity in rural area are shown in the table 1.20:

**Table 1.20: Taluka Wise Drinking Water Tap Connectivity (Rural)**

| Sr | Talukas | Total households | Household Connectivity | Connectivity in % |
|---|---|---|---|---|
| 1 | Lakhpat | 11820 | 8081 | 68.37 |
| 2 | Rapar | 42617 | 29518 | 69.26 |
| 3 | Bhachau | 37926 | 25738 | 67.86 |
| 4 | Anjar | 24434 | 22628 | 92.61 |
| 5 | Bhuj | 76128 | 54359 | 71.40 |
| 6 | Nakhtrana | 31401 | 25381 | 80.83 |
| 7 | Abdasa | 23203 | 17102 | 73.71 |
| 8 | Mandvi | 30454 | 27011 | 88.69 |
| 9 | Mundra | 16862 | 15731 | 93.29 |
| 10 | Gandhidham | 11294 | 8051 | 71.29 |
| | **Total** | **306139** | **233600** | **76.31** |

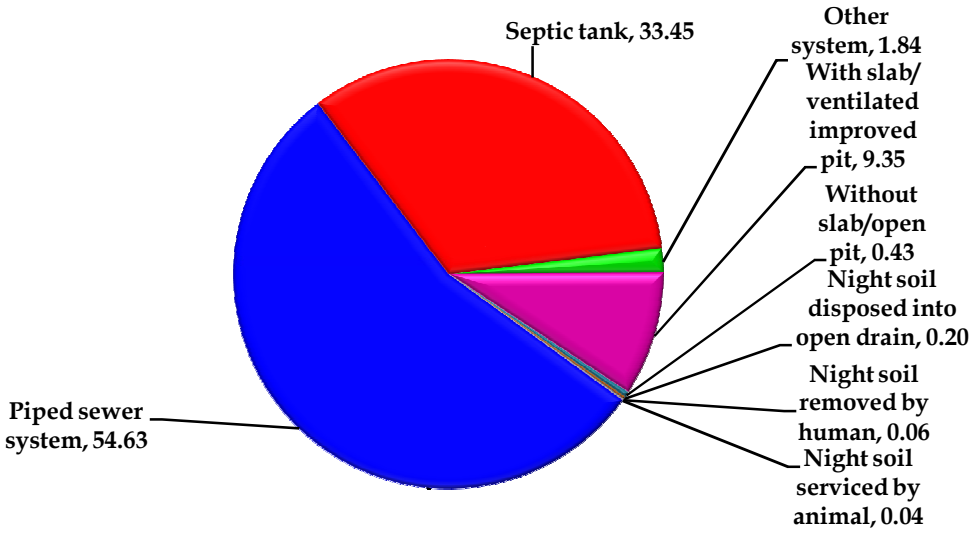
*Source: Gujarat Water Supply & Sewerage Board (GWSSB)*

The table 1.20 reveals that out of total 306139 households in Kachchh district, 233600 households had water tap connectivity which is 76.31 percent households of total households. The highest 93.29 percent households with water tap connectivity were found in Mundra taluka and it was followed by Anjar taluka with 92.61 percent. The lowest water tap connectivity was found in Bhachau taluka with 67.86 percent.

## 1.17 Sanitation within Premises

Premises have been defined as a building along with the lands and/or common places attached to it. A premise may not always have a compound wall or fencing. In such cases, the land or the common places as the case may be, available to the household is treated as 'Premises'.The latrine facility is available to only 63.01% households within the premises. The categories of latrine facility available to households within premises are shown in the figure 1.4:

**Figure 1.4**
**Percentage of Households having Latrine Facilities within the Premises (2011)**




*Source: Census of India, Gujarat, 2011, Registrar General of India*

It is stated from the table 1.4 that 89.92 percent households have flush/pour latrine connected to piped sewer, septic tank and other system. If the pour flush latrine was connected to a system of sewer pipes that collected both human excreta and waste water and removed them from the household environment. Sewerage system consisted of facilities for collection, pumping, treated and disposing of human excreta and waste water. This system is usually underground and is maintained by the public authorities.

## 1.18 Lighting Facility

The lighting facilities in Kachchh district is shown in the table 1.21:

It is evident from the table 1.21 that during the year 2011, 90.41 percent households have lighting facility whereas in Kachchh district this percent is 90.68 percent, which is more than the state district. On the other side 87.43 percent rural households are having electricity but in urban areas 96.52 percent are using electricity.

**Table 1.21: Lighting Facilities in Kachchh District (2011)**

| State/ District | T/R/U | No. of HHs | Electricity | | Other | | No Lighting | |
|---|---|---|---|---|---|---|---|---|
| Gujarat | T | 12181718 | 11013214 | 90.4 | 1051901 | 8.6 | 116903 | 1.0 |
| | R | 6765403 | 5749274 | 85.0 | 923839 | 13.7 | 92293 | 1.4 |
| | U | 5416315 | 5263943 | 97.2 | 127762 | 2.4 | 24610 | 0.5 |
| Kachchh | T | 444761 | 403294 | 90.7 | 36666 | 8.2 | 4801 | 1.1 |
| | R | 285991 | 250045 | 87.4 | 32337 | 11.3 | 3609 | 1.3 |
| | U | 158770 | 153249 | 96.5 | 4329 | 2.7 | 1192 | 0.8 |

*Source: Census of India, Gujarat, 2001 & 2011, Registrar General of India*

## 1.19 Livestock

The livestock population in the district consists of cattle 580860, buffaloes 374351, sheep 570698 and goat with 396458 numbers. It is presented in the table 1.22:

**Table 1.22: Livestock Population in Kachchh District (2012)**

| Sr | Livestock | Kachchh | % of District | Gujarat | % of State |
|---|---|---|---|---|---|
| 1 | Cattle | 580860 | 30.00 | 9983953 | 5.82 |
| 2 | Buffalo | 374351 | 19.34 | 10385574 | 3.60 |
| 3 | Sheep | 570698 | 29.48 | 1707750 | 33.42 |
| 4 | Goat | 396458 | 20.48 | 4958972 | 7.99 |
| 5 | Horses & Ponies | 2140 | 0.11 | 18264 | 11.72 |
| 6 | Pigs | 361 | 0.02 | 4279 | 8.44 |
| 7 | Camel | 7967 | 0.41 | 30415 | 26.19 |
| 8 | Others | 3279 | 0.17 | 38993 | 8.41 |
| **Total** | | **1936114** | **100.00** | **27128200** | **7.14** |

*Source: 19th Livestock Census, Kachch, 2012*

The table 1.22 describes that during the year 2012 the total livestock in state is 27128200 whereas in Kachchh district it is 1936114 which is 7.14 percent of the state total. The percentage of cattle and buffalo is 30.0 percent and 19.34 percent respectively of the total district livestock.

## 1.20 Position of Kachchh District in Human Development

Human Development Report, Gujarat, published in 2004, illustrated the position of districts of the state. Human development index is a summary measure of human development that measures the average achievement in a country or in a state. It comprises of four measures viz. (1) Human Development Measure – 1 (HDM-1) that measures opportunities/capabilities of individuals; (2) Gender Development Measure – 1 (GDM-1) that measures the level of opportunities/capabilities available to women in relation to men; (3) Gender Equity Index (GEI) that measures gender inequality; and (4) Human Development Measure -2 (HDM-2) that measures macro level capabilities and opportunities available to both men and women and includes macro capabilities relating to macro processes and structures.

**Table 1.23: Human Development Measure-1 (HDM-1)**

| Indicators | Income | Education | Health | Housing | Participation | HDM-1 | HDI |
|---|---|---|---|---|---|---|---|
| Kachchh Index | 0.247 | 0.556 | 0.394 | 0.271 | 0.442 | 0.382 | 0.399 |
| Gujarat Index | 0.241 | 0.744 | 0.710 | 0.266 | 0.434 | 0.479 | 0.565 |
| **Kachchh Rank** | 1 | 23 | 21 | 18 | 12 | 18 | 17 |
| Gujarat Rank | 6 | 6 | 9 | 2 | 10 | 6 | 6 |

***Source: Human Development Report, Gujarat, 2004***

According to Gujarat Human Development Report, 2004; Kachchh ranked 17th in human development index with 0.399 value out of 25 districts (as in 2004) in Gujarat as per table 1.22. In terms of Human Development Measure (HDM-1), Kachchh ranked 18th in the state with 0.382 index value. Kachchh ranked 1st in income but ranked 23rd in education with 0.247 and 0.556 index values respectively. The condition of housing is not so good in 2004 as it ranked 18th with only 0.271 index value but Kachchh ranked 21st in health with 0.394 index value.

**Table 1.24: Gender Development Measure-1 (GDM-1)**

| Indicators | Income | Education | Health | Housing | Participation | GDM-1 | GDI |
|---|---|---|---|---|---|---|---|
| Kachchh Index | 0.441 | 0.532 | 0.539 | 0.296 | 0.402 | 0.442 | 0.504 |
| Gujarat Index | 0.208 | 0.736 | 0.710 | 0.266 | 0.348 | 0.454 | 0.551 |
| **Kachchh Rank** | 4 | 23 | 19 | 18 | 9 | 18 | 15 |
| Gujarat Rank | 4 | 6 | 9 | 2 | 12 | 6 | 6 |

***Source: Human Development Report, Gujarat, 2004***

As per table 1.24, Gender Development Measure-1 (GDM-1) Kachchh ranked 18th in the state with 0.442 index value which is far behind from state index value 0.454. Kachchh which is from bottom of districts in overall GDM-1 is 23rd in education index, 19th in health and 18th in housing index. As per table 1.25, Gender Empowerment Index (GEI) Kachchh ranked 11th in the state with 0.718 index value which is more than state index value 0.682. Kachchh ranked 20th in income index with 0.639 but it ranked 21st in education and 2nd in health with 0.714 and 1.125 index value respectively.

**Table 1.25: Gender Empowerment Index (GEI)**

| Indicators | Income | Education | Health | Participation | GEI |
|---|---|---|---|---|---|
| Kachchh Index 2001 | 0.639 | 0.714 | 1.125 | 0.392 | 0.718 |
| Gujarat Index 2001 | 0.509 | 0.804 | 1.055 | 0.358 | 0.682 |
| **Kachchh Rank 2001** | 20 | 21 | 2 | 14 | 11 |
| Gujarat Rank 2001 | 4 | 9 | 8 | 10 | 8 |

***Source: Human Development Report, Gujarat, 2004***

**Table 1.26: Human Development Measure-2 (HDM-2)**

| Indicators | Environment | Basic Services | Regional Equality | Patriarchy | HDM-2 |
|---|---|---|---|---|---|
| Kachchh Index | 0.057 | 0.481 | 0.555 | 0.654 | 0.437 |
| Gujarat Index | 0.315 | 0.692 | 0.769 | 0.563 | 0.585 |
| **Kachchh Rank** | 23 | 9 | 20 | 3 | 23 |
| Gujarat Rank | 13 | 2 | 9 | 9 | 6 |

***Source: Human Development Report, Gujarat, 2004***

As per table 1.26, Human Development Measure-2 (HDM-2) Kachchh ranked 23rd in the state with 0.437 index value. In environment Kachchh ranked 23rd and 9th in basic services with 0.057 and 0.481 value, however Kachchh ranked 20th in regional equality with 0.555 index value.

## 1.21 Success Stories

A success story of Bhimasar village and the Madhapur village famous for its richness is described in the box 1.1& box 1.2:

### *BOX 1.1: Success Story: Pani Thiye Panjo*

*"Pani thiye panjo", (loosely translated from Kachhchi means 'lets this water be ours!') is a multi institutional programme that attempts to address issues of water scarcity through local source augmentation in Abdasa taluka, Kachchh district, Gujarat. The immediate aim is to ensure adequate, safe drinking water access to 80% of the population of the taluka (135 out of 166 villages) through development of sustainable water resources at village level over a period of 5 years. This will ideally transform local sources into primary ones with the external sources as backup. The project was conceived by Sahjeevan, an NGO based in Bhuj, Kachchh and is being implemented by a group of NGOs, namely Vivekanand Research and Training Institute (VRTI), Kutch Fodder Fruit & Forest Trust (KFFFT), Manav Kalyan Trust (MKT) and Abdasa Mahila Vikas Sangathan (AMVS). In a classic example of community public & civil society partnership, WASMO (Water and Sanitation Management Organisation), an autonomous organisation established by the Government of Gujarat in 2002, joined hands and committed funds to support the hardware costs (also some administrative ones) involved in programme implementation. The programme is embedded in a collaborative institutional framework that pools in financial resources from the State and Private Institutions and decentralized knowledge management frameworks from CSO's. They developed an innovative mechanism called Parabs. Parabs are local youth who were trained by the PTP consortium on basic geo-hydrology and water resource planning. They became barefoot engineers on whom Pani Samitis could bank upon for technical guidance. Approximately 30 technical proposals prepared by Pani Samitis with assistance from Parabs were sanctioned without any additional queries, making it a success story by itself. Apart from strengthening Pani Samitis the PTP consortium worked on a number of outreach and training programmes cutting across different stake holder groups. By the end of 2009, the programme had reached 79 villages, created 10 barefoot engineers, revived 54 dug wells and 26 ponds benefitting approximately 70,000 villagers in the water scarce regions of Kachchh.*

## *BOX 1.2: Success Story*
## *Bhimasar Village – Nirmal Gram*

*Bhimasar in Kachchh district- a Nirmal Gram with a difference Can you imagine that a village once ruined in the devastating earthquake of 2001 was honoured with the prestigious Nirmal Gram Puraskar in the year 2004, merely three years after the tragedy. The area that has rebuilt to such a level of excellence is none other than Bhimasar, a village in the Anjar taluka of Kachchh district.*

*Today it boasts of a Gram panchayat office that can easily pass off as a corporate infrastructure and also have sustainable sanitation system, beautiful gardens and clean tar roads with pavement and plantations. It is difficult to fathom that this is the same village that was once ruined in the destructive earthquake of 26th January 2001 and faced enormous damage, besides the loss of 18 lives. Though nature did unleash unprecedented panic, what it could not shatter was the indomitable spirit of the people residing in this area. It was this spirit, coupled with the support of a big Industrial group that helped villagers to not just build back, but rebuild even better than before, ensuring that the village remained clean, beautiful and green thereafter. The efforts paid rich dividend when the village was honored with the Nirmal Gram Puraskar in the year 2007-08. Today, all the 839 houses of the village, as well as the schools and anganwadis have toilets and courtyards, along with underground drainage system. Roads are surfaced with tar, have pavements on both the sides and road side plantation is done in a planed manner.*

*The residential area is mostly pucca and is built uniformly with good space in front. This small village also has a well-designed building for scheduled bank and post office, along with 5 community halls for cultural and social activities. The area has been further beautified with aesthetically landscaped gardens, which are adorned with decorative trees and flowers. Not to forget the road-crossings that give the feel of Gandhinagar's structures and are as well-laid with flowers, green grass and botanical trees as these circles are in the capital of Gujarat. Even Panchayat office looks like a corporate office and is situated amidst gardens. All this is possible because gardeners have been employed to maintain the greenery. Besides, a water tanker regularly waters the gardens at the cost of Rs. 44 thousand per annum. Smt. Laxmiben Hubal is the Sarpanch and Shri Ghelubhai Zaroo is the Deputy Sarpanch of this village. Shri Zaroo lists the professional tax paid by the industrial units surrounding the village as the main source of revenue that helps the panchayat in the maintenance work and ensures that the never say die spirit of community gets the necessary wings of development.*

## *BOX 1.3: Success Story*
## *Madhapur is Asia's Richest Village*

*With more than Rs. 1,800 crore fixed deposits in the banks, the Madhapur village near Bhuj in Gujarat is the Asia's richest village according to a latest survey. The Madhapur village has a population of 15,000 and the per capita deposit averages Rs. 12 lakh, which is the highest ever in entire Asia.*

*Majority of the kith and kin of the Madhapur villagers reside in foreign countries in Africa, the US and UK and the Gulf. Close to 65% of the NRIs from the village, mostly Patels, make huge remittances to their families in the village and these remittances are deposited in post offices and nationalized banks, with Rs. 900 crore deposits in 10 nationalized banks in the village. Even the women work and the interest of their deposits remain intact.*

*Interestingly, most of the NRIs are workers and building contractors living abroad and their remittances result in Madhapur becoming the Asia's richest village. These workers, upon returning to Madhapur, become builders and spread their wealth. However, despite being the richest, the villagers lead a very simple life and still live in old, ancestral houses.*


❑❑❑

CHAPTER - II

# Literacy and Education


पहाड़ों का पहाड़ा

# Chapter 2

# Literacy and Education

*"Education is the basic tool for the development of consciousness and reconstitution of society."*
*- Mahatma Gandhi*

## 2.1 Introduction

Education as an investment in human resource plays an important role among the factors which contribute to economic growth (Kothari, 1966). Government of India has recognized the crucial and vital role of education in development. The constitution of India (Article 45) states that the state shall endeavour to provide, within a period of ten years from the commencement of the constitution, for free and compulsory education for all children until they complete the age of fourteen years. Several policies lay emphasis on the role and importance of education as a means of development and consider education sector for investment for the development of the country (Government of India, 1986).

Educational policies and programmes lay stress on the promotion of mass education; comprising of universal primary and upper primary education and adult education. Equity in education by gender, caste and socio economic groups and reduction in regional disparities in educational development remains the thrust of educational planning and policy in the country (Tilak, 2006). Generally education is considered as a powerful means to reduce poverty and achieve economic growth. It increases individual earning potential and productivity of residents, enhances capacity to participate in development process, promotes a healthy population which is a major determinant of democracy and builds competitive economy (World Bank, 2006 UNESCO, 2007). Education also reduces the incidence of social problems (drug abuse, crime, etc.), all which can weigh heavily on the economy.

**BOX 2.1**
**Widening Horizans**

*"I'm learning how to read, so that I can read my own destiny."*
*"I'm learning how to write, so that I can write my own destiny."*
*"I'm learning how to count, so that I can keep an account of my rights."*

*Ministry of Human Resource Development (1993a)*

The education system in India attempts to impart ability to read, write, and count through a formal system. It also imparts knowledge and skills primarily to increase productivity of workers in the formal economy. Those earning their livelihood from unskilled work, mainly in the informal sector, find little utility for this education and get discouraged. Thus, the current education system has created a wide gap between the formal and the unskilled informal system of the economy. Education when viewed more broadly, imparts values, ideas, attitudes, and

aspirations that are in the best interests of a nation, a community, an individual, and above all, in the interests of humankind. Education is considered as an empowerment and a key to poverty eradication.

The Yashpal Committee, which was set up to look at reducing the burden of schooling in children, states that the problem in Indian education started with the mixing up of the terms 'knowledge' and 'information'. Education ought to be about concept formation and growth of capacity for theory building, rather than about possession of vast amounts of information. When one says that the child has knowledge about some- thing then it can mean that (a) the child has information about something, or (b) the child has information and can reproduce the information about something, or (c) the child has understood something and can apply this understanding in a different context. Since understanding is confused with 'acquisition of facts' (Ministry of Human Resource Development 1993b), neither the curriculum nor the examination system provides any scope for understanding and application of concepts learnt.

**BOX 2.2**
**Education in the Indian Constitution**

*Education is in the concurrent list of the Indian Constitution. This concurrency gives an operational meaning to the National Policy on Education (NPE), 1986, which envisages "a meaningful partnership between the Centre and the states." NPE places clear responsibility regarding the national and integrative character of education, quality and standards, human resource planning, research and advanced study, culture, and international aspects of education on the central government.*

*Article 45 of the Constitution enjoins that "the State shall endeavour to provide, within a period of ten years from the commencement of this Constitution, for free and compulsory education for all children until they complete the age of fourteen years." Article 46 states that, "the State shall promote with special care the educational and economic interests of the weaker sections of the people, and in particular, of the Scheduled Castes and the Scheduled Tribes and shall protect them from social injustice and all forms of exploitation."*

Education is to achieve knowledge; knowledge is understanding and not acquisition of facts and repeating them. Education is not just amassing skills, but acquisition of critical skills to address life concerns. Education should empower the vast majority of the population in their struggle against deprivation. Education in India is mistaken for literacy, whereas the latter is only a stepping stone, and in the context of India, an important one, to the former.

The recent 83rd Constitutional Amendment establishes elementary education as a fundamental right of all citizens of India (Box 2.2).

- Drèze and Sen (1995) view the importance of education in five distinct ways. These are: **Intrinsic importance**: Being educated is an achievement in itself and the opportunity to be educated, is important for a person's effective freedom.
- **Instrumental personal role:** Education can help a person do many things (other than being educated) that are also valuable. For example, education can lead to economic opportunities and income can lead to increase in other choices in life.

- **Instrumental social role:** Education can lead to awareness about social needs and participation in the collective decision making process.
- **Instrumental process role:** Process of schooling can have other benefits, for example, schooling can bring children in contact with others, which can broaden their horizons. This can be of help in the process of doing away with social evils like untouchability, caste, communal divide, and so on.
- **Empowerment and distributive role:** Education can lead to disadvantaged groups getting enabled to resist oppression, getting organized politically and getting a fairer deal. The redistributive effects can be important not only between social groups and house- holds, but also within the family, especially with respect to gender inequalities.

The other importance of education is as follows:

- **Elementary education is a fundamental right:** This was already one of the directive principles in the Constitution. The 83rd Amendment makes elementary education a fundamental right.
- **Elementary education is a popular demand:** Contrary to the common notion that poor parents are not interested in their children's education, demand for elementary education is not yet universal but is fairly widespread and growing rapidly.
- **Education forms human capital:** Poor parents find no better prospects for economic advancement than education of their children. This reason drives families to value education more for boys than for girls.
- **Education is for joy of learning:** This drives children to school, provided that they find a supportive environment.
- **Education for individual well-being:** Education may help in achieving good health, improving self-esteem, increasing knowledge, increasing ability to venture into new terrain and environments, increasing access to micro-credit, increasing ability to participate in public life including politics, and so on.
- **Education is for social progress:** An educated person of a deprived community can assist the whole community, for example. An educated mother is more likely to send her children, and particularly a girl child, to school than an uneducated mother.
- **Education leads to political participation:** Widespread illiteracy is one of the major causes of lack of participation of masses in the democratic process. Other causes are eco- nomic insecurity and lack of organization of poor people to participate effectively in the democratic process. Vast masses of the population, for example, are unable to participate in a policy process because they are uninformed about it, which emanates from their inability to read.

This chapter will discuss these issues in the context of educational attainments in Kachchh district. This discussion is based on secondary data.

## 2.2 Literacy: Levels, Differences and Trends

Literacy is one of the important indicators of social development. Knowledge is linked with literacy and a formal education. And economic growth is related to degree of literacy. Thus

literacy is one of the important needs of life as well as future development of a particular region. The district wise literacy rate of Gujarat is shown in the table 2.1:

**Table 2.1: District wise Literacy Rate of Gujarat (2001 & 2011)**

| Sr. | Districts | 2001 | | 2011 | |
|---|---|---|---|---|---|
| | | Literacy Rate | Rank | Literacy Rate | Rank |
| | **Gujarat** | **69.14** | **-** | **78.03** | **-** |
| 1 | Kachchh | 59.79 | 22 | 70.59 | 23 |
| 2 | Banaskantha | 50.97 | 25 | 65.32 | 25 |
| 3 | Patan | 60.36 | 20 | 72.30 | 20 |
| 4 | Mehsana | 75.22 | 5 | 83.61 | 6 |
| 5 | Sabarkantha | 66.65 | 14 | 75.79 | 13 |
| 6 | Gandhinagar | 76.59 | 3 | 84.16 | 4 |
| 7 | Ahmedabad | 79.50 | 1 | 85.31 | 2 |
| 8 | Surendranagar | 61.61 | 18 | 72.13 | 21 |
| 9 | Rajkot | 74.16 | 8 | 80.96 | 9 |
| 10 | Jamnagar | 66.48 | 15 | 73.65 | 18 |
| 11 | Porbandar | 68.62 | 12 | 75.78 | 14 |
| 12 | Junagadh | 67.78 | 13 | 75.80 | 12 |
| 13 | Amreli | 66.09 | 17 | 74.25 | 17 |
| 14 | Bhavnagar | 66.20 | 16 | 75.52 | 15 |
| 15 | Anand | 74.51 | 6 | 84.37 | 3 |
| 16 | Kheda | 71.96 | 9 | 82.65 | 7 |
| 17 | Panchmahals | 60.92 | 19 | 70.99 | 22 |
| 18 | Dohad | 45.15 | 26 | 58.82 | 26 |
| 19 | Vadodara | 70.76 | 10 | 78.92 | 10 |
| 20 | Narmada | 59.86 | 21 | 72.31 | 19 |
| 21 | Bharuch | 74.41 | 7 | 81.51 | 8 |
| 22 | The Dangs | 59.65 | 23 | 75.16 | 16 |
| 23 | Navsari | 75.83 | 4 | 83.88 | 5 |
| 24 | Valsad | 69.15 | 11 | 78.55 | 11 |
| 25 | Surat | 77.60 | 2 | 85.53 | 1 |
| 26 | Tapi | 57.00 | 24 | 68.26 | 24 |

***Source: Census of India, Gujarat, Registrar General of India, 2001 & 2011***

The table 2.1 shows that the literacy status of Kachchh district is not so good. It ranks 22nd in 2001 whereas the rank increased to 23rd in 2011.

An attempt has been made to analyze taluka wise male-female literacy rates, overall literacy rates and rural-urban gaps in literacy in Kachchh district of Gujarat. Kachchh is educationally backward because of high rural-urban gap of 15.9 percent and high gender gap of 18.5 percent in 2011. Information regarding literacy rates and gender gap has been given in the table 2.2 and figure 2.1.

**Table 2.2: Status of Literacy Rate (%) in Kachchh District**

| | 2001 | | | | 2011 | | | |
|---|---|---|---|---|---|---|---|---|
| | Total | Rural | Urban | Regional Gap | Total | Rural | Urban | Regional Gap |
| **Person** | 59.8 | 53.5 | 74.0 | 20.5 | 70.6 | 64.9 | 80.8 | 15.9 |
| **Male** | 70.4 | 65.1 | 81.9 | 16.8 | 79.4 | 75.1 | 87.1 | 12.0 |
| **Female** | 48.6 | 41.3 | 65.3 | 24.0 | 60.9 | 53.7 | 73.9 | 20.2 |
| **Gender Gap** | 21.8 | 23.8 | 16.6 | - | 18.5 | 21.4 | 13.2 | - |

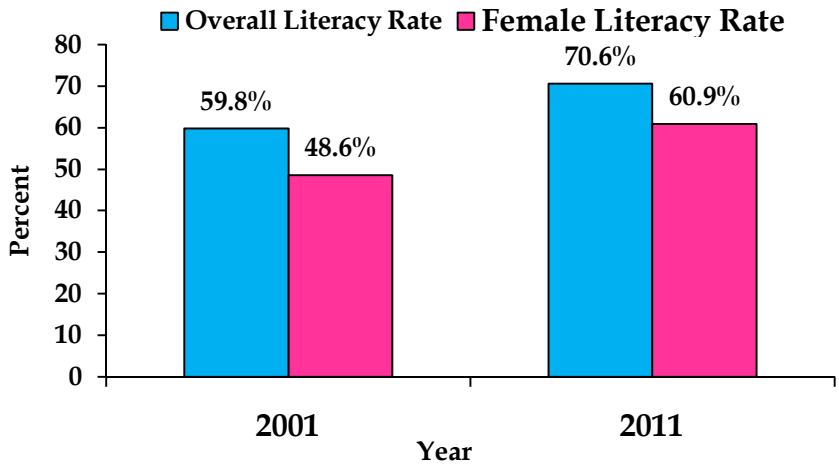
*Source: Census of India, Gujarat, Registrar General of India, 2001 & 2011*

The table 2.2 shows that overall rural male literacy of Kachchh district was 65.1 percent, urban male literacy was 81.9 percent and rural-urban male literacy gap was 16.8 percent in 2001 whereas rural female literacy was 41.3 percent, urban female literacy was 65.3 percent and rural-urban female literacy gap was 24.0 percent but however in 2011 male rural literacy increases to 75.1 percent and urban male literacy to 87.1 percent. On the other side the female rural literacy also increases to 53.7 percent and urban female literacy increases to 73.9 percent. In 2011 male literacy regional gap decreases to 12.0 percent whereas in female literacy rural-urban gap decreases to 20.2 percent. Almost same and high gender gap has been reported in rural as well as urban areas. However, high rural gender gap was noticed in 2001. Although it decreased from 23.8 percent to 21.4 percent in 2011 but still the rural gender gap is high than the urban gender gap.The overall literacy rate and female literacy rate is presented in the figure 2.1:

The figure 2.1 reported 59.8 percent overall literacy rates in 2001 whereas it increases to 70.6 percent in 2011, although the female literacy rate also increases to 60.9 percent in 2011 from 48.6 percent in 2001.

The quality of population is intimately connected with education. Education plays a vital role in the betterment of socio economic conditions, cultural life of the people, and in empowering a person to better face challenges of life. Literacy rate thus serves the purpose of a handy and ready indicator of development. The taluka wise literacy rates in the district have been presented in table 2.3 and gender gap in male female literacy is presented in the figure 2.2:

**Figure 2.1: Overall Literacy Rate and Female Literacy Rate in Kachchh District(2001 & 2011)**




*Source: Census of India, Gujarat, , 2001 & 2011*

**Table 2.3: Taluka Wise Literacy Rate in Kachchh District (2001 & 2011)**

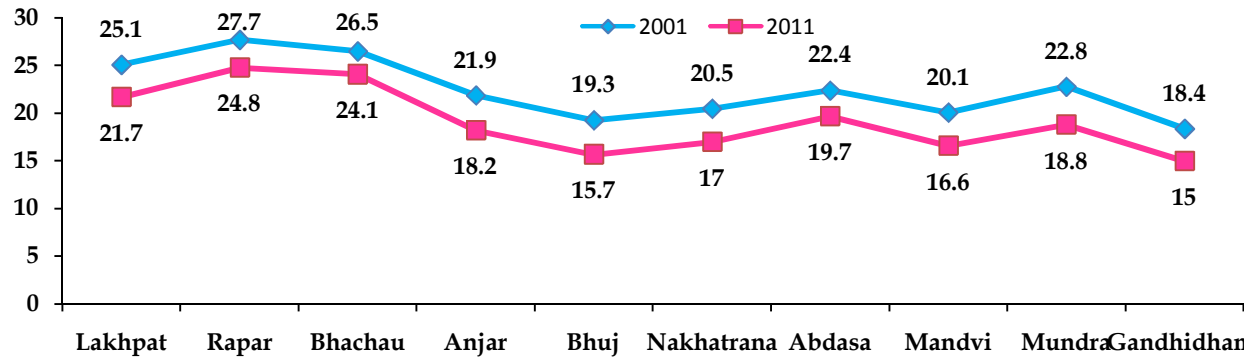
| Sr | Talukas | 2001 | | | | 2011 | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Male | Female | Total | GAP | Male | Female | Total | GAP |
| 1 | Lakhpat | 61.8 | 36.7 | 49.8 | 25.1 | 72.6 | 50.9 | 62.1 | 21.7 |
| 2 | Rapar | 53.1 | 25.4 | 39.8 | 27.7 | 66.9 | 42.1 | 54.8 | 24.8 |
| 3 | Bhachau | 60.0 | 33.5 | 47.2 | 26.5 | 71.5 | 47.4 | 60.1 | 24.1 |
| 4 | Anjar | 72.3 | 50.4 | 61.6 | 21.9 | 81.3 | 63.1 | 72.7 | 18.2 |
| 5 | Bhuj | 72.9 | 53.6 | 63.5 | 19.3 | 80.8 | 65.1 | 73.2 | 15.7 |
| 6 | Nakhatrana | 75.9 | 55.4 | 65.8 | 20.5 | 79.5 | 62.5 | 71.1 | 17.0 |
| 7 | Abdasa | 68.5 | 46.1 | 57.5 | 22.4 | 76.7 | 57.0 | 67.3 | 19.7 |
| 8 | Mandvi | 80.0 | 59.9 | 70.0 | 20.1 | 83.2 | 66.6 | 75.1 | 16.6 |
| 9 | Mundra | 74.8 | 52.0 | 63.6 | 22.8 | 84.9 | 66.1 | 77.4 | 18.8 |
| 10 | Gandhidham | 78.1 | 59.7 | 69.5 | 18.4 | 84.9 | 69.9 | 77.9 | 15.0 |
| | **District** | **70.4** | **48.6** | **59.8** | **21.8** | **79.4** | **60.9** | **70.6** | **18.5** |
| | **Gujarat** | **79.7** | **57.8** | **69.1** | **21.9** | **85.8** | **69.7** | **78.0** | **16.1** |

*Source: Census of India, Gujarat, Registrar General of India, 2001 & 2011*

A cursory glance on the table 2.3 revealed significant progresses in the literacy status of the people in Kachchh district, during 2001-2011 periods. In fact between these two censuses the literacy rate in Kachchh district has gone up to 78.0 percent in 2011 from 69.1 percent in 2001 census. The status of females remains educationally backward as compared to males. The situation of women seems to be disturbing in some of the taluka of the district. The female-male literacy gap has reduced by 3.3 percent in Kachchh district during period of ten years.

During the year 2011, a significant variation was observed in the total literacy rate among the talukas. The total literacy rate was found highest (77.9%) in Gandhidham taluka and lowest (54.8%) in Rapar taluka. In other taluka it ranged between 60.1 to 77.4 percent. Among women the highest rate of literacy was 69.9 percent in Gandhidham taluka followed by Mandvi (66.6%), Mundra (66.1%), Bhuj (65.1%), so on so forth. Lowest literacy rate among females was the found in Rapar taluka (42.1%).

**Figure 2.2: Taluka Wise Gender Gap in Male Female Literacy Rate (2001 & 2011)**




*Source: Census of India, Gujarat, Registrar General of India, 2001 & 2011*

The figure 2.2 shows the analysis of male female gap in literacy rate across blocks showed wide variations. This gap worked out to be highest 24.8 percent in Rapar taluka followed by Bhachau (24.1%), Lakhpat (21.7%), Abdasa (19.7%) etc. in 2011.

It is worth mentioning here in figure 2.2 that the gap in male female literacy rate has reduced considerably in almost all the taluka of the district between 2001 and 2011 census period. This gap in male female literacy has notably narrowed down to the highest extent (3.7%) in Anjar taluka; by 3.6 percent in Bhuj taluka; by 3.5 percent in Nakhatrana and Mandvi taluka. This implies that the maximum improvement in female literacy was observed in educationally most backward taluka of the district. The general improvement in female literacy status has been made possible on account of favourable government policy for female education, general awareness among the parents for female literacy and growth in educational infrastructure and increased educational outlays. Positive impact on literacy has also been noticed among the traditionally deprived and disadvantaged groups of the society in the district.

**BOX 2.3**
**Government Initiatives for Education**

*Schemes Adopted to Enhance Education*

- *Primary Education*
- *Vidhyalaxmi Bond Yojna*
- *Vidhyadeep Yojna*
- *Hon. Chief Minister's The Girl Child Development Program*
- *School-Health Check-up Program*
- *Computer Training at the Primary Educational level*

*Secondary and Higher Secondary Department*

- *Diploma for the teachers to improve their teaching skills ( Teacher's Training Program )*
- *Common Entrance Test for admission*
- *Teleconference for the students of Std. 10th and 12th.*

*Technical Education*

*Self employment programs for the women*

## 2.3 Rural-Urban Differences

The literacy rates for rural and urban areas are different for different districts and one can observe a large variations in the gap of literacy rates of rural and urban area. The taluka wise rural urban literacy rate is shown in the table 2.4:

The table 2.4 presents that rural literacy rate of Kachchh district was 53.5 percent in 2001 but during the year 2011 it increased to 64.9 percent. On the other side urban literacy rate of Kachchh district was 74.0 percent in 2001 whereas it increases to 80.8 percent in 2011. It shows that regional gap of literacy was 20.5 in 2001 whereas it decreased to 15.9 in 2011.The rural urban literacy gap is shown in the figure 2.3:

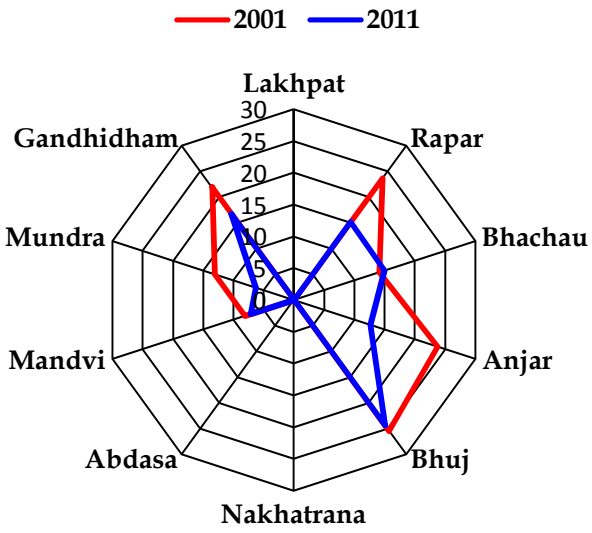
The figure 2.3 illustrates that the rural urban literacy gap was high in 2001 but due to educational schemes implemented by government, the gap reduces in 2011.

**Table 2.4: Taluka Wise Rural Urban Literacy Rate in Kachchh District(2001 & 2011)**

| Sr. | Talukas | 2001 | | | 2011 | | |
|---|---|---|---|---|---|---|---|
| | | Rural | Urban | GAP | Rural | Urban | GAP |
| 1 | Lakhpat | 49.8 | - | 0 | 62.1 | - | 0 |
| 2 | Rapar | 37.0 | 60.7 | 23.7 | 52.7 | 67.9 | 15.2 |
| 3 | Bhachau | 44.7 | 58.9 | 14.2 | 56.9 | 71.9 | 15.0 |
| 4 | Anjar | 51.3 | 75.1 | 23.8 | 67.9 | 80.5 | 12.6 |
| 5 | Bhuj | 53.0 | 78.5 | 25.5 | 61.0 | 85.4 | 24.4 |
| 6 | Nakhatrana | 65.8 | - | 0 | 71.1 | - | 0 |
| 7 | Abdasa | 57.5 | - | 0 | 67.3 | - | 0 |
| 8 | Mandvi | 67.9 | 76.0 | 8.1 | 73.3 | 80.4 | 7.1 |
| 9 | Mundra | 61.5 | 74.6 | 13.1 | 76.5 | 82.8 | 6.3 |
| 10 | Gandhidham | 51.3 | 73.2 | 21.9 | 63.1 | 79.8 | 16.7 |
| | **District** | **53.5** | **74.0** | **20.5** | **64.9** | **80.8** | **15.9** |
| | **Gujarat** | **61.3** | **81.8** | **20.5** | **71.7** | **86.3** | **14.6** |

*Source: Census of India, Gujarat, Registrar General of India, 2001 & 2011*

**Figure 2.3: Rural Urban Literacy Gap**




*Source: Census of India, Gujarat, Registrar General of India, 2001 & 2011*

## 2.4 Literacy Rate by Social Groups

The scheduled caste and scheduled tribe literacy rate by sex and residence is presented in the table 2.5:

The table 2.5 shows the increasing trend of literacy rate among scheduled caste and scheduled tribes. In 2011 the literacy rate of SC males increased to 84.9 percent from 76.8 percent in 2001. On the other side the SC female literacy increased to 62.5 percent in 2011 from 47.8 percent in 2001 whereas the ST male literacy rate increased to 67.9 percent in 2011 from 46.1 percent in 2001. On the other side the ST female literacy increased to 48.1 percent in 2011 from 21.9 percent

in 2001. It reveals that although the literacy rate is increasing among both the groups but still the female literacy rate is low in both the social groups.

**Table 2.5: Scheduled Caste and Scheduled Tribe Literacy Rate by Sex and Residence, (2001-2011)**

| | Scheduled Caste | | | | | | Scheduled Tribe | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2001 | | | 2011 | | | 2001 | | | 2011 | | |
| | Total | Male | Female | Total | Male | Female | Total | Male | Female | Total | Male | Female |
| **Total** | 57.3 | 72.9 | 40.7 | 69.5 | 81.3 | 56.9 | 28.3 | 40.1 | 15.3 | 53.9 | 63.5 | 42.9 |
| **Rural** | 54.9 | 71.2 | 37.9 | 67.0 | 79.4 | 54.1 | 26.8 | 38.7 | 13.8 | 50.5 | 60.4 | 39.1 |
| **Urban** | 62.9 | 76.8 | 47.8 | 74.2 | 84.9 | 62.5 | 34.8 | 46.1 | 21.9 | 58.5 | 67.9 | 48.1 |

*Source: Census of India, Gujarat, Registrar General of India, 2001 & 2011*

## 2.5 Number of Schools

Our development experience very clearly suggests the importance of and the role played by education in socio economic upliftment of the people. Kachchh district of the state, fortunately, has been an educational centre of the state. However, in the changing times, the emphasis on the type and pattern of education has changed a lot. As a result different new fields have emerges in this sphere.

There has been a spectacular increase in elementary education in the post-independence period in Kachchh district of the state. The brief account of total number of schools is given in the table 2.6:

The table 2.6 reported that there were 1890 total schools in 2009-10 from which 1741 was government schools and 149 were private schools. But in 2014-15, the number of schools increased to 2087 from which 1765 were government schools and 322 were private schools.

The percentage classification of schools is shown in the figure 2.4:

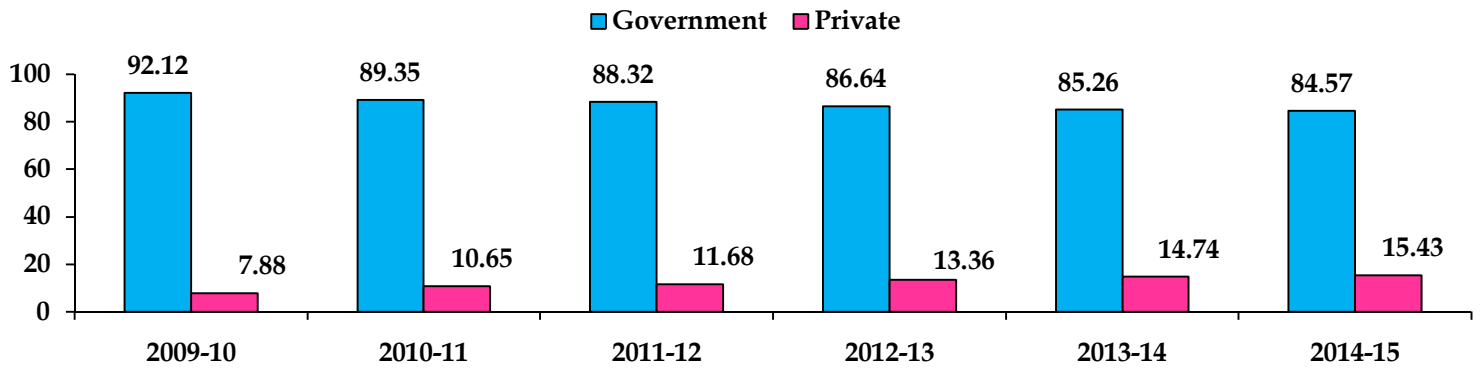
The figure 2.4 shows that in 2009-10 the percentage of government schools was 92.12 percent whereas the percentage of private schools was only 7.88 percent. But in 2014-15 the percentage of government schools decreases to 84.57 percent whereas the percentage of private schools increased to 15.43 percent. It shows that still the district depends largely on government schooling. Private efforts are not forthcoming. The taluka wise number of educational institutions is shown in the table 2.7:

**Table 2.6: Number of Schools in Kachchh District (2009-10 to 2014-15)**

| School | 2009-10 | | 2010-11 | | 2011-12 | | 2012-13 | | 2013-14 | | 2014-15 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | Govt | Pvt | Govt | Pvt | Govt | Pvt | Govt | Pvt | Govt | Pvt | Govt | Pvt |
| Primary upper primary and secondary only | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 30 | 0 | 40 | - | 40 |
| Primary with upper primary secondary and higher secondary | 10 | 16 | 6 | 24 | 6 | 29 | 6 | 417 | 7 | 42 | 7 | 43 |
| Primary | 230 | 36 | 194 | 29 | 165 | 36 | 155 | 41 | 160 | 57 | 139 | 55 |
| Primary with upper primary | 1497 | 87 | 1517 | 145 | 1550 | 157 | 1567 | 145 | 1579 | 152 | 1602 | 170 |
| Upper primary secondary and higher secondary | 0 | 2 | 0 | 2 | 1 | 2 | 1 | 4 | 2 | 6 | 3 | 7 |
| Upper Primary Only | 3 | 8 | 2 | 5 | 2 | 4 | 1 | 6 | 4 | 6 | 9 | 7 |
| **Sub Total** | **1741** | **149** | **1719** | **205** | **1724** | **228** | **1731** | **267** | **1752** | **303** | **1765** | **322** |
| **Total** | **1890** | | **1924** | | **1952** | | **1998** | | **2055** | | **2087** | |

*Source: Gujarat Council of Elementary Education (SSA), Gandhinagar*

**Figure 2.4: Percentage Classification of Schools in Kachchh District (2009-10 to 2014-15)**




*Source: Gujarat Council of Elementary (SSA), Gandhinagar*

**Table 2.7: Taluka Wise Number of Educational Institutions in Kachchh (2011-12)**

| Sr | Taluka | Primary | Middle | Higher Secondary | Total |
|---|---|---|---|---|---|
| 1 | Lakhpat | 103 | 10 | 4 | 117 |
| 2 | Rapar | 287 | 21 | 6 | 314 |
| 3 | Bhachau | 172 | 17 | 8 | 197 |
| 4 | Anjar | 102 | 18 | 9 | 129 |
| 5 | Bhuj | 343 | 38 | 26 | 407 |
| 6 | Nakhatrana | 167 | 15 | 5 | 187 |
| 7 | Abdasa | 173 | 12 | 8 | 193 |
| 8 | Mandvi | 167 | 18 | 14 | 199 |
| 9 | Mundra | 103 | 17 | 5 | 125 |
| 10 | Gandhidham | 45 | 19 | 29 | 93 |
| | **Kachchh** | **1662** | **185** | **114** | **1961** |

***Source: District Statistical Outline Kachchh, 2011-12***

It is noted from the table 2.7 that the highest number of schools was found in Bhuj taluka with 407 schools and the lowest number of schools was found in Gandhidham taluka with 93 schools. The number of educational institutions according to area and population is presented in the table 2.8:

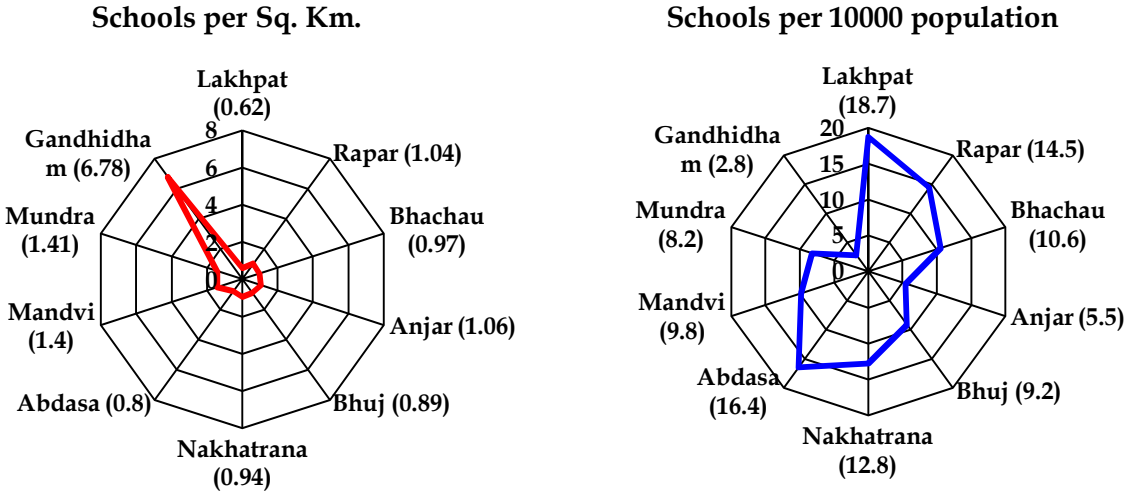
**Table 2.8: Number of Schools according to Area and Population**

| Sr | Taluka | Area (Sq. Km) | Population (2011 Census) | Number of Schools (2011-12) | Schools per Sq. Km | Schools per 10000 population |
|---|---|---|---|---|---|---|
| 1 | Lakhpat | 1886.06 | 62552 | 117 | 0.62 | 18.70 |
| 2 | Rapar | 3027.69 | 217315 | 314 | 1.04 | 14.45 |
| 3 | Bhachau | 2022.14 | 186035 | 197 | 0.97 | 10.59 |
| 4 | Anjar | 1215.80 | 235537 | 129 | 1.06 | 5.48 |
| 5 | Bhuj | 4581.23 | 443269 | 407 | 0.89 | 9.18 |
| 6 | Nakhatrana | 1987.32 | 146367 | 187 | 0.94 | 12.78 |
| 7 | Abdasa | 2405.44 | 117538 | 193 | 0.80 | 16.42 |
| 8 | Mandvi | 1425.38 | 203373 | 199 | 1.40 | 9.78 |
| 9 | Mundra | 888.05 | 153219 | 125 | 1.41 | 8.16 |
| 10 | Gandhidham | 137.18 | 327166 | 93 | 6.78 | 2.84 |
| | **Kachchh** | **19576.29** | **2092371** | **1961** | **1.00** | **9.37** |

***Source: District Statistical Outline Kachchh, 2011-12***

The table 2.8 reveals that the highest number of schools per sq. km. is found in Gandhidham with more than 6 schools whereas the lowest number of schools is found in Lakhpat taluka with less than one school. On the other side the highest number of schools per 10000 population is found in Lakhpat taluka with more than 18 schools per 10000 population but the lowest number of schools is found in Gandhidham taluka. It shows that although the area of Gandhidham is less but the population is enough so there is much pressure of population on education is high and in Lakhpat taluka the population pressure on education is less.The taluka wise schools per sq.km. and schools per 10000 population is shown in the figure 2.5:

**Figure 2.5: Schools per Sq. Km.& Schools per 10000 population**




*Source: District Statistical Outline Kachchh, 2011-12*

## 2.6 Numbers of Teachers

Teachers are perhaps the most important resource in a school. The number and quality of teachers have direct bearing on the educational output. The distribution of government and private teachers is shown in the table 2.9:

It is shown from the table 2.9 that in 2009-10, out of 9095 teachers, 7867 are government and rest 1228 teachers are private where as the total number of teachers increased to 12909 in 201-15. Out of this 8915 teachers are government and rest 3994 teachers are private. The classification of teachers is also presented in the figure 2.6:

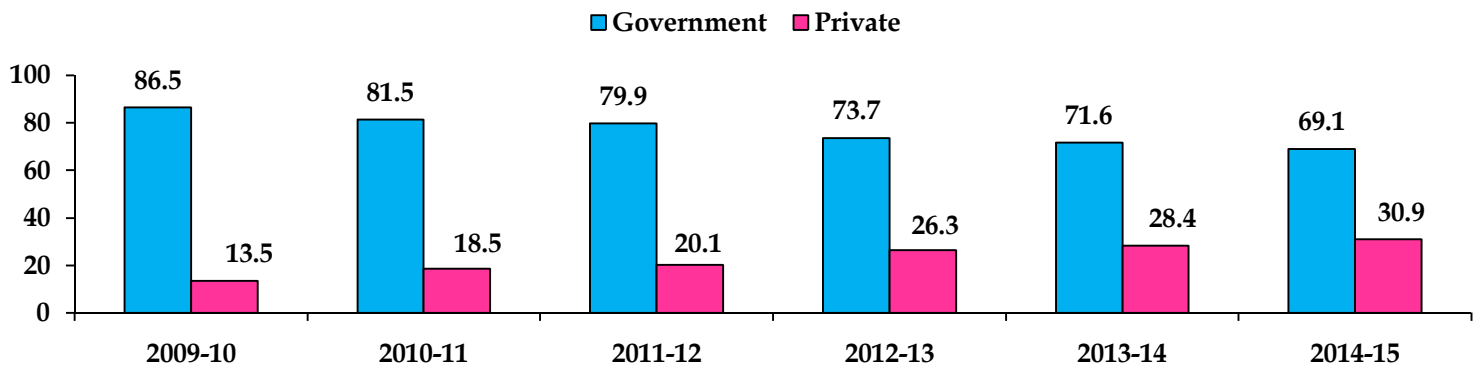
The figure 2.6 shows that in 2009-10 86.5 percent was government teachers while 13.5 percent was private teachers. But in 2014-15 the percentage of government teachers decreased to 69.1 percent while the percentage of private teachers increased to 30.9 percent. It is interesting to note that the percentage of government teachers is falling and the percentage of private teachers is rising.

**Table 2.9: Number of Teachers in Kachchh District**

| School | 2009-10 | | 2010-11 | | 2011-12 | | 2012-13 | | 2013-14 | | 2014-15 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | Govt | Pvt | Govt | Pvt | Govt | Govt | Govt | Pvt | Govt | Pvt | Govt | Pvt |
| Primary upper primary and secondary only | 14 | - | - | - | - | - | - | 419 | - | 605 | 153 | 458 |
| Primary with upper primary secondary and higher secondary | 78 | 144 | 66 | 329 | 67 | 373 | 70 | 978 | 145 | 987 | - | 1316 |
| Primary | 566 | 160 | 463 | 129 | 417 | 158 | 358 | 177 | 360 | 260 | 313 | 238 |
| Primary with upper primary | 7194 | 880 | 7806 | 1415 | 8204 | 1638 | 8166 | 1441 | 8364 | 1568 | 8338 | 1840 |
| Upper primary secondary and higher secondary | | 8 | | 6 | 8 | 7 | 11 | 24 | 21 | 74 | 48 | 100 |
| Upper primary Only | 15 | 36 | 9 | 17 | 7 | 13 | 3 | 33 | 15 | 38 | 45 | 42 |
| **Sub Total** | **7867** | **1228** | **8344** | **1896** | **8703** | **2189** | **8608** | **3072** | **8905** | **3532** | **8915** | **3994** |
| **Total** | **9095** | | **10240** | | **10892** | | **11680** | | **12437** | | **12909** | |

*Source: Gujarat Council of Elementary Education (SSA), Gandhinagar*

**Figure 2.6: Percentage Classification of Teachers in Kachchh District (Private/Government)**




*Source: Gujarat Council of Elementary Education (SSA), Gandhinagar*

## 2.7 Qualification of Teachers

The quality of a teacher is equally important aspect of school education. There are many indicators of quality of teachers but training is most important of them. Normally, it is expected that trained school teachers perform better than untrained school teachers. All primary and secondary school teachers were of good quality as in both the cases all the teachers were trained teachers. Similarly no rural urban differences were reported regarding the quality of teachers. The qualification of teachers is shown in the table 2.10:

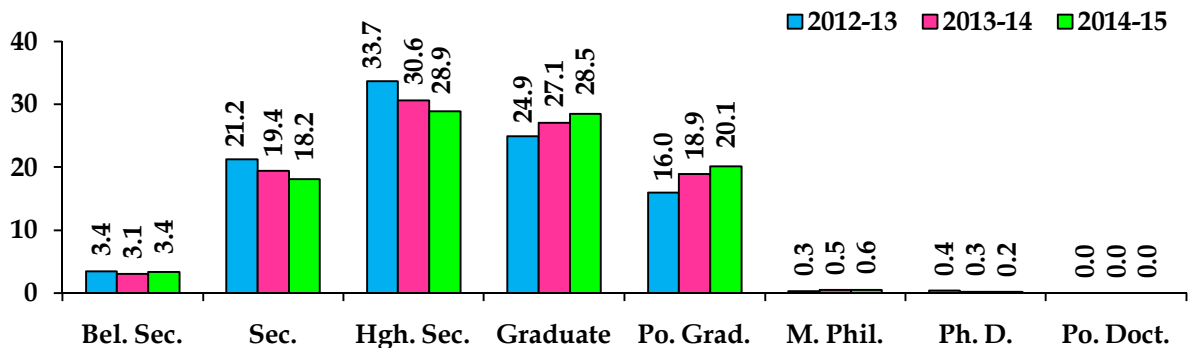
**Table 2.10: Showing Qualification of Teachers in Kachchh District**

| Qualification | 2012-13 | | | 2013-14 | | | 2014-15 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Primary | Primary with Upper Primary | Total | Primary | Primary with Upper Primary | Total | Primary | Primary with Upper Primary | Total |
| Bel. Sec. | 28 | 373 | **401** | 30 | 351 | **381** | 36 | 398 | **434** |
| Sec. | 161 | 2319 | **2480** | 173 | 2245 | **2418** | 143 | 2203 | **2346** |
| Hgh. Sec. | 200 | 3738 | **3938** | 191 | 3619 | **3810** | 157 | 3578 | **3735** |
| Graduate | 94 | 2816 | **2910** | 129 | 3243 | **3372** | 137 | 3548 | **3685** |
| Po. Grad. | 49 | 1820 | **1869** | 93 | 2258 | **2351** | 75 | 2525 | **2600** |
| M. Phil. | 1 | 35 | **36** | - | 65 | **65** | 1 | 73 | **74** |
| Ph. D. | 2 | 43 | **45** | 2 | 33 | **35** | 0 | 30 | **30** |
| Po. Doct. | 0 | 1 | **1** | 2 | 3 | **5** | 2 | 3 | **5** |
| **Total** | **535** | **11145** | **11680** | **620** | **11817** | **12437** | **551** | **12358** | **12909** |

*Source: Gujarat Council of Elementary (SSA), Gandhinagar*

The table 2.10 shows that in 20112-13, 401 teachers was qualified only below secondary, 2480 was secondary, 3938 was higher secondary, 2910 teachers was graduate, 1869 teachers was post graduated and 82 teachers was qualified more than post graduate but in 2014-15, the below secondary level qualified teachers increased to 434, secondary level decreased to 2346 and the higher secondary deceased to 3735 while graduate, post graduate, M.Phil and post doctoral qualified teachers increased to 3685, 2600, 74 and 5 teachers.The percentage distribution of qualified teachers is shown in the figure 2.7:

**Figure 2.7: Percentage Distribution of Teachers according to Qualification**




*Source: Gujarat Council of Elementary (SSA), Gandhinagar*

## 2.8 Trained Teachers at Secondary & Higher Secondary Level

The taluka wise number of trained teachers at secondary and higher secondary level is presented in the table 2.11:

**Table 2.11: Taluka Wise Number of Trained Teachers at Secondary Level (2008-2013)**

| Sr | Taluka | 2008-09 | 2009-10 | 2010-11 | 2011-12 | 2012-13 |
|---|---|---|---|---|---|---|
| 1 | Lakhpat | 23 | 21 | 21 | 23 | 26 |
| 2 | Rapar | 53 | 78 | 78 | 60 | 57 |
| 3 | Bhachau | 51 | 73 | 73 | 51 | 51 |
| 4 | Anjar | 40 | 43 | 47 | 51 | 71 |
| 5 | Bhuj | 160 | 160 | 179 | 162 | 105 |
| 6 | Nakhatrana | 55 | 61 | 61 | 60 | 69 |
| 7 | Abdasa | 45 | 45 | 45 | 45 | 25 |
| 8 | Mandvi | 63 | 93 | 93 | 66 | 65 |
| 9 | Mundra | 45 | 57 | 57 | 44 | 50 |
| 10 | Gandhidham | 117 | 117 | 102 | 101 | 102 |
| | **Kachchh** | **652** | **748** | **756** | **663** | **621** |

***Source: District Education Office, Kachchh***

The table 2.11 shows that there were 652 teachers in 2008-09 at secondary level but in 2009-10 the number of teachers increased to 748. The number of teachers decreased upto 663 in 2011-12 but again decreased to 621 in 2012-13.

**Table 2.12: Taluka Wise Number of Trained Teachers at Higher Secondary Level (2008-2013)**

| Sr | Taluka | 2008-09 | 2009-10 | 2010-11 | 2011-12 | 2012-13 |
|---|---|---|---|---|---|---|
| 1 | Lakhpat | 36 | 38 | 38 | 38 | 28 |
| 2 | Rapar | 50 | 50 | 50 | 74 | 47 |
| 3 | Bhachau | 100 | 71 | 71 | 61 | 80 |
| 4 | Anjar | 102 | 110 | 102 | 133 | 145 |
| 5 | Bhuj | 398 | 389 | 403 | 414 | 487 |
| 6 | Nakhatrana | 71 | 93 | 93 | 81 | 82 |
| 7 | Abdasa | 52 | 52 | 52 | 45 | 85 |
| 8 | Mandvi | 161 | 171 | 171 | 16 | 198 |
| 9 | Mundra | 48 | 65 | 65 | 65 | 57 |
| 10 | Gandhidham | 142 | 142 | 165 | 327 | 347 |
| | **Kachchh** | **1160** | **1181** | **1210** | **1254** | **1556** |

***Source: District Education Office, Kachchh***

The table 2.12 shows that there were 1160 teachers in 2008-09 at higher secondary level but in 2009-10 the number of teachers increased to 1181. The increasing trend was found in number of teachers and it increased upto 1556 teachers at higher secondary level.

## 2.9 Regular Male – Female Teachers

Most important component of school education and improvement of school environment refer to sufficient and adequate provision of teachers in schools.

A school without a teacher is not a school; and schools with insufficient number of teachers cannot meaningfully serve the purpose (Tilak, 2006).The number of regular male and female teachers is shown in the table 2.13:

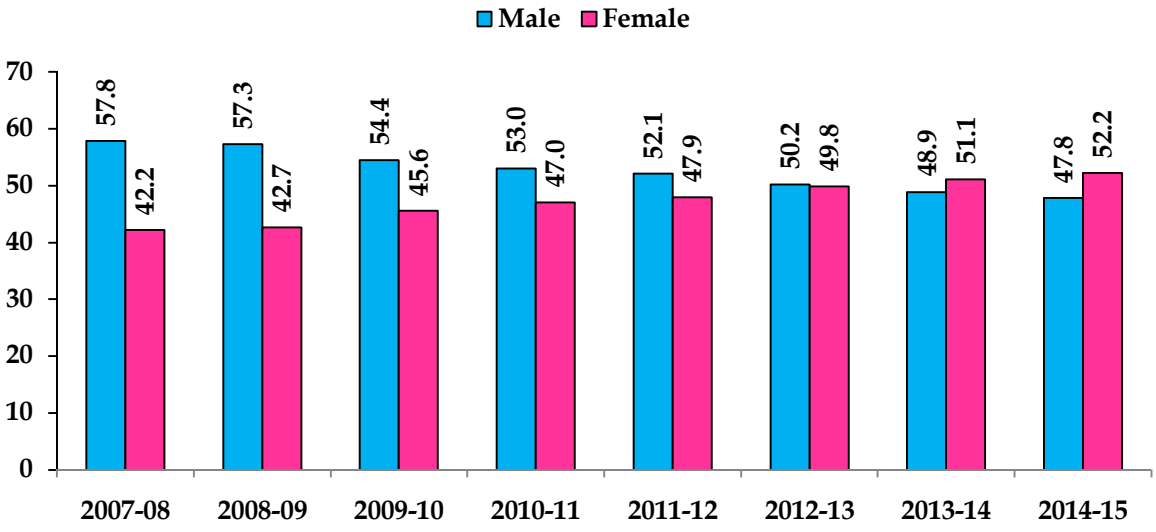
It is shown from the table 2.13 that in 2007-08 the male teachers were 4528 whereas female teachers were 3303 while in 2014-15 the number increases to 6171 and 6738 respectively. The percentage change in male female teachers is presented in the figure2.8:

**Table 2.13**
**Regular Male and Female Teachers in District**

| Year | Male | Female | Total |
|---|---|---|---|
| 2007-08 | 4528 | 3303 | 7831 |
| 2008-09 | 4866 | 3626 | 8492 |
| 2009-10 | 4946 | 4142 | 9088 |
| 2010-11 | 5425 | 4815 | 10240 |
| 2011-12 | 5675 | 5217 | 10892 |
| 2012-13 | 5861 | 5819 | 11680 |
| 2013-14 | 6076 | 6361 | 12437 |
| 2014-15 | 6171 | 6738 | 12909 |

*Source: Gujarat Council of Elementary Education (SSA), Gandhinagar*

**Figure 2.8: Percentage Change in Regular Male and Female Teacher in Kachchh District (2007-08 to 2014-15)**




*Source: Gujarat Council of Elementary Education (SSA), Gandhinagar*

The figure 2.8 illustrated that the percentage of regular male teachers was 57.8 percent during the year 2007-08 but during the year 2014-15 it decreased to 47.8 percent. On the other side the percentage of regular female teachers was 42.2 percent in the year 2007-08 but in the year 2014-15 it increased to 52.2 teachers.

## 2.10 Number of Students

Taluka wise number of students at secondary and higher secondary level is presented in the table 2.14 and table 2.15 respectively.

**Table 2.14: Taluka Wise Number of Students at Secondary Level (2008-2013)**

| Sr | Taluka | 2008-09 | 2009-10 | 2010-11 | 2011-12 | 2012-13 |
|---|---|---|---|---|---|---|
| 1 | Lakhpat | 325 | 491 | 547 | 707 | 537 |
| 2 | Rapar | 2137 | 2394 | 2394 | 2148 | 1680 |
| 3 | Bhachau | 853 | 1979 | 2164 | 2188 | 1364 |
| 4 | Anjar | 1185 | 1382 | 1543 | 2074 | 1655 |
| 5 | Bhuj | 7843 | 3827 | 4976 | 5119 | 2638 |
| 6 | Nakhatrana | 1756 | 1865 | 1933 | 1837 | 1512 |
| 7 | Abdasa | 1530 | 1604 | 1772 | 1487 | 677 |
| 8 | Mandvi | 2971 | 3187 | 3376 | 2851 | 1719 |
| 9 | Mundra | 1289 | 1441 | 1584 | 1500 | 1316 |
| 10 | Gandhidham | 2948 | 2830 | 2983 | 3411 | 2573 |
| | **Kachchh** | **22837** | **21000** | **23272** | **23322** | **15671** |

***Source: District Education Office, Kachchh***

The table 2.14 shows that there were 22837 students in 2008-09 at secondary level but in 2009-10 the number of students decreased to 21000. The number of students increased upto 23322 in 2011-12 but again decreased to 15671 in 2012-13.

**Table 2.15: Taluka Wise Number of Students at Higher Secondary Level (2008-2013)**

| Sr | Taluka | 2008-09 | 2009-10 | 2010-11 | 2011-12 | 2012-13 |
|---|---|---|---|---|---|---|
| 1 | Lakhpat | 723 | 767 | 840 | 919 | 719 |
| 2 | Rapar | 2346 | 2427 | 2427 | 2949 | 2624 |
| 3 | Bhachau | 853 | 1979 | 2164 | 2188 | 1364 |
| 4 | Anjar | 3843 | 4382 | 4382 | 4336 | 4762 |
| 5 | Bhuj | 22180 | 8651 | 13977 | 13671 | 14169 |
| 6 | Nakhatrana | 3265 | 3473 | 3517 | 3360 | 2757 |
| 7 | Abdasa | 1705 | 1857 | 1940 | 1866 | 1985 |
| 8 | Mandvi | 5903 | 6297 | 6321 | 6309 | 6605 |
| 9 | Mundra | 1927 | 2049 | 2162 | 2282 | 2399 |
| 10 | Gandhidham | 8314 | 8454 | 8754 | 10804 | 10333 |
| | **Kachchh** | **51059** | **40336** | **46484** | **48684** | **47717** |

***Source: District Education Office, Kachchh***

The table 2.15 shows that there were 51059 students in 2008-09 at higher secondary level but in 2009-10 the number of students decreased to 40336. The number of students increased upto 48684 in 2011-12 but again decreased to 47717 in 2012-13.

## 2.11 Gender Parity Index

Gender equality in education and enhancing the access of girls to basic education are influences by three inter-locking sets of issues – systematic, content and process of education and economy, society and culture. The gender parity index for primary classes is presented in the table 2.16 for the year 2005-06 to 2014-15.

It reveals in table 2.16 that there is consistent improvement in index but it decreased to 0.88 steadily over the year 2014-15. The gender gap is also decreased from 8.48 in 2006-07 to 5.62 in 2014-15. A little progress has been made in reducing gender disparity despite the state's impressive economic growth.

Analysis of data describes that the issues of gender disparity in basic education have not improved. There has been some effort taken to increase female enrolment (e.g. the Kanya Kelavani Initiative, the National Programme for the Education of Girls at the Elementary Level, Kasturba Gandhi Balika Vidyalaya etc), but it appears that these interventions have had little impact on gender parity in Kachchh district.

**Table 2.16**
**Gender Parity Index of Kachchh District**

| Year | Gender Parity Index | Gender Gap |
|---|---|---|
| 2006-07 | 0.84 | 8.48 |
| 2007-08 | 0.89 | 6.01 |
| 2008-09 | 0.90 | 5.52 |
| 2009-10 | 0.90 | 5.52 |
| 2010-11 | 0.88 | 6.66 |
| 2011-12 | 0.88 | 6.39 |
| 2012-13 | 0.88 | 6.19 |
| 2013-14 | 0.88 | 6.19 |
| 2014-15 | 0.88 | 5.62 |

***Source: Gujarat Council of Elementary Education (SSA), Gandhinagar***

## 2.12 Enrolment

The spread of education is measured by a combination of factors like adult literacy and the combined enrolment rate while computing human development index. As far as combined enrolment is concerned, this indicator was limited to the primary and secondary level. The enrolment upto 1-7$^{th}$ class from 2005-06 to 2013-14 is presented in the table 2.17:

**Table 2.17**
**Showing Enrolment in Schools (in numbers)**

| Year | Enrolled 1 – 7$^{th}$ | Change over Previous Year (%) |
|---|---|---|
| 2005-06 | 250347 | - |
| 2006-07 | 261255 | 4.36 |
| 2007-08 | 268527 | 2.78 |
| 2008-09 | 282804 | 5.32 |
| 2009-10 | 294117 | 4.00 |
| 2010-11 | 314121 | 6.80 |
| 2011-12 | 333361 | 6.13 |
| 2012-13 | 360423 | 8.12 |
| 2013-14 | 368160 | 2.15 |
| 2014-15 | 371429 | 0.89 |

***Source: Gujarat Council of Elementary Education (SSA), Gandhinagar***

It is reported from the table 2.17 that 250347 students were enrolled in 2005-06 where as the enrolment of students increased to 371429 in 2014-15. The enrolment was increased with 8.12 percent in 2012-13 but the change decreased to 0.89 percent in 2014-15. Theenrolment of girls in school is shown in the table 2.18:

The table 2.18 describes that 114911 girls were enrolled in 2005-06 whereas the enrolment of girls increased to 173049 in 2014-15. The enrolment was increased with 7.83 percent in 2012-13 but the changes decreased to 1.71 percent in 2014-15.

**Table 2.18: Showing Enrolment of Girls in Schools (in numbers)**

| Year | Enrolled 1 – 7th | Change over Previous year (%) |
|---|---|---|
| 2005-06 | 114911 | - |
| 2006-07 | 120897 | 5.21 |
| 2007-08 | 124582 | 3.05 |
| 2008-09 | 132239 | 6.15 |
| 2009-10 | 137874 | 4,26 |
| 2010-11 | 144689 | 4.94 |
| 2011-12 | 153748 | 6.26 |
| 2012-13 | 165789 | 7.83 |
| 2013-14 | 170135 | 2.62 |
| 2014-15 | 173049 | 1.71 |

*Source: Gujarat Council of Elementary Education(SSA), Gandhinagar*

The taluka wise total enrolment in schools is shown in the table 2.19:

**Table 2.19: Taluka Wise Total Enrolment in Schools (2011-12)**

| Sr | Taluka | Boys | | Girls | | Total | |
|---|---|---|---|---|---|---|---|
| | | No | % | No | % | No | % |
| 1 | Lakhpat | 5035 | 51.23 | 4793 | 48.77 | 9828 | 3.92 |
| 2 | Rapar | 21257 | 54.06 | 18063 | 45.94 | 39320 | 15.69 |
| 3 | Bhachau | 14800 | 53.25 | 12991 | 46.75 | 27791 | 11.09 |
| 4 | Anjar | 10667 | 52.29 | 9733 | 47.71 | 20400 | 8.14 |
| 5 | Bhuj | 25972 | 52.29 | 23697 | 47.71 | 49669 | 19.83 |
| 6 | Nakhatrana | 11730 | 51.98 | 10838 | 48.02 | 22568 | 9.01 |
| 7 | Abdasa | 9382 | 51.86 | 8710 | 48.14 | 18092 | 7.22 |
| 8 | Mandvi | 13969 | 51.86 | 12967 | 48.14 | 26936 | 10.75 |
| 9 | Mundra | 9233 | 52.55 | 8337 | 47.45 | 17570 | 7.01 |
| 10 | Gandhidham | 9424 | 51.34 | 8931 | 48.66 | 18355 | 7.33 |
| | **Kachchh** | **131469** | **52.48** | **119060** | **47.52** | **250529** | **100.00** |

*Source: District Statistical Outline, 2011-12*

The table 2.19 shows that in 2011-12, a total of 250529 students were enrolled. Out of these 131469 were boys which are 52.48 percent of total enrolment and 119060 were girls which are 47.52 percent of total enrolment. The highest percentage (19.83 percent) of enrolment was found in Bhuj taluka and it is followed by Rapar and Bhachau taluka with 15.69 and 11.09 percent respectively.

## 2.13 Gross Enrolment Ratio (GER) and Net Enrolment Ratio (NER)

Gross enrollment rate is the total enrollment in primary school, regardless of age, in a given year, expressed as a percentage of the official school-age population for primary school. The gross enrollment rate shows the general level of participation in formal schooling by the childhood population. A gross enrollment rate value of 100 percent indicates that a country is, in principle, able to accommodate all of its school-aged population.

The net primary enrollment rate is the ratio of official school-age children enrolled in primary school to the total population of children of official primary school age, as defined by the national education system. The net primary enrollment rate shows the proportion of children of primary school age who are enrolled in primary school. Net enrollment refers only to children of official school age, while gross enrollment includes children of any age. Net primary enrollment rates below 100 percent provide a measure of school-age children who are not enrolled at the primary level. This difference does not necessarily indicate the percentage of students who are not enrolled, since some children might be enrolled at other levels of education.The gross enrolment ratio and net enrolment ratio of Kachchh district from 2006-07 to 2014-15 is shown in the table 2.20:

**Table 2.20: Gross Enrolment Ratio & Net Enrolment Ratio in Kachchh district (2006-07 to 2014-15)**

| Year | Gross Enrolment Ratio | | | Net Enrolment Ratio | | |
|---|---|---|---|---|---|---|
| | Boys | Girls | Total | Boys | Girls | Total |
| 2006-07 | 109.5 | 104.6 | 107.1 | 94.6 | 92.6 | 93.6 |
| 2007-08 | 92.4 | 95.5 | 93.9 | 95.2 | 91.6 | 93.4 |
| 2008-09 | 92.3 | 95.4 | 93.9 | 98.0 | 94.3 | 96.2 |
| 2009-10 | 97.2 | 96.5 | 96.8 | 99.2 | 97.1 | 98.1 |
| 2010-11 | 98.6 | 97.9 | 98.2 | 80.9 | 80.3 | 80.6 |
| 2011-12 | 98.0 | 97.0 | 97.5 | 97.4 | 96.2 | 96.8 |
| 2012-13 | 103.4 | 100.5 | 101.9 | 96.0 | 94.4 | 95.2 |
| 2013-14 | 105.0 | 104.0 | 104.5 | 97.8 | 96.4 | 97.1 |
| 2014-15 | 101.4 | 101.0 | 101.2 | 99.0 | 98.3 | 98.6 |

*Source: Gujarat Council of Elementary (SSA), Gandhinagar*

The table 2.20 describes that during the year 2006-07 gross enrolment ratio was 107.1 percent but in the year 2014-15 it was 101.2 percent. In the year 2006-07 the gross enrolment ratio for boys and girls was 109.5 and 104.6 percent respectively. But in the year 2014-15 the gross enrolment ratio for boys and girls decreased to 101.4 and 101.0 percent respectively. On the other side the net enrolment ratio was 93.6 percent during the year 2006-07 but in 2014-15 it increased to 98.6 percent.

## 2.14 Student Classroom Ratio

Student Classroom Ratio (SCR) provides an idea as to how many students exist on an average in a class room.

The Table 2.21 shows that SCR is 28 in 2014-15 which was 34 in 2011-12 for all schools. It is clear that in the year 2014-15 there is a positive change in all categories of schools, except P+Sec+HS (39) as compare to 2011-12.

**Table 2.21: Student Classroom Ratio**

| Category | 2011-12 | 2014-15 |
|---|---|---|
| Primary Only | 27 | 18 |
| P+UP | 35 | 27 |
| P+Sec+HS | 29 | 39 |
| U.P.Only | 43 | 30 |
| UP+Sec | 17 | 23 |
| All Schools | **34** | **28** |

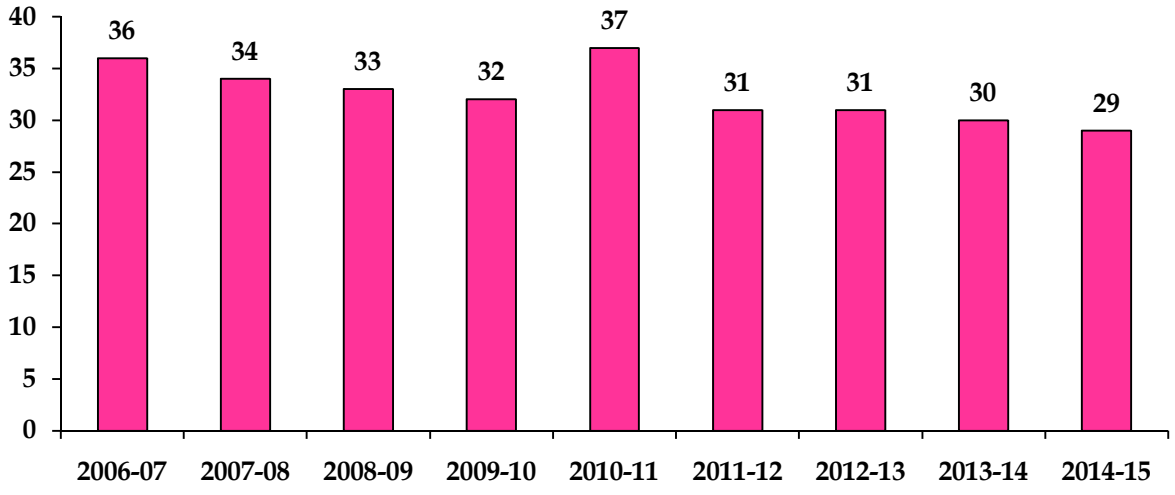
*Source: District Elementary Education Report Card 2014-15*

*P: Primary, UP : Upper Primary, Sec: Secondary, HS: Higher Secondary*

## 2.15 Pupil Teacher Ratio

The pupil-teacher ratio is the measure of average number of pupils per teacher at the primary school level in a given school year. Teachers are defined as persons whose professional activity involves the transmission of knowledge, attitudes, and skills that are stipulated in a formal curriculum program to students enrolled in a formal educational institution.This indicator is used to measure the human resource input in terms of number of teachers relative to the size of the pupil population. A high pupil-teacher ratio means that each teacher is responsible for a large number of pupils. In other words, the higher the pupil-teacher ratio, the lower pupils' relative access to teachers. It is generally assumed that a low pupil-teacher ratio signifies smaller classes, which enable the teacher to pay more attention to individual students, likely resulting in better pupil performance over the long run. The pupil teacher ratio is presented in the figure 2.9:

**Figure 2.9: Pupil Teacher Ratio**




*Source: Gujarat Council of Elementary (SSA), Gandhinagar*

The figure 2.9 illustrates that pupil teacher ratio during the year 2006-07 was 36 but in 2014-15 it was 29.

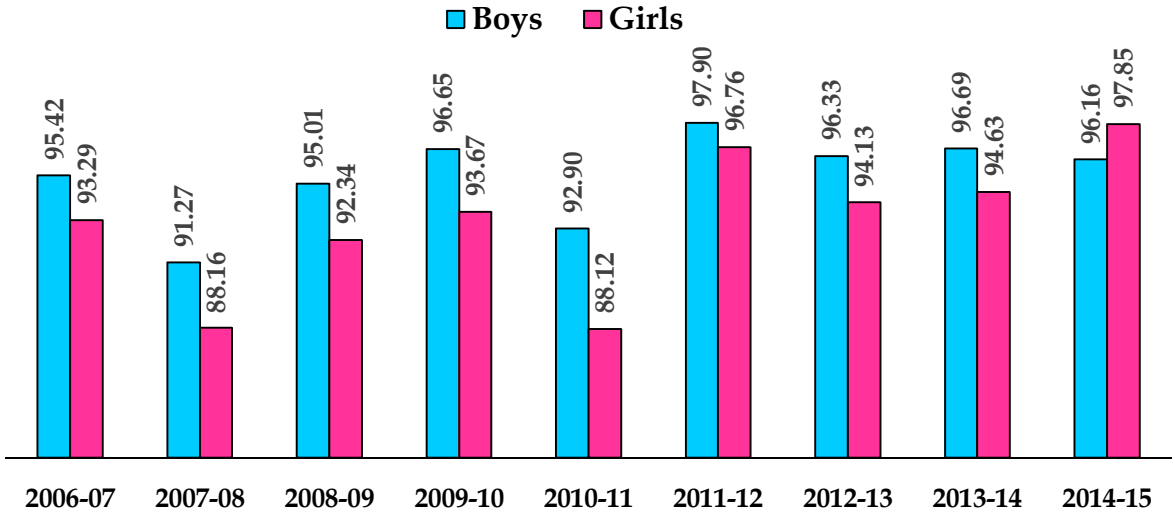
## 2.16 Transition Rate

According to United Nations Children Fund (UNICEF), in India eight million children never have stepped inside a school and 80 million dropping out without completing basic schooling. There has been progress in implementation of the RTE Act in the past four years but children are still dropping out, not for labour, but because they are not learning anything in schools. India has made extraordinary progress over the past decade in increasing access to elementary education, now reaching 96% of school-age children. Having brought so many children into school, particularly those from the most vulnerable groups, it is logical to turn attention to retaining them through the elementary cycle.

Nearly one third of the states and union territories have seen an increase in the dropout rate in primary education despite an overall increase in enrolment in four years after the Right to Education (RTE) was implemented. The main reason for dropout at all the level of school education irrespective of the locality is poverty. Child labour arises from the extreme poverty of the family. Family problems lead the family to get into a work to become independent or to support the family.

One of the important indicators on which the expansion of upper primary education depends is the transition rate from the primary level to the upper primary level of education. The transition rate for primary to upper primary has been calculated based on the number of children who passed the IV/V Grade from primary section and the number of children who joined in V/VI Grade in the upper primary sections.The transition rate is shown in the figure 2.10:

**Figure 2.10: Transition Rate in Kachchh District**




*Source: Gujarat Council of Elementary (SSA), Gandhinagar*

Thefigure 2.10 shows that in Kachchh district the transition of boys from primary to upper primary is 95.42 percent in 2006-07 but in 2014-15 it increased to 96.16 percent. On the other side the transition rate of girls in 2006-07 was 93.29 percent which increased to 97.85 percent in 2013-14.

## 2.17 Retention Rate

There are a number of ways through which dropout and retention rates can be measured. Retention rate is based on enrolment data over a period of five years. It is also known as survival rate. The survival rate is the percentage of a cohort of pupils enrolled in first grade of primary school in a given school year who are expected to reach a successive grade, typically fourth or fifth.

The indicator measures an education system's success in retaining students from one grade to the next, as well as its internal efficiency. Survival rate to fifth grade of primary education is of particular interest because it is commonly considered as prerequisite for sustainable literacy. Improvements in this indicator are interpreted as improvements in quality. However, this indicator does not address access issues. Countries with low enrollment rates may have high survival rates. If the goal is to increase access to quality education, this indicator should be used in conjunction with indicators of intake or enrollment rate.

This indicator is typically estimated based on enrollment and repetition by grade for two consecutive years, using a procedure called the reconstructed cohort method. A cohort's flow is constructed beginning in year one and assuming the existing pattern of repetition and enrollment by grade will carry forward. The survival rate to a particular grade is the percentage of the cohort that reaches the specified grade. When estimated from household survey data, the proportion is estimated as the product of the proportions of transition for each grade up to the given grade.The retention rate at primary level 1 to 5 std. and 1 to 7 std. is presented in the table 2.22:

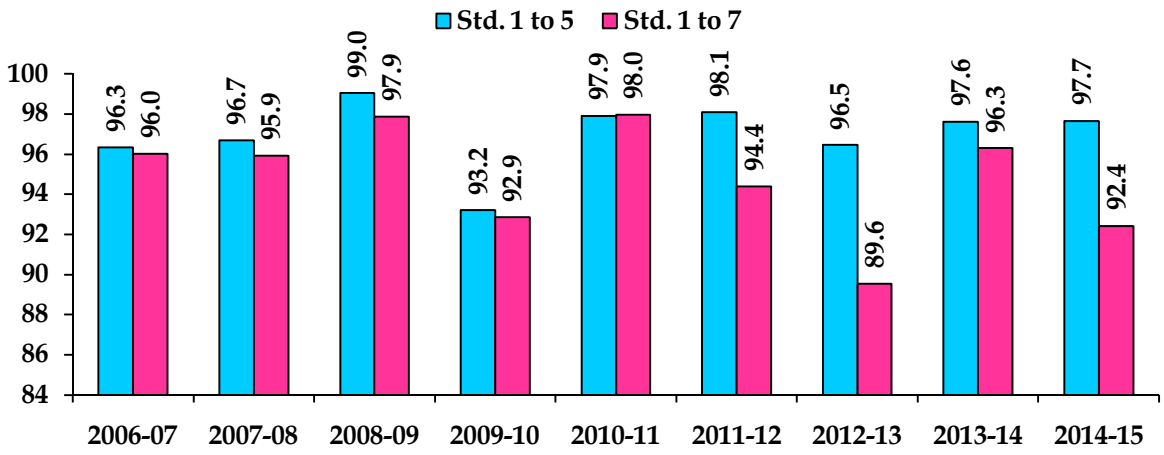
**Table 2.22: Retention Rate (Primary Level) at Std. 1 to 5 and Std. 1 to 7 (2006-07 & 20014-15)**

| Year | Std. 1 to 5 | | | Std. 1 to 7 | | |
|---|---|---|---|---|---|---|
| | Boys | Girls | Total | Boys | Girls | Total |
| 2006-07 | 96.8 | 95.9 | 96.3 | 96.6 | 95.4 | 96.0 |
| 2007-08 | 96.7 | 96.7 | 96.7 | 96.5 | 95.3 | 95.9 |
| 2008-09 | 99.0 | 99.0 | 99.0 | 98.1 | 97.7 | 97.9 |
| 2009-10 | 93.3 | 93.1 | 93.2 | 93.5 | 92.7 | 92.9 |
| 2010-11 | 97.9 | 97.9 | 97.9 | 98.0 | 97.9 | 98.0 |
| 2011-12 | 98.2 | 98.0 | 98.1 | 95.0 | 94.0 | 94.4 |
| 2012-13 | 97.1 | 95.8 | 96.5 | 91.9 | 87.6 | 89.6 |
| 2013-14 | 97.7 | 97.5 | 97.6 | 97.3 | 95.6 | 96.3 |
| 2014-15 | 97.7 | 97.6 | 97.7 | 92.8 | 92.0 | 92.4 |

*Source: Gujarat Council of Elementary (SSA), Gandhinagar*

The table 2.22 shows a gradual improvement from 96.3 percent in the year 2006-07 to 97.7 percent in 2014-15 but the retention rate at 1 to 7$^{th}$ std. decreases from 96.0 percent in 2006-07 to 92.4 percent in the year 2014-15. The retention rate at std. 1 to 5 and std. 1 to 7 is presented in the figure 2.11:

**Figure 2.11: Retention Rate at Std. 1 to 5 and Std. 1 to 7 in Kachchh District (2006-07 to 2014-15)**




*Source: Gujarat Council of Elementary (SSA), Gandhinagar*

The figure 2.11 illustrates the trend of retention rate at Std.1 to 5 and at Std. 1 to 7 in Kachchh district from 2006-07 to 2014-15. It seems ups and down in retention rate. The retention rate at std. 1 to 5 is increased to 97.7 in the year 2014-15 from 96.3 in the year 2006-07. But the retention rate at std. 1 to 7 is decreased to 92.4 in the year 2014-15 from 96.0 in the year 2006-07.

## 2.18 Repetition Rate

Repetition rate is the proportion of pupils from a cohort enrolled in a given grade who are enrolled in the same grade in the following school year.The repetition rate serves a number of purposes. It is commonly used as a measure of the internal efficiency of educational systems. Repetition rates ideally should approach zero percent—a high repetition rate reveals problems in the internal efficiency.

In addition, it is one of the key indicators for analyzing and projecting pupil flows from grade to grade within the educational cycle. When compared across grades, the patterns can indicate specific grades for which there is higher repetition, hence requiring more in depth study of causes and possible remedies. Finally, increasing repetition rates serve as an early warning that the system is experiencing major capacity constraints.The repetition rate in Kachchh district for the year 2006-07 to 2013-14 is presented in the table 2.23:

**Table 2.23: Repetition Rate in Kachchh District (2006-07 to 2013-14)**

| Year | Boys | Girls | Total |
|---|---|---|---|
| 2006-07 | 13.26 | 12.1 | 12.72 |
| 2007-08 | 13.67 | 12.94 | 13.33 |
| 2008-09 | 12.07 | 11.78 | 11.93 |
| 2009-10 | 10.48 | 10.48 | 10.48 |
| 2010-11 | 14.44 | 13.82 | 14.15 |
| 2011-12 | 10.09 | 10.35 | 10.21 |
| 2012-13 | 0.37 | 0.33 | 0.35 |
| 2013-14 | 0.45 | 0.44 | 0.45 |

*Source: Gujarat Council of Elementary Education (SSA), Gandhinagar*

The table 2.23 shows that the great differences in repetition rate from 2006-07 to 2013-14. During the year 2006-07 the repetition rate was 12.72 percent but as compared to the

year 2013-14, it was only 0.45 percent. The repetition rate between boys and girls has no significant differences. As compared to previous year the repetition rate of boys was 0.45 percent in 2013-14 but it was 13.26 percent in 2006-07. The same differences can be noticed in the repetition rate of girls.

## 2.19 Promotion Rate

The promotion rate have been computed separately for boys and girls and presented in the table 2.24:

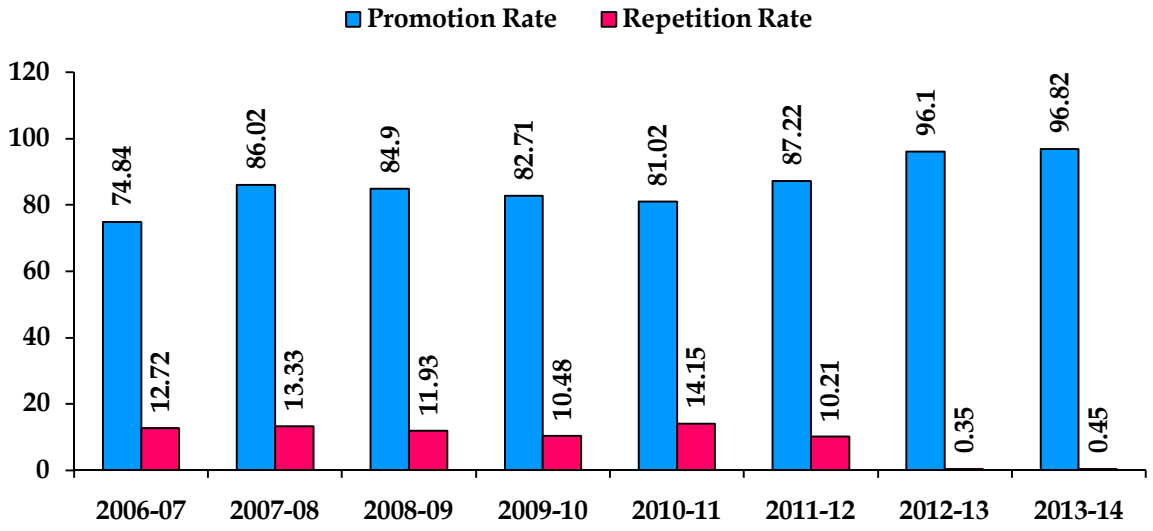
The table 2.24 shows that the promotion rate was 74.84 percent during the year 2006-07 but in the year 2014-15 it increased to 98.11 percent. The promotional rate was higher in 2014-15 than the previous year 2013-14 (96.82 percent). The difference between promotional rates of boys and girls is not much noticed.The repetition rate and promotion rate for the year 2006-07 to 2013-14 is presented in the figure 2.12:

**Table 2.24**
**Promotion Rate in Kachchh District**
**(2006-07 to 2014-15)**

| Year | Boys | Girls | Total |
|---|---|---|---|
| 2006-07 | 74.82 | 74.86 | 74.84 |
| 2007-08 | 86.53 | 85.45 | 86.02 |
| 2008-09 | 84.17 | 85.73 | 84.9 |
| 2009-10 | 82.8 | 82.62 | 82.71 |
| 2010-11 | 82.24 | 79.65 | 81.02 |
| 2011-12 | 87.44 | 86.96 | 87.22 |
| 2012-13 | 96.68 | 95.45 | 96.1 |
| 2013-14 | 97.08 | 96.53 | 96.82 |
| 2014-15 | 98.12 | 98.10 | 98.11 |

*Source: Gujarat Council of Elementary Education (SSA), Gandhinagar*

**Figure 2.12: Repetition Rate and Promotional Rate (2006-07 to 2013-14)**



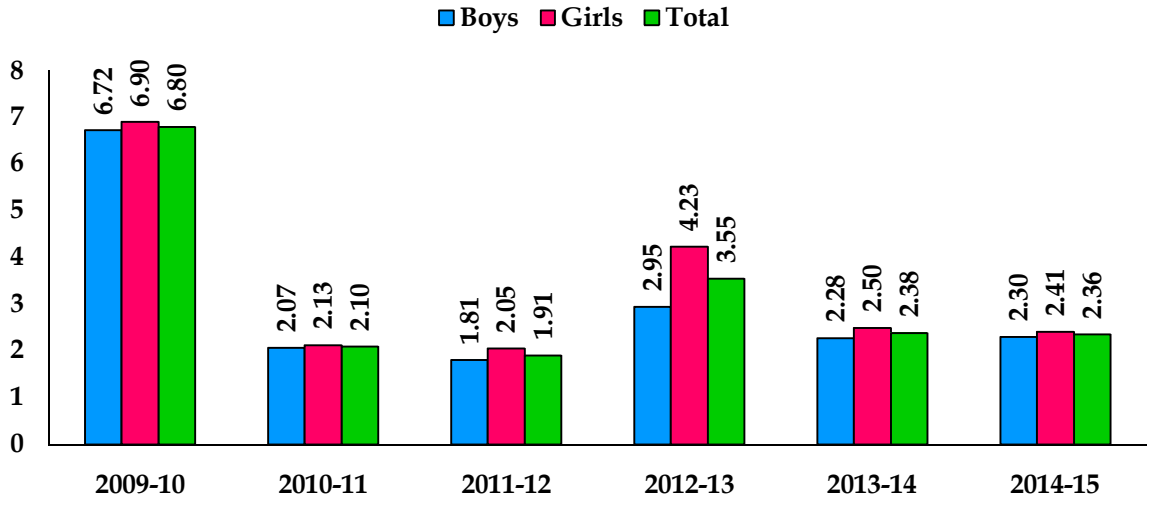

*Source: Gujarat Council of Elementary (SSA), Gandhinagar*

The figure 2.12 illustrates the trend of repetition and promotional rate from the year 2006-07 to 2013-14 in the Kachchh district. The repetition rate decreased from 12.72 in the year 2006-07 to 0.45 in the year 2013-14. On the other side the promotional rate increased to 96.82 in the year 2013-14 from 74.84 in the year 2006-07.

## 2.20 Drop out Rate

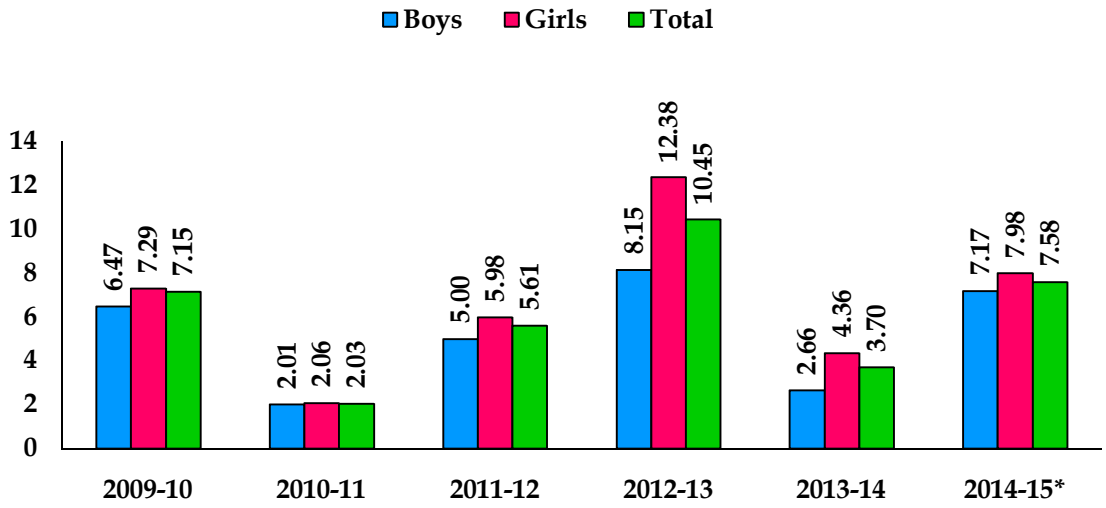
The class wise dropout rate is shown in the figure 2.13 and figure 2.14:

**Figure 2.13**
**Dropout Rate in Kachchh District (Std. 1 to 5)**




*Source: Gujarat Council of Elementary (SSA), Gandhinagar*

**Figure 2.14**
**Dropout Rate in Kachchh District (Std. 1 to 7)**




*Source: Gujarat Council of Elementary (SSA), Gandhinagar*

The figure 2.13reveals that for std. 1 to 5, the dropout rate was 6.80 for 2009-10 but it decreased to 2.36 in 2014-15 but the figure 2.14 describes that dropout rate for std. 1 to 7 increased to 7.58 in 2014-15 from 7.15 in 2009-10.

The taluka wise dropout rate at elementary education in Kachchh district is presented in the table 2.25:

**Table 2.25: Taluka Wise Dropout Rate at Elementary Education in Kachchh District (2011)**

| Sr | Taluka | Class 1-5 | | | Class 1-8 | | |
|---|---|---|---|---|---|---|---|
| | | Boys | Girls | Total | Boys | Girls | Total |
| 1 | Lakhpat | 1.85 | 2.03 | 1.9 | 2.89 | 1.89 | 2.32 |
| 2 | Rapar | 1.89 | 2.12 | 2.0 | 1.98 | 2.26 | 2.12 |
| 3 | Bhachau | 2.01 | 1.75 | 1.9 | 2.03 | 2.62 | 2.33 |
| 4 | Anjar | 2.78 | 2.9 | 2.8 | 1.99 | 2.43 | 2.21 |
| 5 | Bhuj | 1.78 | 2.3 | 2 | 2.01 | 2.98 | 2.56 |
| 6 | Nakhatrana | 0.9 | 1.3 | 1.1 | 2.22 | 2.41 | 2.33 |
| 7 | Abdasa | 2.1 | 2.56 | 2.3 | 1.66 | 2.01 | 1.82 |
| 8 | Mandvi | 1.22 | 1.89 | 1.5 | 2.01 | 1.54 | 1.78 |
| 9 | Mundra | 2.07 | 1.54 | 1.9 | 2.31 | 1.98 | 2.15 |
| 10 | Gandhidham | 1.52 | 2.06 | 1.8 | 1.52 | 2.23 | 1.89 |
| | **Kachchh** | **1.81** | **2.05** | **1.91** | **2.06** | **2.24** | **2.15** |

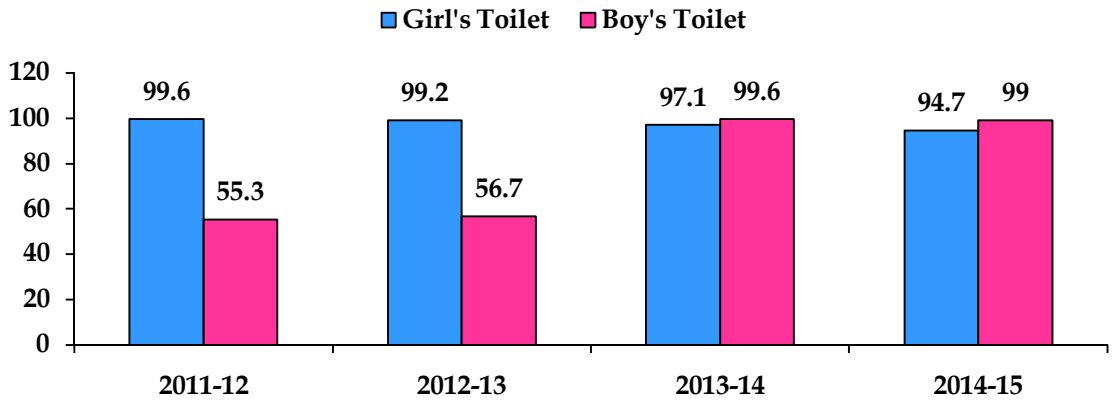
*Source: District Education Office, Kachchh*

The table 2.25 presents that Anjar taluka had the highest dropout rate with 2.8 in class 1-5 while Nakhatrana taluka showed only 1.1 dropout rate during 2011. On the other side in the year 2011 Bhuj has the highest dropout rate with 2.56 in class 1-5 and the lowest showed by Mandvi with 1.78 dropout rate.

## 2.21 Toilets Facility in Schools

The percentage of schools with common toilets is presented in the figure 2.15:

**Figure 2.15: Percentage of schools with Girl's and Boy's Toilet**




*Source: District Information of Secondary Education*

The figure 2.15 states that 99.6 percent schools had girl's toilet in 2011-12 whereas in 2014-15 the schools with separate girl's toilet decreased to 94.7 percent. On the other side 55.3 percent schools had boy's toilet in 2011-12 whereas in 2014-15 the schools with boy's toilet increased to 99.0 percent.

## 2.22 Physical Amenities in Primary Schools

The physical amenities available in primary schools are presented in the table 2.26:

**Table 2.26: Physical Amenities available at Primary Schools (2013-14) in %**

| Sr. | Taluka | Electricity | Compound Wall | Play Ground |
|---|---|---|---|---|
| 1 | Lakhpat | 100.00 | 92.44 | 77.31 |
| 2 | Rapar | 95.87 | 82.86 | 64.44 |
| 3 | Bhachau | 99.50 | 92.96 | 72.86 |
| 4 | Anjar | 98.85 | 97.13 | 81.61 |
| 5 | Bhuj | 98.61 | 87.76 | 74.60 |
| 6 | Nakhatrana | 98.92 | 97.30 | 70.81 |
| 7 | Abdasa | 98.42 | 95.79 | 57.37 |
| 8 | Mandvi | 100.00 | 100.00 | 80.69 |
| 9 | Mundra | 100.00 | 100.00 | 65.32 |
| 10 | Gandhidham | 100.00 | 99.32 | 77.40 |
| | **District** | **98.71** | **92.86** | **71.97** |

***Source: Gujarat Council of Elementary (SSA), Gandhinagar***

The table 2.26 shows that electricity is available in 98.71 percent, 92.86 percent primary schools are surrounded with compound wall and play ground is available in 71.97 percent primary schools. The key performance indicators of facilities at schools in Kachcch district is shown in the table 2.27:

**Table 2.27: Key Performance Indicators of Facilities at schools: Kachchh (2014-15)**

| Performance Indicators | P only | P + UP | P+UP SEC/H.S | UP only | UP+ SEC+HS | UP+ SEC | All Schools |
|---|---|---|---|---|---|---|---|
| % Single Classroom schools | 14.4 | 1.2 | 0.0 | 6.3 | 10.0 | 100.0 | 2.7 |
| % Single Teacher Schools | 32.5 | 6.6 | 0.0 | 0.0 | 0.0 | 20.0 | 8.7 |
| % Schools with girls toilet | 90.2 | 95.0 | 100.0 | 100.0 | 100.0 | 60.0 | 94.7 |
| % Schools with boys toilet | 95.8 | 99.4 | 100.0 | 100.0 | 100.0 | 60.0 | 99.0 |
| % Schools with boundary wall | 77.3 | 93.2 | 100.0 | 87.5 | 100.0 | 80.0 | 92.0 |
| % Schools drinking water facility | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| % Schools with ramps | 88.1 | 97.1 | 90.2 | 70.0 | 83.3 | 100.0 | 95.7 |
| % Schools with electricity | 91.8 | 99.4 | 100.0 | 100.0 | 100.0 | 100.0 | 98.7 |
| % Schools with computer | 29.9 | 75.8 | 94.0 | 68.8 | 60.0 | 0.0 | 72.0 |
| % of Govt. schools with kitchen shed | 96.3 | 96.9 | 100.0 | 0.0 | 0.0 | 66.7 | 96.8 |
| % of Govt. schools providing MDM | 84.2 | 97.7 | 28.6 | 44.4 | 33.3 | 100.0 | 96.0 |
| % of Govt. schools with SMC | 98.6 | 99.8 | 85.7 | 100.0 | 66.7 | 0.0 | 99.3 |

***Source: DISE, 2014-15***

The table 2.27 shows that all the schools of different levels in Kachcch district have drinking water facility. The percent of schools having computer facility at all levels is 72.0 percent. The percentage of schools with girl's toilet and boy's toilet is 94.7 percent and 99.0 percent respectively.

## 2.23 Education Projects & Initiatives

Smart Goals with a future vision 'Education for All' is a major project of the education department with its continuous education and literacy policies geared to promote literacy, reduce dropout rates, focus on girl education, teachers training and a series of other initiatives being implemented.

Girl education, infrastructure, health and sanitation are the many areas in the process of continuous education, literacy, education awareness and on path to enhancement in quality implementation. The government vision is for SEE (Socio-Economic-Education) growth with primary education, secondary education, higher education, continuous education, literacy education, technical education, pharmacy education etc.

The focus is on concentration of plan and non-plan provisions and best use of investments made in education sector and the purpose of development. It aims for UEE (Universalisation of Primary Education) for children in age group 6 to 14 years with specific planning, target setting and power initiative key role to 100% male and female literacy by 2010.

**BOX 2.4**
**Key Factors & Achievement**

- *Special campaign to recruit 1.05 lakh Assistant Teachers for a strong and prosperous Gujarat.*
- *Kanya Kelavani Rathyatra and Pravesh Mahotsav (mid June 2009) have led to a reduction in the drop out rate to below 2.29% and 100% enrolment in Primary schools.*
- *Efforts in Primary schools have led to 49.34 lakh students obtaining uniforms at total expenditure of Rs.6,518 lakh.*
- *Facility of free bus transport for girls in rural areas.*
- *Special concentration on 6 special schemes of Kanya Kelavani for girls in 41 most backward talukas.*
- *With increased efforts, Kanya Kelavani Fund has reached Rs. 21.83 crore, for girls Education.*
- *The next steps for Gujarat in the area of Human Development Index: Children University and Bal Gokulam Sanstha.*
- *Reading, writing and numeracy of students in Primary Schools has improved by 80%.*

The Campaign for 'Education for All' is implemented with literacy initiatives like training to 9000 teachers, covering all the students of Standards 4 and 7 under student achievement profile, extra coaching to girls studying in standards 2,3,4 and 5 in 12,500 schools to upgrade level by 10 to 15% in Gujarati and Arithmetic . It aims for increase in capability by 5 to 10% in writing, reading and calculating by students of standard-3.

Financial Aid schemes like Viidhyalaxmi Bond Yojna and Insurance schemes like Vidhyadeep Yojna are implemented by the Government to provide facilities to children and families to support education. Health of School children is a prime concern for the government and hence, with co-operation of WHO (World Health Organization, UNICEF, UNESCO) and World Bank "Health Developing School-Programme" pilot project pioneer in Gujarat.

Computer training is enhanced for primary level education. The government adopt technology by promoting computer aided learning, which is expected to benefit around 8,50,000 students of government run schools of Gujarat. It also aims for education in rural places to set path of development with continuous power supply and broadband connectivity.
The Government has also initiated the SCOPE program to sharpen english language skills among Gujarati learners. Desirous schools to set up language laboratory are supported by learning software for improving pronunciation, vocabulary and grammar. The software includes self learning program for improving pronunciation, vocabulary and grammar. The students can master the English language skills and gain confidence.
The Education Department's 'Sarva Shikshan Abhiyaan' (National Program) and other promotional schemes are managed by Gujarat Council of Elementary Education (GCEE).

Some of the government initiatives taken in Kachchh district have been discussed below:

### 1. Vidyalaxmi Bond Scheme

With a purpose to encourage girl's education, "Vidyalaxmi Bond Scheme" has been implemented in primary school since the year 2002-03. Under this scheme, in the rural and urban area where the literacy rate is less than 35 percent, the girls admitted in first standard of that rural and urban area will be given bond of Rs. 2000 which is admissible after completing the education of standard VII.

### 2. Vidyadeep Insurance Scheme

The state government has introduced "Vidyadeep Insurance Scheme" to provide insurance coverage for accidental death of students studying in primary schools. Government has decided to provide insurance coverage under the scheme in accidental death, except suicide or natural death. Death by any other means viz. earthquake, floods, cyclone, fire, riots, accidental poisoning, dog bite or bite by any other beast or accidental death by any other means at any place during 24 hours of day. Insurance has been increased to Rs. 50000 from 25000 Rs. All the students of primary schools or ashram shalas have been covered under the scheme.

### 3. Model School Scheme

The Model School Scheme is aimed at providing very high quality of education in the uncovered areas of the State. These Schools are expected to develop students having all round personality with excellent scholastic records, which shall be measured in terms of pre-defined learning outcomes and key performance indicators. Student based annuity will be linked with a Model School achieving these parameters. This scheme is implemented by the both central and state government with 75:25 partnerships.

The scheme has the following objectives:

- To have at least one good quality senior secondary school in every block.
- To have a pace setting role
- To try out innovative curriculum and pedagogy
- To be a model in infrastructure, curriculum, evaluation and school governance

**Facilities in Model Schools**

- Mixed school from Standard 6 to 12,
- Facility of food and snackes in the interval for the students of Std. 6, 7 and Std. 9, 10
- One big hall with 40 students capacity, computer lab, science laboratory, library, support room, girl's room, principal office, staff room, administration office, separate toilets for boys and girls
- Trained teachers for Maths, Science, English, Social Science and Language
- Full time trained teacher for computer lab with internet connectivity
- Fully equipped library with life utility books
- Play ground of 20000 Sq.M.

### 4. ICT @ Schools Scheme

ICT in school (Information and Communication Technology in Schools) scheme was implemented in 2007-08 for computer training and training from computers.

### 5. Distribution of Cost Free Text Books Reports

Under the state government scheme "Indian Scheme" cost free text books was distributed to the students of government and granted schools.

## 2.24 Gains and Achievements

The overall literacy rate of the district has increased as well as male-female literacy rates and gender and rural-urban gaps have been converging. Increasing and high enrolment rates are evidently clear and no wide gaps with regard to rural-urban and gender were visible as for as these variables are concerned. Decreased dropout rates and out of school children are positive achievements. The state recently conducted a comprehensive survey and it has been reported that state would enroll all the out of school children as early as possible. Basic pattern of school education of Kachchh has been composed of primary, middle, high and higher secondary schools and primary schooling has evidently been dominated by rural areas and almost same basic pattern in government secondary schooling has prevailed. As far as the issue of number of schools, it seems that there is sufficient number of schools in Kachchh district. All the teachers of primary and secondary schools are trained and gender equity is also there. Basic physical infrastructure has been found to be satisfactory in secondary schools except labs. No secondary school has been found without teacher or with single teacher. Recently increase in expenditure in the district on education is a positive and welcome step. Access to primary and middle schools in rural and urban areas has been found satisfactory and no rural-urban differences have been observed. Absence of non-formal/adult literacy programmes has been observed. Mid-day meal scheme has been operative in all primary schools of the district. Efforts for education for disabled students and out of school disabled have been started bearing fruits.

The achievement is both because the demand for education has increased and the supply has also improved in most parts of the state.

## 2.25 SWOC Analysis

The SWOC analysis of education sector in Kachchh district is presented in the box 2.5:

### BOX 2.5: SWOC Analysis of Education

| Strength | Weakness |
|---|---|
| • Literacy rate of Kachchh district was 59.79 percent in 2001 whereas in 2011 it increased to 70.59 percent. It shows an improvement of 10.80 percent.<br>• Gender gap is decreasing in literacy.<br>• The numbers of government schools as well as private schools are increasing.<br>• Drinking water facility is available in all the schools.<br>• Trained teachers at secondary and higher secondary level is increasing.<br>• The percentage of schools with separate girl's toilet is 94.7 percent which is helpful in increasing the enrolment of girls. | • Kachchh district ranks 22nd in 2001 whereas the rank increased to 23rd in 2011 which shows the backwardness of district in education.<br>• The percentage of government teachers is falling whereas the percentage of private teachers is increasing.<br>• The repetition rate of district increased to 0.45 in 2013-14.<br>• The dropout rate at std. 1 to 7 is increasing.<br>• There is need to address the quality of teaching in primary and upper primary schools. |
| **SWOC ANALYSIS** | |
| • Recruitment of full time teachers (not contractual) in their priority talukas facing teacher's retention problem.<br>• Kachchh is facing the problem of vast and diversified area. So free transport facility should be joined with any government scheme. This will be helpful in increasing the enrolment of girls.<br>• Ambitious and committed staff.<br>• Disciplined and determined pupils.<br>• Proper training needs to be imparted to the teachers to improve the quality of education in the system. | • The major areas of focus should be on reducing dropout rate among the girls after standard 8th and 10th.<br>• Focusing more on girls enrolment as the gender disparity in education, needs to be addressed.<br>• Inability by parents to provide scholastic requirements to children.<br>• There is still a scope for improving pupil teacher ratio for higher secondary schools. |
| **Opportunity** | **Challenges** |

## 2.26 Success Stories

### Box 2.6: Success Story
### Seeing the Change: A Case of Vindhaber Primary School

*Vindhaber Primary School is situated in Vindhaber village, a small village on Jakhau road in Abdasa taluka. Agriculture and animal husbandry is primary occupation in the village. As agriculture in the area is purely dependent on rain so people go far for labour work in the nearby areas outside. Scanty rainfall also demands for greater time, energy and resources for feeding the cattle's so children in the families work with parents leading to irregularity in the school.*

*Prajapati Dharmendra Kumar Fullabhai, class teacher of Vindhaber School for the class 1 to 4 revealed that in July – August 2009 when CARE - KLEAP Project started in Abdasa it was found that the education level of the students was very low. Even the activities done by the teachers were seen not so interesting. During the initial assessment it was found out that the teachers taught the students in the same old way as to write on the black board and ask the children to do or write that for 5 or 10 times. Or else ask a child to stand and read the lesson phrases or write alphabets. As a result the child was not able to learn much and even not interested in studies. In short no such activity has been done where the child would be keen to learn things rather the entire classroom felt to be boredom.*

*With the support of CARE and PNGO and firm efforts of the teacher Shri Dharmendra kumar, tremendous changes have been found in the learning levels of the students. Especially in Maths, with the help of the flash cards, pictures and the activity bank of CARE INDIA the students are able to recognize numbers from 1 to 9999 and even the teachers also found it easy to teach with the help of the materials suggested. It has been found that not only the interest has developed, but also the learning level of the students has also increased. Moreover the relationship between the student and the teacher has been improved. When the parents came to know about all these activities they also extended their support. Earlier the attendance of students was only 50 %, which now increased to 75% and some students who never attended the school started coming to school and took interest in educational activities.*

*The teacher himself says that during his 5 to 6 years tenure of service he has never learnt things that he has learnt in 5 – 6 months due to CARE program. Through the program not only the quality and capability of teacher has been increased but also the learning strategy and quality of education for children has been increased. He revealed that all students now show readiness to take part in the assembly and even the teacher himself has prepared 25 to 30 songs and the works never done like action songs, story telling etc is being done and carried out in a very smooth and interesting ways. Around 80% students are exited and interested to participate in the assembly. Through this children's have developed their confidence and creativity.*

*Vindhber Primary School is an outstanding instance of the hard efforts and strong determination of teacher Shri Dharmendra Kumar (class 1 to 4). Other schools have accepted this school has a role model for them, as result of this other schools have also started doing such activities.*

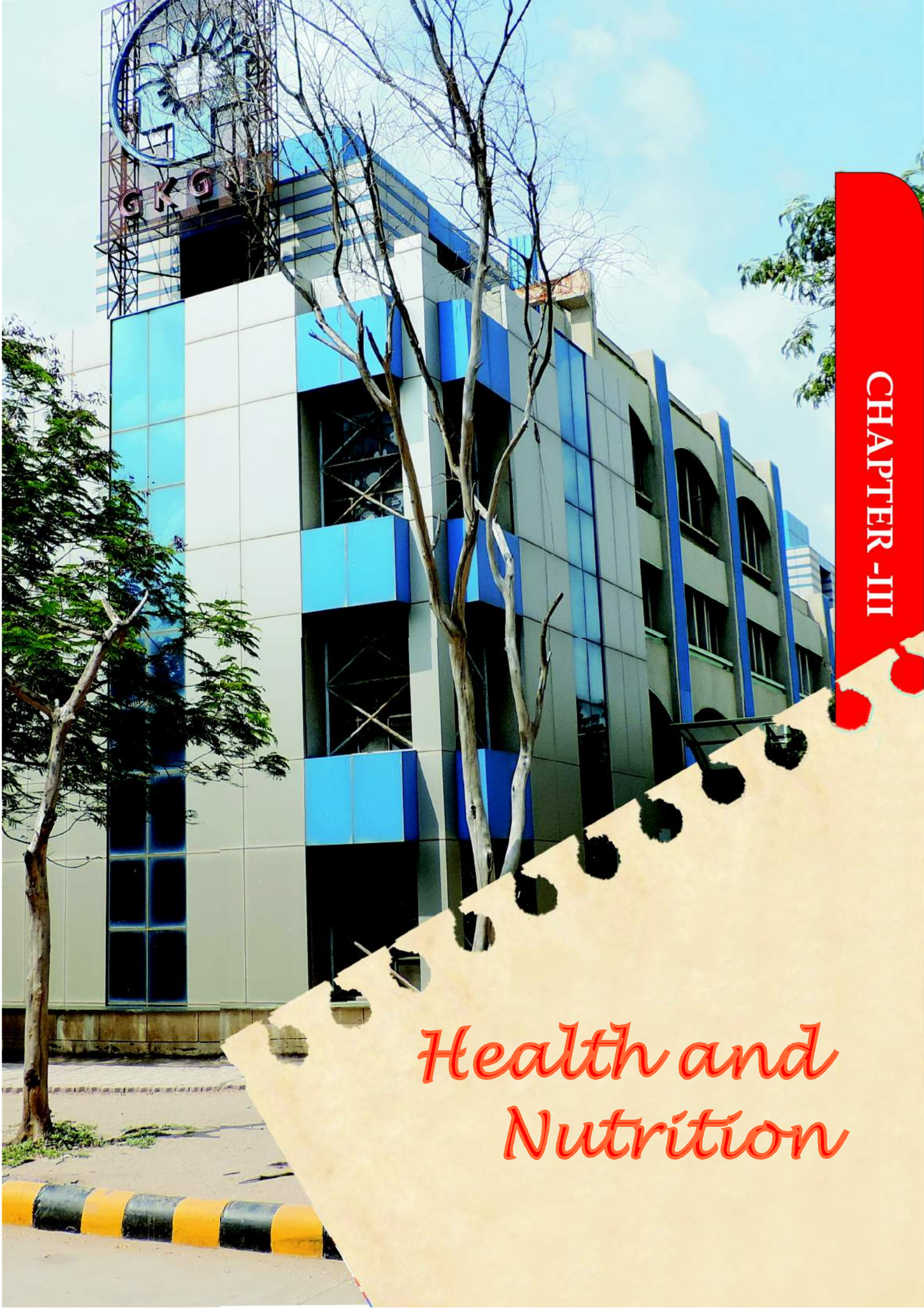
## Box 2.7: Success Story
## Reducing Dropout - Tunda Wandh Primary School

*Tundavandh, a remote village situated in Mundra block of Kutch district is predominantly inhabited by Rabbari community traditionally engaged in livestock rearing for their livelihood. Due to rapid industrialization especially post disastrous earthquake in 2001 village got surrounded by two major power plants set up by Tata and Adani groups. This development had adverse impact on children's attendance and enrollment in the village primary school as parents would go early morning to work inside the plant and return late evening, so not able to pay attention to their children education. Right from the inception of the Kutch Livelihood Education Advancement Project (KLEAP), this school has been a challenging school to work with. However, of late scenario has changed and many positive developments are observed in the school.*

*Tackling issue of absenteeism and drop out of girls was major challenge before CARE team starts working on other aspects of improving the quality of teaching and learning in the school. To address this issue sensitization of community and parents was prerequisite. Therefore project organized Information Education and Communication (IEC) event in the village for three consecutive years before beginning of academic session for behavior and attitudinal change of parents. IEC focused on children absenteeism, girls drop outs, early marriages and poor community response to school.*

*After the gap of three years changes occurred in this school was something worth narrating and appreciating. During the assembly it was noticed that mix sitting arrangement of boys and girls and facilitation of assembly by the children themselves, and not by teachers. It wasn't small improvement as school had many aforesaid issues and properly organized morning assembly facilitated by children on rotation basis is one of the critical indicators of school improvement.*

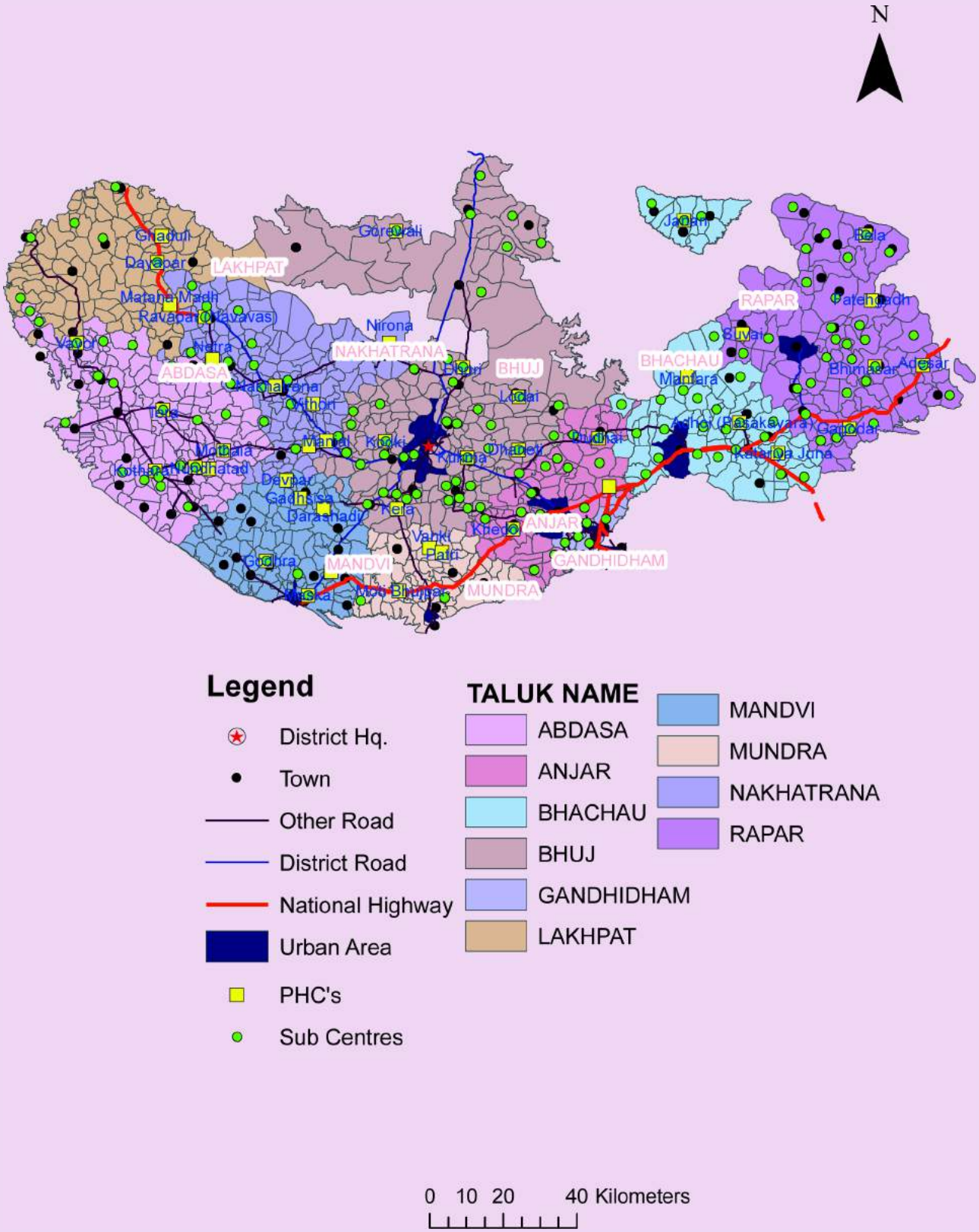
*It was observed that children were preparing for experiments as per their plan. Children from grade 6th were classifying 'starch' from given substance and whereas grade 7th children produced 'oxygen' and 'hydrogen' using chemicals. This was apparent in this school. It is also noticed that teacher's efforts and community support in school We believe that enabling environment help children to grow to their fullest potential, it has come true in this school. Interactive school assembly and its relation to classroom processes were evident in children confidence and their way of response towards learning.*




CHAPTER -III

# Health and Nutrition

# HEALTH FACILITIES IN KACHCHH DISTRICT



# Chapter 3

# Health and Nutrition

Since the Alma-Ata Conference of 1978, which declared health as a fundamental human right, health and nutrition have been accepted as important national concerns in the developing countries. In the Indian federal system, health is the concern of state governments, though some of the important health programmes are funded by the central government.

Health policies in developing countries, including India, have focused on the issues related to population growth, common diseases, nutrition, disability, newly emerging diseases such as AIDS, occupational diseases, mental diseases, and so on. Reducing population growth rates continues to be a very important goal of the health sector owing to the high fertility rates in many states. Malaria, tuberculosis, waterborne diseases, respiratory diseases, and diseases related to mal and under-nutrition continue to trouble the population. Nutritional deficiencies among women, children and the poor; particularly deficiencies of basic minerals, some vitamins, and proteins resulting in stunted growth of women and children, is a major concern.

New health problems have emerged. For example, AIDS has become a threatening disease with its high incidence among migrants, particularly among single male migrants and circular migrants. There are new challenges because of environmental pollution and increased exposure to toxic substances in everyday life. Increasing urbanization has thrown up new health challenges emanating from dense living conditions. While, new challenges keep emerging, the earlier health agenda continues to require attention. The challenges in the health sector are thus multiple.

Health is important for human welfare. As a Gujarati proverb says "the first happiness is health, the second is a full stomach". One can't enjoy food if one is not healthy (of course, one cannot be healthy if one doesn't have enough food). To lead a productive life, one needs good health. As Viner (1953) observed "the first requirement of high labour productivity under modern conditions are that the masses of the population should be literate, healthy and sufficiently well-fed to be strong and energetic. Health, like education, is desirable in itself.

## 3.1 Importance of Health

Health is defined by the World Health Organization (WHO) as "a state of complete physical, mental, and social well-being and not merely absence of disease or infirmity." This definition was accepted by all the signatories to the Alma Ata Declaration on health adopted by the Thirty-first World Health Assembly in 1978. This declaration gave the call of 'Health for All by 2000 AD' and accepted that primary health care was a key to attaining this goal. The purpose of this definition was to bring the positive concept of general well-being into focus rather than a negative definition of absence of disease.

The human development concept of UNDP is based on the ethics of life claims. Good health is towards universalization of life claims (UNDP 1995). 'Health is wealth' goes the old saying in India. At the Alma Ata Conference the joint report of the Director - General of WHO and the

Executive Director of UNICEF stated. "…health systems are all too often being devised outside the mainstream of social and economic development. These systems frequently restrict themselves to medical care, although industrialization and deliberate alteration of the environment are creating health problems whose proper control lies far beyond the scope of medical care." (Tejada-de-Rivero 1981: 35). Keeping this in mind this report discusses the impact of macro level issues on health.

**BOX 3.1**
**Factors Affecting Health Status**

- *Health status is an outcome of a large number of factors*
- *Poverty, food security, food pricing and malnutrition*
- *Environmental pollution and degradation*
- *Occupational health problems Reproductive health problems*
- *Household economy and wages*
- *Economic development; represented by per capita income, urbanization and industrialization*
- *Social development; especially literacy rates*
- *Prices of private health care system*
- *Public health care delivery system.*

Health is important in three distinct ways: (a) it has intrinsic importance, (b) it has an instrumental importance at personal and social levels, and (c) it promotes empowerment of people. In the intrinsic sense health is important, because it is a direct measure of human wellbeing. It is a fulfillment of life. Being healthy is a valuable achievement in itself. The 'basic needs approach' considers health as a basic need along with food, clothing, shelter, and education. Starting with Pigou, the basic needs approach is utilitarian, "because and only because fulfillment" of basic needs "contributes to utility" (Sen 1985: 25). Sen, however, disagrees with this utilitarian approach. He argues that, "value of the living standard lies in the living" (1985, 25) and better health is better living. Health is important because it is better living and not because it is an instrument for better living or has a utility.

Better health can have interpersonal benefits. There are many externalities of morbidity. Continuous illness in a family can stifle the options for a family. More often than not, it is the woman, who is socially obliged to take the responsibility of a sick person in a family patriarchal. In the instrumental sense, good health has an economic rationale. It leads to reduced medical costs of the government and households. More the public sector expenditure on preventive health less the household sector expenditure on curative health. Ill health may lead to loss of income for poor families subsisting on daily income. This may push the family to hunger and malnutrition. It may also increase the debt burden of the family, which in turn can lead to distress selling of their assets. The limited budget of the family is usually spent on the treatment of male members neglecting female child and adult females. Improvement in health leads to gains in worker productivity. A healthy worker works more and increases the household income as well as GNP.

Better health status of the population also leads to reduced mortality and higher life expectancy. It leads to decline in infant and child mortality. With increase in chances of child survival, fertility rates tend to decline, which leads to lowering down of population growth

rates. Thus, better health status leads to demographic transition steadying the population growth rate essential for sustainable development. Health therefore has many instrumental roles at personal and social level.

In the case of children, better health leads to better attendance in school and to higher level of knowledge attainment, which leads to better paid jobs and larger benefits to future generations. Nutritional deficiency in children, on the other hand, leads to irreversible and long-term disabilities such as blindness, reduction in cognitive functions, mental retardation, etc.

Sickness or ill-health imposes a burden on other members of the family and also on society. Absenteeism from work, on account of ill-health, can result in a loss of production and productivity. Thus, to emerge as a wealthy nation, a healthy society is desirable. Health, however, cannot be ensured simply by individual efforts. Social action is needed for sanitation, water supply, clean air, waste disposal and an environment which does not breed diseases or result in epidemics. Public policy and action is critical in ensuring adequate infrastructure and follow-up for a healthy society.

## 3.2 Vital Health Statistics

The vital health statistics of Kachchh district is shown in the table 3.1

**Table 3.1: Vital Health Statistics of Kachchh District (2008-2013)**

| Details | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|---|---|---|---|---|---|---|
| Mid Year Estimated Popu. | 1813500 | 1816300 | 1843825 | 1859996 | 2090313 | 2209760 |
| Area of the City (Sq. Kms) | 45652 | 45652 | 45652 | 45652 | 45652 | 45652 |
| Registered Births | 39346 | 40061 | 43195 | 44190 | 44381 | 46375 |
| Registered Deaths | 7782 | 7931 | 8199 | 8046 | 8346 | 8732 |
| Registered Infant Deaths | 359 | 244 | 335 | 310 | 844 | 618 |
| Registered Maternal Deaths | 38 | 45 | 39 | 42 | 43 | 29 |
| Registered Still Births | 289 | 312 | 382 | 412 | 485 | 691 |
| Crude Birth Rate | 21.7 | 22.1 | 23.4 | 23.8 | 21.2 | 21.0 |
| Crude Death Rate | 4.3 | 4.4 | 4.4 | 4.3 | 4.0 | 4.0 |
| Still Birth Ratio | 7.3 | 7.8 | 8.8 | 9.3 | 10.9 | 14.9 |
| Popu. Density per Sq Km | 33 | 33 | 33 | 46 | 46 | 46 |

***Source: District Statistical Outline, Kachchh***

## 3.3 Birth and Death Rate

The health status is generally measured in terms of life expectancy at birth, infant mortality rate, fertility rate, crude birth rate and crude death rate. The indicators of health status, the birth and death rates are more reflective of the demographic changes taking place in the country. The life expectancy rate and the infant mortality rates are better indicators of health status of the population. The birth rate and death rate of district is presented in table 3.2:

**Table 3.2: Birth Rate and Death Rate in Kachchh District**

| Year | Birth Rate | | | Death Rate | | |
|---|---|---|---|---|---|---|
| | Rural | Urban | Combined | Rural | Urban | Combined |
| 2005 | 28.06 | 23.90 | 25.98 | 2.00 | 5.71 | 3.85 |
| 2006 | 27.28 | 23.84 | 25.56 | 2.79 | 6.90 | 4.85 |
| 2007 | 26.46 | 23.14 | 24.80 | 2.62 | 6.17 | 4.40 |
| 2008 | 25.66 | 22.44 | 21.70 | 2.47 | 6.99 | 4.29 |
| 2009 | 24.86 | 21.74 | 22.06 | 3.15 | 7.81 | 4.37 |
| 2010 | 26.22 | 20.20 | 23.43 | 3.24 | 7.89 | 4.45 |
| 2011 | 25.57 | 20.54 | 23.76 | 3.00 | 8.04 | 4.33 |
| 2012 | 25.51 | 19.42 | 21.23 | 2.90 | 6.95 | 3.99 |
| 2013 | 21.50 | 19.55 | 20.99 | 2.83 | 7.37 | 3.95 |

*Source: District Statistical Outline, Kachchh*

The table 3.2 shows that in 2005 the birth rate was 25.98 in a district but in 2013 it decreased to 20.99 during the year 2013 while the death rate was 3.85 in 2005 but it marginal increased to 3.95 during the year 2013. Death rates represent the number of people per thousand persons from the entire population or an age group who are likely to die within a given year. It represents a very basic indicator of health and in the absence of indicators of morbidity, affliction of deadly diseases and the impact of curative systems; death rate is an important true indicator.

## 3.4 Health Infrastructure in Kachchh

Physical health of the population is one of the important indicators of development. The health of the population, however, is determined by the level of medical infrastructure as well as the number of doctors, health workers per unit of population; of course, apart from the nutritional

**BOX 3.2**
**Health Care Delivery System in Gujarat**

*The health care delivery in Gujarat is organized in a three tier system: (i) At the primary level, there are primary health centers (PHCs) and sub-centers. (ii) At the intermediate level, there are community health centers (CHCs), taluka hospitals, and district hospitals. About 3-4 PHCs are affiliated to CHCs. It has been planned to develop CHCs as a first referral units (FRU), because they are scattered all over the state and can provide hospital services at the doorstep of the patient. Almost all CHCs are located in taluka headquarters or other important towns of a taluka. There is at least one operational hospital in each district headquarters. (iii) The tertiary or referral level facilities are affiliated to medical colleges and specialized hospitals.*

*Norms for health facilities are:*

| | | |
|---|---|---|
| *PHC* | *all areas* | *one per 30,000 population* |
| *PHC* | *tribal, hilly & inaccessible areas* | *one per 20,000 population* |
| *Sub-Centre* | *all areas* | *one per 5,000 population* |
| *Sub-Centre* | *tribal, hilly & inaccessible* | *one per 3,000 population* |
| *CHC* | *areas all areas* | *one per 100,000 population* |

standards of food intake, type of environment etc. In this regard, analysis of health services related infrastructure becomes important from the planning point of view. The health infrastructure in Kachchh district is given in the table 3.3:

The table 3.3 shows that total public health centers were 42, Community health centers were 14 and government hospitals were 5 in Kachchh district during the year 2013 whereas the number of beds were 252, 555 and 927 beds respectively. The taluka wise primary health centers, community health centers and sub centers are shown in the table 3.4:

**Table 3.3**
**Health Infrastructure in Kachchh District (2013)**

| Sr. | Name | Kachchh (No.) |
|---|---|---|
| 1 | Number of P.H.C. | 42 |
| 2 | Number of Beds in P.H.C. | 252 |
| 3 | Number of C.H.C. | 14 |
| 4 | Number of Beds in C.H.C. | 555 |
| 5 | Number of Government Hospitals | 5 |
| 6 | Number of Beds in Government Hospitals | 927 |
| 7 | Number of Dispensaries | 6 |
| 8 | Number of Ayurved Hospitals | 12 |
| 9 | Number of Homeopathy Hospitals | 8 |

***Source: Health Statistics, 2013-14 & Statistical Abstract 2015, Gujarat***

The table 3.4 shows that out of 42 public health centers, highest 7 public health centers were in Bhuj taluka and 6 were in Mundra taluka. On the other side out of 277 sub centers, highest 52 were in Mundra taluka and followed by Bhuj taluka with 44 sub centers.

Government primary health centers (PHCs), sub centers and hospitals are the important health services providing medical facilities in the rural areas. Although many private practitioners have also started operating in rural areas, yet their number is relatively small and they are located mainly in the main business centers.

**Table 3.4**
**Taluka Wise PHCs, SCs and CHC (2013)**

| Sr | Taluka | PHC | SC | CHC |
|---|---|---|---|---|
| 1 | Lakhpat | 5 | 27 | 1 |
| 2 | Rapar | 2 | 17 | 1 |
| 3 | Bhachau | 3 | 19 | 1 |
| 4 | Anjar | 5 | 34 | 3 |
| 5 | Bhuj | 7 | 44 | 2 |
| 6 | Nakhtrana | 4 | 13 | 1 |
| 7 | Abdasa | 4 | 34 | 1 |
| 8 | Mandvi | 5 | 30 | 1 |
| 9 | Mundra | 6 | 52 | 2 |
| 10 | Gandhidham | 1 | 7 | 1 |
| | **Total** | **42** | **277** | **14** |

***Source:District Statistical Outline, Kachchh***

The taluka wise doctors and nurses have been presented in the table 3.5:

The table 3.5 shows that there are 50 medical officers and 141 nurses in district. The number of medical officers and nurses per 10000 population is 0.24 and 0.67 only in the district. The taluka wise health personnel at CHCs are presented in the table 3.6:

**Table 3.5: Taluka Wise Doctors and Nurses (2013)**

| Sr. | Taluka | Medical Officer | Number of MO per 10000 Population | Nurses | Number of Nurses per 10000 Population |
|---|---|---|---|---|---|
| 1 | Lakhapat | 4 | 0.64 | 4 | 0.64 |
| 2 | Rapar | 8 | 0.37 | 11 | 0.51 |
| 3 | Bhachau | 6 | 0.32 | 22 | 1.18 |
| 4 | Anjar | 5 | 0.21 | 22 | 0.93 |
| 5 | Bhuj | 9 | 0.20 | 30 | 0.68 |
| 6 | Nakhatrana | 5 | 0.34 | 16 | 1.09 |
| 7 | Abdasa | 5 | 0.43 | 5 | 0.43 |
| 8 | Mandvi | 5 | 0.25 | 17 | 0.84 |
| 9 | Mundra | 2 | 0.13 | 4 | 0.26 |
| 10 | Gandhidham | 1 | 0.03 | 10 | 0.31 |
| | **Total** | **50** | **0.24** | **141** | **0.67** |

***Source: Health Department, Kachchh***

The table 3.6 reveals that 13-13 posts were sanctioned for General Surgeon, Physician, Gynecologist and Pediatrics for community health centers but against this 12 General Surgeon are functioning and 17 pediatrics are functioning against 13 sanctioned posts. The table 3.5 also reveals that only 17 medical officers are functioning against 34 sanctioned posts.The taluka wise average population served by SCs, PHCs and CHCs is presented in the table 3.7:

**Table 3.6: Taluka Wise Health Personnel at CHCs (2013)**

| Sr | Taluka | General Surgeon | | Physic-ian | | Gynaec-ologist | | Paedia-trics | | MO (MBBS) | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | **S** | **F** | **S** | **F** | **S** | **F** | **S** | **F** | **S** | **F** |
| 1 | Lakhpat | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 0 |
| 2 | Rapar | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 6 | 3 |
| 3 | Bhachau | 3 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 9 | 3 |
| 4 | Anjar | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 3 |
| 5 | Bhuj | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 6 | 5 |
| 6 | Nakhatrana | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 2 | 0 |
| 7 | Abdasa | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 1 | 0 |
| 8 | Mandvi | - | - | - | - | - | - | - | - | - | - |
| 9 | Mundra | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 3 |
| 10 | Gandhidham | - | - | - | - | - | - | - | - | - | - |
| | **Total** | **13** | **12** | **13** | **13** | **13** | **13** | **13** | **17** | **34** | **17** |

***Source: Health Department, Kachchh***

The table 3.7 shows that 63454 average population served by sub centers, 431090 average population served by primary health centers and 1297879 average population served by community health centers which is 3.0, 20.6 and 62.0 percent of the total population.

**Table 3.7: Taluka Wise Average Population Served by SCs, PHCs & CHCs (2011-12)**

| Sr | Talukas | Total | SCs | | PHCs | | CHCs | |
|---|---|---|---|---|---|---|---|---|
| | | Population | No | % | No | % | No | % |
| 1 | Lakhapat | 62552 | 4308 | 6.9 | 14000 | 22.4 | 56000 | 89.5 |
| 2 | Rapar | 217315 | 4192 | 1.9 | 36335 | 16.7 | 217000 | 99.9 |
| 3 | Bhachau | 186035 | 5500 | 3.0 | 33300 | 17.9 | 75000 | 40.3 |
| 4 | Anjar | 235537 | 8753 | 3.7 | 56897 | 24.2 | 167588 | 71.2 |
| 5 | Bhuj | 443269 | 5895 | 1.3 | 32598 | 7.4 | 114877 | 25.9 |
| 6 | Nakhatrana | 146367 | 5666 | 3.9 | 34000 | 23.2 | 170000 | 13.9 |
| 7 | Abadasa | 117538 | 3072 | 2.6 | 29384 | 25.0 | 104443 | 88.9 |
| 8 | Mandvi | 203373 | 5611 | 2.8 | 37880 | 18.6 | 151520 | 74.5 |
| 9 | Mundra | 153219 | 9000 | 5.9 | 76500 | 49.9 | 132881 | 86.7 |
| 10 | Gandhidham | 327166 | 11457 | 3.5 | 80196 | 24.5 | 108570 | 33.2 |
| | **Total** | **2092371** | **63454** | **3.0** | **431090** | **20.6** | **1297879** | **62.0** |

*Source: Health Department, Kachchh*

## 3.5 Outdoor and Indoor Patients

The total patients served by PHC, CHC and civil hospitals are shown in the table 3.8:

**Table 3.8: Outdoor and Indoor Patients Served (2008-09 to 2013-14)**

| Particulars | Year | Outdoor | | Indoor | | Total |
|---|---|---|---|---|---|---|
| | | No. | % | No. | % | |
| Public Health | 2008-09 | 366625 | 97.8 | 8254 | 2.2 | 374879 |
| Centers | 2009-10 | 417591 | 98.4 | 6783 | 1.6 | 424374 |
| | 2010-11 | 413664 | 98.4 | 6774 | 1.6 | 420438 |
| | 2011-12 | 359634 | 97.8 | 7929 | 2.2 | 367563 |
| | 2013-14 | 358830 | 97.9 | 7519 | 2.1 | 366349 |
| Community | 2008-09 | 291067 | 90.7 | 29818 | 9.3 | 320885 |
| Health Centers | 2009-10 | 326356 | 90.1 | 35939 | 9.9 | 362295 |
| | 2010-11 | 319165 | 89.2 | 38562 | 10.8 | 357727 |
| | 2011-12 | 292443 | 88.7 | 37180 | 11.3 | 329623 |
| | 2013-14 | 322354 | 88.6 | 41408 | 11.4 | 363762 |
| District/ Civil | 2008-09 | 1732866 | 81.5 | 392131 | 18.5 | 2124997 |
| Hospitals | 2009-10 | 337293 | 77.6 | 97536 | 22.4 | 434829 |
| | 2010-11 | 301225 | 76.5 | 92765 | 23.5 | 393990 |
| | 2011-12 | 269371 | 73.5 | 97366 | 26.5 | 366737 |
| | 2013-14 | 307623 | 74.4 | 105610 | 25.6 | 413233 |
| **Total** | **2008-09** | **2390558** | **84.7** | **430203** | **15.3** | **2820761** |
| | **2009-10** | **1081240** | **88.5** | **140258** | **11.5** | **1221498** |
| | **2010-11** | **1034054** | **88.2** | **138101** | **11.8** | **1172155** |
| | **2011-12** | **921448** | **86.6** | **142475** | **13.4** | **1063923** |
| | **2013-14** | **988807** | **86.5** | **154537** | **13.5** | **1143344** |

*Source: Health Statistics, Gujarat*

The percentage change in outdoor patients is presented in figure 3.1 and the changes in indoor patients are presented in figure 3.2:

**Figure 3.1**
**Percentage Outdoor Patients Served**
**(2008-09 to 2013-14)**

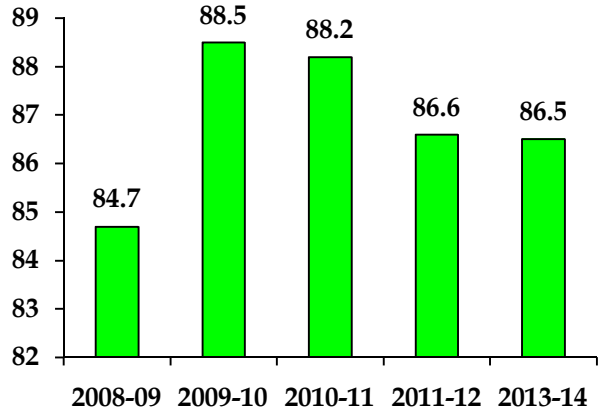
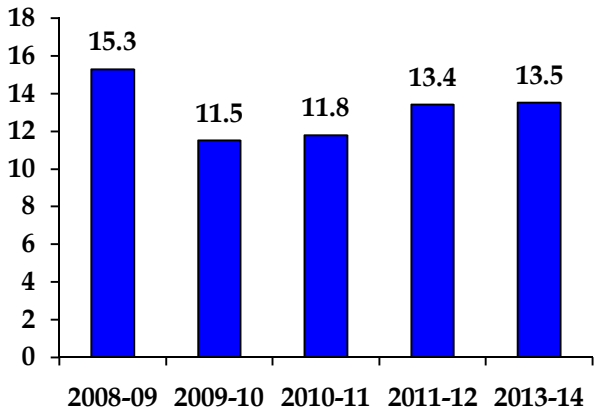



**Figure 3.2**
**Percentage Indoor Patients Served**
**(2008-09 to 2013-14)**




*Source: Health Statistics, Gujarat*

## 3.6 Prevalence and Incidence of Various Communicable Diseases

Malaria is a potentially life threatening parasitic disease and has been one of the major public health problems in India. The public health department has been spraying DDT to contain the incidence of malaria, although the coverage of DDT spraying is not satisfactory in the district. Also, Radical Treatment has been introduced against all malaria positive and fever cases.Tuberculosis has been a major public health problem not only in Kachchh district or Gujarat but also in different parts of India. Latest estimates show that in India, about 40 per cent of the population is infected with the tuberculosis bacillus (Ministry of Health & Family Welfare, Government of India, 2004).

India accounts for more than 60 per cent of total global recorded cases of leprosy. The states with high prevalence rates are Uttar Pradesh, Bihar, Orissa and West Bengal (National Leprosy Elimination Programme Status Report, 2000). Since there is no effective primary prevention, early detection, regular and adequate treatment with Multi Drug Therapy (MDT) and follow-up surveillance are essential for eradication of the disease.Like other communicable diseases, leprosy has been one of the major public health problems in the district for a long time.

**Table 3.9**
**Patient Treated Under Various Diseases**

| Sr | Disease | 2010-11 | 2012-13 | 2013-14 |
|---|---|---|---|---|
| 1 | Gastroenteritis | 14880 | 16280 | 18654 |
| 2 | Injective Hepatitis | 86 | 430 | 437 |
| 3 | Enteric Fever | 676 | 1042 | 904 |
| 4 | Malaria | 3237 | 2756 | 840 |
| 5 | Aids | 625 | 964 | 1420 |
| 6 | Measles | 154 | 5 | 68 |
| 7 | T.T. Others | 0 | 0 | 0 |
| 8 | Leprosy | 163 | 37 | 25 |
| 9 | T.B. | 1750 | 1805 | 2128 |

***Source: Source: Commissionerate of Health, Medical Services and Medical Education, Gandhinagar***

After the introduction of MDT during last twenty years enormous progress has been achieved in combating the disease. The patient treated for various diseases is shown in the table 3.9:

The table 3.9 shows that in 2013-14 the patients of Gastroenteritis, Injective Hepatitis, Enteric Fever, Aids and T.B were increased to 18654, 437, 904, 1420 and 2128 patients from 14880, 86, 676, 625 and 1750 in 2010-11. On the other side the patients of Malaria, Measles and Leprosy decreased to 840, 68 and 25 from 3237, 154 and 163 in 2010-11.

## 3.7 Early ANC Registrations

Early Antenatal registrations play an important role in improving the health of the expectant mothers and child. This helps the state to tract the health status of the expectant mothers with regards to timely immunisation, nutrient supplements, handling emergencies, pregnancy related complications etc. Further an important measure of safe mother hood. The ANC registration is presented in the table 3.10:

**Table 3.10: ANC Registration, 2010-11 to 2013-14**

| Sr | Description | 2010-11 | 2012-13 | 2013-14 |
|---|---|---|---|---|
| 1 | Performance of ANC Registration | 47490 | 51742 | 57023 |
| 2 | Percentage of ANC Registration | 94.98 | 94.08 | 154.12 |
| 3 | Early Registration | 26113 | 34820 | 40943 |
| 4 | Percentage of Early Registration to Total ANC | 54.99 | 67.30 | 71.80 |
| 5 | Performance of TT Doses | 44784 | 46902 | 49220 |
| 6 | Percentage of TT against ANC Registration | 94.30 | 90.65 | 96.54 |
| 7 | ANC 3 Check up | 37705 | 42281 | 46245 |
| 8 | Percentage of ANC 3 Check up against ANC Registration | 79.40 | 81.72 | 81.10 |

***Source: Health Statistics, Gujarat, 2010-11, 2012-13& 2013-14***

The table 3.10 shows the performance of ANC registration in 2010-11, 2012-13 and 2013-14. The performance of ANC registration was 47490 in 2011 and it increased to 57023 in 2013-14 which is 94.98 and 154.12 percent respectively.

The table 3.10 also reveals that the percentage of early registration to total ANC was 54.99 percent in 2010-11 which increased to 71.80 percent in 2013-14. Although the performance of TT doses increased to 49220 in 2013-14 from 44784 in 2011 but the percentage of TT doses against ANC registration decreased to 90.65 percent from 94.30 percent.

The taluka wise annual workload and performance of ANC registration is presented in the table 3.11:

**Table 3.11: Taluka wise ANC Registration 2013-14**

| Sr. | Taluka | Total Population | ANC Reg. | % of ANC Reg. |
|---|---|---|---|---|
| 1 | Lakhapat | 62552 | 1473 | 2.35 |
| 2 | Rapar | 217315 | 6205 | 2.86 |
| 3 | Bhachau | 186035 | 4310 | 2.32 |
| 4 | Anjar | 235537 | 3640 | 1.55 |
| 5 | Bhuj | 443269 | 8145 | 1.84 |
| 6 | Nakhatrana | 146367 | 3869 | 2.64 |
| 7 | Abdasa | 117538 | 2911 | 2.48 |
| 8 | Mandvi | 203373 | 3877 | 1.91 |
| 9 | Mundra | 153219 | 2999 | 1.96 |
| 10 | Gandhidham | 327166 | 1554 | 0.47 |
| | **Rural Total** | **34694609** | **38983** | **0.11** |
| | **Urban Total** | **25745083** | **12991** | **0.05** |
| | **Grand Total** | **60439692** | **51974** | **0.09** |

***Source: Health Statistics, Gujarat***

The table 3.11 reveals that the highest percentage of ANC registration is found in Rapar taluka with 2.86 percent from the total population. It is followed by Nakhatrana and Abdasa taluka with 2.64 and 2.48 percent respectively. On the other side the lowest 0.47 percent of ANC registration is found in Gandhidham taluka.

## 3.8 Delivery Registration

One of the important thrusts of the Reproductive and Child Health Programme is to encourage deliveries under proper hygienic conditions under the supervision of trained health professionals. The provision of delivery services in the government health institutions is one of the components of the RCH programme. The performance of delivery registration is shown in the table 3.12:

**Table 3.12: Performance of Delivery Registration**

| Description | 2010-11 | | 2012-13 | | 2013-14 | |
|---|---|---|---|---|---|---|
| | No | % | No | % | No | % |
| Institutional Delivery | 37970 | 89.64 | 43520 | 95.88 | 39038 | 98.04 |
| Home Delivery | 4386 | 10.36 | 1870 | 4.12 | 780 | 1.96 |
| Total Delivery Registration | 42356 | 100.00 | 45390 | 100.00 | 39818 | 100.00 |

***Source: Health Statistics, Gujarat, 2010-11, 2012-13& 2013-14***

The table 3.12 shows that 95.88 percent institutional delivery was recorded in 2012-13 which increased to 98.04 percent in 2013-14 and the percent of home delivery decreased to 1.96 percent in 2013-14 from 10.36 percent in 2010-11. The taluka wise institutional delivery is shown in the table 3.13:

**Table 3.13: Taluka wise Institutional Delivery, 2010-1013 (%)**

| Sr | Taluka | 2010-11 | 2011-12 | 2012-13 |
|---|---|---|---|---|
| 1 | Abdasa-Lakhapat | 80 | 89 | 94 |
| 2 | Rapar | 85 | 85 | 90 |
| 3 | Bhachau | 78 | 84 | 93 |
| 4 | Anjar-Gandhidham | 91 | 95 | 95 |
| 5 | Bhuj | 89 | 92 | 97 |
| 6 | Nakhtrana | 86 | 97 | 99 |
| 7 | Mandvi- Mundra | 95 | 94 | 96 |

***Source: Health Department, Kachchh***

Table 3.13 shows that the highest percentage of institutional delivery found in Nakhtrana taluka with 99 percent and the increasing trend of institutional delivery is also noticed in 2012-13.

## 3.9 Immunization of Children

Immunization against various diseases during childhood is very important for long term success of health programmes. Immunization of children at early age against diseases like diptheria, polio and measles, etc. is done regularly by the parents, particularly in urban areas/ centers. In rural areas, as well, awareness in this regard is quite high and the people are taking due care in this regard. The immunization programmes are regularly run through a network of primary health centers, sub-centers and hospitals spreaded in different talukas of the district.

The immunization of children against six serious but preventable diseases namely, tuberculosis, diphtheria, pertusis, tetanus, poliomyelitis and measles is the main component of the child survival programme. As part of the National Health Policy, the National Immunization Programme is being implemented on a priority basis. The Government of India initiated the Expanded Programme on Immunization (EPI) in 1978 with the objective of reducing morbidity, mortality and disabilities among children from six diseases.

The Universal Immunization Programme (UIP) was introduced in 1985-86 with the objective of covering at least 85 percent of all infants against the five vaccine preventable diseases by 1990. This scheme has been introduced in every district of the country. The standard immunization schedule developed for the child immunization programme specifies the age at which each vaccine should be administrated and the number of doses to be given. Routine vaccinations received by infants and children are usually recorded on a vaccination card that is issued for the child. The immunization of children is presented in the table 3.14:

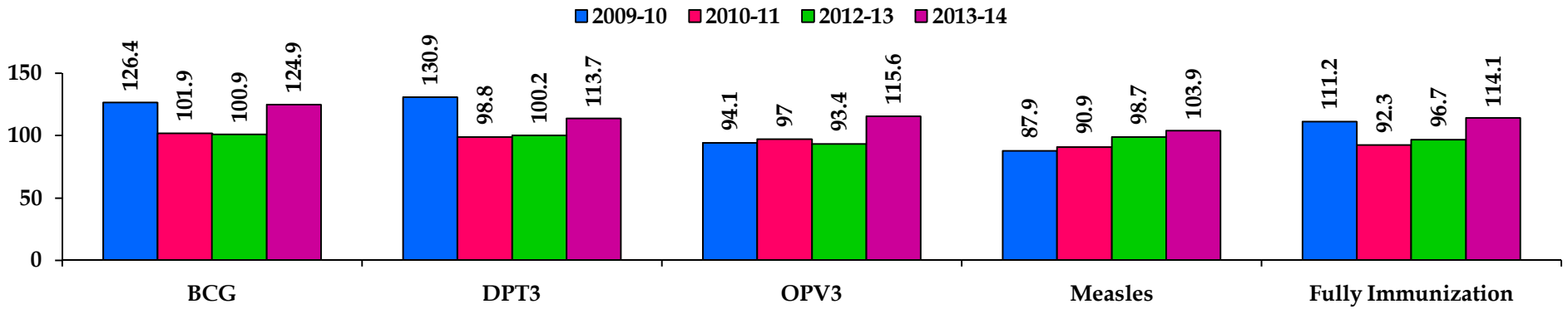
The table 3.14 describes that the percentage of BCG immunization achievement decreased in the year 2013-14 to 124.9 percent from 126.4 percent in the year 2009-10 while the percentage achievement of fully immunized increased to 114.1 percent in the year 2013-14 from 111.2 percent in the year 2009-10.

**Table 3.14: Immunization Physical Performance in Kachchh District (2009-10 to 2013-14)**

| Year | Total Live Birth | BCG | | DPT3 | | OPV3 | | Measles | | Fully Immunization | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Reported | Achieved | % | Achieved | % | Achieved | % | Achieved | % | Achieved | % |
| **2009-10** | 32748 | 41382 | 126.4 | 42890 | 130.9 | 39783 | 94.1 | 37183 | 87.9 | 36422 | 111.2 |
| **2010-11** | 42356 | 43295 | 101.9 | 41850 | 98.8 | 41817 | 97 | 39188 | 90.9 | 39101 | 92.3 |
| **2012-13** | 44700 | 45134 | 100.9 | 44785 | 100.2 | 44278 | 93.4 | 44111 | 98.7 | 43239 | 96.7 |
| **2013-14** | 41032 | 51233 | 124.9 | 46644 | 113.7 | 37322 | 115.6 | 42669 | 103.9 | 46830 | 114.1 |

*Source: Health Statistics, Health & Family Welfare Department, Govt. of Gujarat*

**Figure 3.3: Immunization Physical Performance in Kachchh District (2007-08 to 2011-12)**




*Source: Health Statistics, Health & Family Welfare Department, Govt. of Gujarat*

The percentage of achievement under various immunizations is shown in the figure 3.3:

The figure 3.3 illustrates that the percentage of BCG is decreased over the years from 2009-10 to 2013-14 to 124.9 percent. But the achievement of OPV3 increased to 115.6 percent from 94.1 percent in 2009-10 while the percentage of fully immunized in 2009-10 was 111.2 percent but in the year 2012-13 it increased to 114.1 percent.

### 3.10 Position of Kachchh District in Routine Immunization of Children in State

The position of routine immunization of children in state is shown in the table 3.15:

**Table 3.15: Routine Immunization of Children**

| Description | 2010-11 | | | 2013-14 | | |
|---|---|---|---|---|---|---|
| | Kachchh | Gujarat | % of State | Kachchh | Gujarat | % of State |
| BCG | 43195 | 1239423 | 3.49 | 51233 | 1218716 | 4.20 |
| DPT-3 | 41850 | 1192108 | 3.51 | 46644 | 1174236 | 3.97 |
| Measles | 39188 | 1153190 | 3.40 | 42669 | 1163194 | 3.67 |
| Fully immunized | 39101 | 1135332 | 3.44 | 46680 | 1157218 | 4.03 |
| Vitamin-A | 40937 | 1088901 | 3.76 | 41200 | 1054318 | 3.91 |

***Source: Health Statistics, Gujarat 2013-14***

The table 3.15 shows that during the year 2010-11, total 43195 children were BCG immunized which is 3.49 percent of state but during the year 2013-14 the BCG immunized children increased to 51233 which is 4,20 percent of the state. The fully immunized children were 39101 in Kachchh district during the year 2010-11 which is 3.44 percent of the state but in the year 2013-14, the fully immunized children were 46680 which is 4.03 percent of the state.

### 3.11 Malnutrition

It is said that children are the future of a nation. They can come up to this expectation only when the children are physically fit and mentally alert. Meeting nutritional requirements of the children thus is important for their physical and mental health. In this regard, taluka wise data for malnutrition status of the children upto 6 years of age in different talukas has been analysed and the results are presented in the table 3.16:

In order to ascertain the nutritional status of children below 6 years in different talukas of the district a total of 176031 children were weighted. From this 98.1 percent of children were reported o be of normal weight. Therefore, the result of the analysis of these data presents a picture that requires immediate attention of the planners. It is a matter of great concern as 1.9 percent of the children in this age group are malnourished.The total malnourished children per thousand of children were estimated at 19 during 2015 for the district as a whole. Among all the talukas, Anjar taluka showed better performance in terms of nutritional status with 9 children malnourished at per 1000 children. It is followed by Mundra and Bhuj taluka with 10-10 malnourished at per 1000 children. Abdasa taluka performed lowest in terms of nutritional status of children with 40 malnourished children at per 1000 children.

**Table 3.16: Taluka wise Malnutrition of Children (0-6 yrs) in Kachchh District, 2015**

| Sr | Taluka | Total Children Weighted | Total Children with Normal Weight | | Total Children Malnourished | | Malnourished Children per 1000 Children |
|---|---|---|---|---|---|---|---|
| | | | No. | % | No. | % | |
| 1 | Lakhapat | 5227 | 5021 | 96.1 | 206 | 3.9 | 39 |
| 2 | Rapar | 26324 | 25860 | 98.2 | 464 | 1.8 | 18 |
| 3 | Bhachau | 18521 | 17977 | 97.1 | 544 | 2.9 | 29 |
| 4 | Anjar | 16419 | 16275 | 99.1 | 144 | 0.9 | 9 |
| 5 | Bhuj | 32766 | 32441 | 99.0 | 325 | 1.0 | 10 |
| 6 | Nakhatrana | 15439 | 15095 | 97.8 | 344 | 2.2 | 22 |
| 7 | Abdasa | 11388 | 10937 | 96.0 | 451 | 4.0 | 40 |
| 8 | Mandvi | 18644 | 18269 | 98.0 | 375 | 2.0 | 20 |
| 9 | Mundra | 10062 | 9961 | 99.0 | 101 | 1.0 | 10 |
| 10 | Gandhidham | 21241 | 20841 | 98.1 | 400 | 1.9 | 19 |
| | **Total** | **176031** | **172677** | **98.1** | **3354** | **1.9** | **19** |

***Source: MPR, March 2015***

The malnourished children have been further categorized into 2 categories, moderate and severe. The position of different talukas in this regard is presented in the table 3.17:

**Table 3.17: Taluka wise Status of Malnutrition (0-6 yrs) in Kachchh District, 2015**

| Sr. | Taluka | Total Children with Normal Weight | | Moderate Malnourished | | Severe Malnourished | |
|---|---|---|---|---|---|---|---|
| | | No | % | No | % | No | % |
| 1 | Lakhapat | 5021 | 96.1 | 197 | 3.8 | 9 | 0.2 |
| 2 | Rapar | 25860 | 98.2 | 432 | 1.6 | 32 | 0.1 |
| 3 | Bhachau | 17977 | 97.1 | 499 | 2.7 | 45 | 0.2 |
| 4 | Anjar | 16275 | 99.1 | 88 | 0.5 | 56 | 0.3 |
| 5 | Bhuj | 32441 | 99.0 | 267 | 0.8 | 58 | 0.2 |
| 6 | Nakhatrana | 15095 | 97.8 | 324 | 2.1 | 20 | 0.1 |
| 7 | Abdasa | 10937 | 96.0 | 396 | 3.5 | 55 | 0.5 |
| 8 | Mandvi | 18269 | 98.0 | 309 | 1.7 | 66 | 0.4 |
| 9 | Mundra | 9961 | 99.0 | 90 | 0.9 | 11 | 0.1 |
| 10 | Gandhidham | 20841 | 98.1 | 344 | 1.6 | 56 | 0.3 |
| | **Total** | **172677** | **98.1** | **2946** | **1.7** | **408** | **0.2** |

***Source: MPR, March 2015***

The table 3.17 reveals that fortunately not many children are in category of severe malnourished. Majority of the children are in category of moderately malnourished with 1.7 percent. The children having severe malnutrition status worked out to 0.2 percent in the district. In general, we may have to strengthen the mid-day meal programme in primary schools and those of the angandadies, etc.The highest severe malnourished recorded in Abdasa taluka with 0.5 percent and it is followed by Mandvi taluka with 0.4 percent. These talukas in

particular require greater attention and better health care services aimed at improving the nutritional status of the children.

## 3.12 Integrated Child Development Scheme (ICDS)

ICDS is an important state sponsored programme meant for strengthening nutrition among 0-6 year age group children and pregnant women/lactating mothers. It is a major effort to not only strengthen childhood it is also an important anti-poverty programme. Central to this programme are anganwadies, nutrition supplements and the anganwadi worker. The number of anganwadies and the population covered is shown in the table 3.18:

**Table 3.18: Number of ICDS & Population Covered in Kachchh District (2013)**

| Sr | District | No. of ICDS Blocks/ Anaganwadi | | Enrolled Adolescent Girls | Average Population Covered by each ICDS |
|---|---|---|---|---|---|
| | | Sanctioned | Functional | | |
| 1 | Lakhpat | 100 | 100 | 2547 | 46018 |
| 2 | Rapar | 265 | 265 | 13563 | 204077 |
| 3 | Bhachau | 215 | 215 | 9247 | 160846 |
| 4 | Anjar | 191 | 191 | 6289 | 118259 |
| 5 | Bhuj | 416 | 416 | 14575 | 299760 |
| 6 | Nakhatrana | 198 | 198 | 7130 | 145108 |
| 7 | Abdasa | 188 | 188 | 5328 | 118259 |
| 8 | Mandvi | 233 | 233 | 8447 | 172008 |
| 9 | Mundra | 102 | 102 | 3853 | 91915 |
| 10 | Gandhidham | 192 | 192 | 7203 | 195562 |
| | **Kachchh** | **2100** | **2100** | **78182** | **1551812** |

***Source: IDCS MPR 2013***

The table 3.18 shows that total 2100 anganwadies were sanctioned in the Kachchh district and all anganwadies were functioning. The average population covered by these anganwadies was 1551812 and 78182 adolscents girls were enrolled under the programme. The number of post sanctioned in Kachchh is also presented in the table 3.19:

It is evident from the table 3.19 that total 2100 posts were sanctioned but only 1788 posts were filled. The highest posts were sanctioned in Bhuj taluka but only 343 posts were filled.

**Table 3.19: Number of Posts Sanctioned & Filled in Kachchh (2013)**

| Sr. | District | ICDS | |
|---|---|---|---|
| | | No. of Post Sanctioned | Filled in Post |
| 1 | Lakhpat | 100 | 77 |
| 2 | Rapar | 265 | 190 |
| 3 | Bhachau | 215 | 181 |
| 4 | Anjar | 191 | 159 |
| 5 | Bhuj | 416 | 343 |
| 6 | Nakhatrana | 198 | 182 |
| 7 | Abdasa | 188 | 169 |
| 8 | Mandvi | 233 | 213 |
| 9 | Mundra | 102 | 91 |
| 10 | Gandhidham | 192 | 183 |
| | **Kachchh** | 2100 | 1788 |

***Source: ICDS MPR 2013***

## 3.13 Sanitation Status

The taluka wise achievements made in respect of constructing the toilet facilities up to the year 2001 and 2011, is given in the table 3.20:

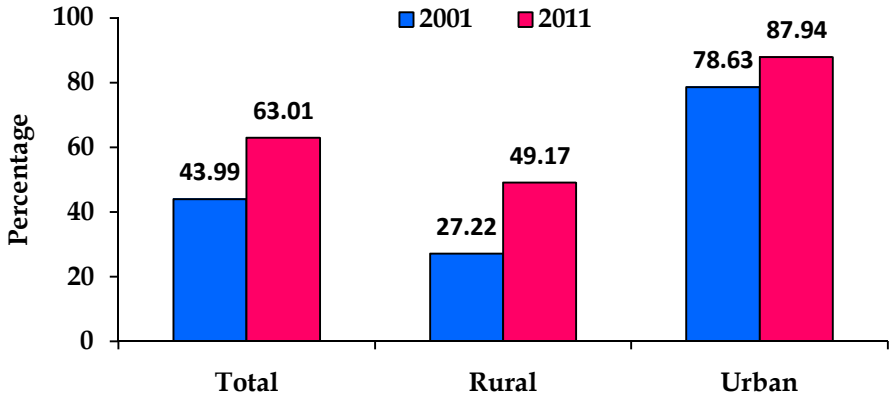
**Table 3.20: Sanitation Status in Kachchh District (2001 - 2011)**

| Description | 2001 | | | 2011 | | |
|---|---|---|---|---|---|---|
| | Rural | Urban | Total | Rural | Urban | Total |
| Total households | 208865 | 101141 | 310006 | 285991 | 158770 | 444761 |
| Number of households with toilets | 56846 | 79532 | 136378 | 140634 | 139623 | 280257 |
| Number of households without toilets | 152019 | 21609 | 173628 | 145357 | 19147 | 164504 |
| Percentage of households with toilets | 27.22 | 78.63 | 43.99 | 49.17 | 87.94 | 63.01 |

*Source: Housing Tables, Gujarat, 2001 & 2011*

The table 3.20 reveals that in 2001 out of 310006 households only 136378 households were having toilets facility which is 43.99 percent of the total households whereas in 2011 out of 444761 households only 280257 households were having toilets which is 63.01 percent of the total households.The rural – urban sanitation status is shown in the figure 3.4:

**Figure 3.4: Percentage of Households with Toilet Facility**




*Source: Housing Tables, Gujarat, 2001 & 2011*

The figure 3.4 illustrates that although the rural urban percentage of households having toilets is increasing yet the rural percentage is comparatively low. Thus much is needed to educate the masses regarding hygienic conditions of living and improving the sanitation in the area for attaining the higher standard of living.

## 3.14 Government Initiatives

The general consensus is that the government's involvement in the health sector is important. However, there are differences regarding the nature and extent of government's involvement. Debate about public versus private involvement in the health sector is ongoing. The Alma Ata Declaration of 1978, which accepted comprehensive primary health care system as a means to

achieve "Health for All" by 2000, entrusted governments with this responsibility. Much before the Alma Ata conference, the Bhore Committee (1946) in India had emphasised the importance of government's role in primary health care. Experience has, however, shown that this approach was too expensive for governments to succeed. Instead, selective or targeted primary health care approach has been found more acceptable. WHO, which organized the Alma Ata conference, and UNICEF have all along been supporting the comprehensive approach. They too, over time, have accepted this partial approach because of practical exigencies (Werner 1995).Health is a state government subject in India. However, the central and state governments jointly share the responsibility. The state governments, while following the policies laid down by the central government, pursue some autonomous goals and objectives. Hence there are wide variations in the health sector programmes across states. Each state government has varying levels of involvement in the health sector, depending on its ideology and political pressure from the people.One of the important goals of the national health policy is improvement in the health status. Another important goal is reduction in the population growth rates. Both are to be achieved through the comprehensive primary health care system. The National Health Policy of 1983 has adopted a supply-oriented approach, with targets for coverage and achievements.

### Nirogi Bal

Government ensures on Nirogi Bal scheme along with Bal Pravesh as Health is a prime concern of the child while it attends the classroom. Literacy to Health with Nirogi Bal is announced for 2008-09 with mass movement for Safe Health with impact to Social Development of Gujarat. It ensures universal reach and delivery of quality Health services. It also make certain of quality nutrition and growth through effective implementation of Mamta Abhiyan. One of the many goals is to guarantee Elementary Education and Life Skills Education for all children.

### Kishori Shakti Yojana

An intervention for adolescent girls (11-18 years) the Kishori Shakti Yojana (KSY) was launched in 2000-01 as part of the ICDS scheme. Kishori Shakti Yojana being implemented through Anganwadi Centres in both rural and urban areas. The scheme aims at breaking the intergenerational life-cycle of nutritional and gender disadvantage and providing a supportive environment for self-development. The objectives of the Scheme are to improve the nutritional and Health status of girls in the age group of 11-18 years. A group of ten girls in a batch, who would be expectant mOthers in future, are given Health Check up by Anganwadi centres. They are also provided required literacy and numeracy skills, stimulation to social exposure and knowledge to help them improve their decision making skills. The adolescent girls are given home based and vocational skills, awareness on Health, hygiene, nutrition, family welfare, home management and child care guidance with measures to facilitate marrying after marriage age of 18 years. They are encouraged for productive and constructive activities for their own development as well as for their family.

## 3.15 SWOC Analysis

The SWOC analysis of health sector is presented in the box 3.3:

## BOX 3.3: SWOC Analysis of Health and Nutrition

### • STRENGTH

- Having 42 PHCs, 277 SCs, 14CHCs and 5 government hospitals in Kachchh district.
- Patients of measles and leprosy are decreasing.
- Percentage of ANC registration against workload is 94.08 %.
- Institutional deliveries have been increased instead of home deliveries.
- Significant increase is found in fully immunization of children.
- All the ICDS and anganwadies are functioning.
- Household with toilet facility increased to 87.94 % in 2011.

### WEAKNESS

- Only 17 posts of medical office were filled out of 34 posts.
- Only 63454 average population served by sub centers.
- Patients of beds and TB were increasing.
- ANC registration is low in Mundra and Gandhidham with only 76 percent.

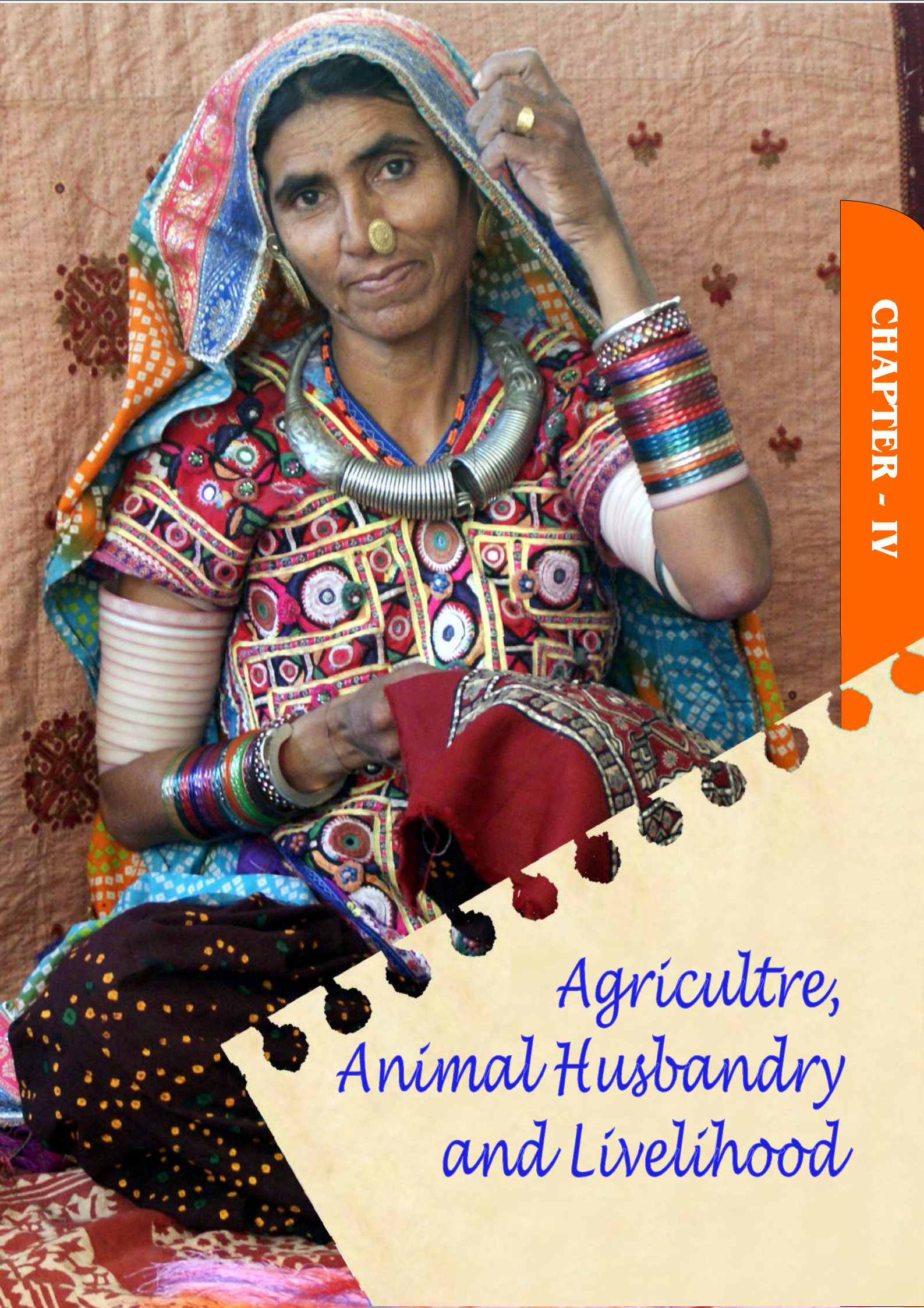
S W O C A N A L Y S I

### OPPORTUNITIES

- There is a need to create residential clusters and improve facilities for doctors in remote areas of the district.
- Health institutions would be well equipped for maternal and child health services.
- It would be well trained ANM for maternal and child health.
- Chiranjivi Yojana, Janani Suraksha Yojana has to played vital role in women and child health care and can be strengthened further to show its benefits in deprived areas.

### CHALLENGES

- Large number of vacancies of doctors and paramedic staff are a serious challenge and needs to be effectively addressed.
- The patients suffering of gastroenteritis is increasing.
- Vaccination and immunization of children were a big problem in remote areas due to scattered population.



CHAPTER - IV

# Agricultre, Animal Husbandry and Livelihood


Kutch

# Chapter 4

# Agriculture, Animal Husbandry & Livelihood

## 4.1 Introduction

Livelihoods are the ways and means through which people satisfy their needs, enhance choices and continuously improve welfare. Livelihood is a multidimensional concept and can be equated to a system which describes how people make their actual living (Chambers and Conway, 1992). Variety of sources and dynamics of economic activities in which households are engaged determine whether the livelihood is secure or vulnerable. Households and individuals functions and secure their livelihoods in an institutional arrangements (Ellis, 2000).

These institutions provide opportunities to the households and individuals to acquire essential capabilities to make use of it in the changing circumstances to reduce risk and uncertainty in securing livelihood are highly dependent upon the availability of the resource base and the access to public goods. Therefore, the availability of key assets such as finances, land, human skills, and access to markets, employment opportunities, common property resources and public goods plays an important role in making households and individuals to respond to different circumstances in different ways (Sudan, 2007). Human beings by nature remain continuously in search of better and more secure livelihood strategies in the dynamic circumstances, which generate high risk and uncertainty to survive within the existing arrangements. Thus, the household remains in search for alternative, more remunerative and less risky portfolio of livelihood strategy.

## 4.2 Agriculture Practices

Kachchh falls in the arid tract of Gujarat and has a tropical monsoon semi-arid climate and is not favourable for agricultural practices. It experiences extremes of weather conditions. The district observes three distinct seasons, winter, summer and monsoon. The winter season lasts usually from the middle of November to the end of February with January being the coldest month having an average minimum temperature of 4.6$^0$C with mercury occasionally dropping below the freezing point. Winter is followed by summer from March onwards and continues till late June with the maximum temperature ranging from 39 to 45$^0$C. The hot wet monsoon season commences in the last week of June or beginning of July with the onset of South-West Monsoon and continues till September. The annual average precipitation of Kachchh is a scanty 340 mm and about 95 per cent of occurs during June-September. Number of rainy days is very few; annual average is only 13 days. The variations in the timing and quantity of rainfall are very high having co-efficient of variability of about 60 per cent. This unreliability and uncertainty of rainfall has made Kachchh susceptible to droughts.

Kachchh generally has a moderately high humidity throughout the year with maximum in the summer months. The annual average relative humidity of the area is 63 per cent. Winds are

generally moderate to high with an annual wind speed of 11.3 km per hour. Winds are frequently stronger, especially during the late summer when violent storms are also registered. Generally, the wind direction is south-west and west. The evapotranspiration rates in Kachchh district are very high largely because of high temperature and wind velocity. In the months of May and June, the evaporation rate is as high as 250 to 270 mm per month or 8 to 9 mm per day. All these conditions have created limitations in agriculture practices in the region. The region naturally does not support water intensive crops and any crop is susceptible to droughts and high velocity of wind and even cyclones and higher temperature levels.

The region possesses soil types ranging from black soil to red loamy soil. The major soil types in the region are red loamy, red sandy, red gravelly, and deep, medium and shallow black soil. Black soil types are mostly concentrated in the southern and western coastal areas, while red soil types are predominant in the northern and eastern belt. Moreover, saline and saline alkali is the basic soil type in the Banni area and in some parts laterite soil is also available. Back soil types and red loamy soil are favourable for various crops from cotton to oil seeds and spices.

## 4.3 Land Use Classification

The land use classification of Kachchh district is presented in the table 4.1 and 4.2.

**Table 4.1: Land Use and Land Cover in Kachchh District (2007-08)**

| Sr | Land Use | Use in Hect. | % Share of Land |
|---|---|---|---|
| 1 | Area under forests | 3068 | 6.6 |
| 2 | Land not available for cultivation | 17598 | 38.0 |
| 3 | Other uncultivated land excluding fallow | 17334 | 37.5 |
| 4 | Fallow land | 1239 | 2.7 |
| 5 | Total cropped area | 7038 | 15.2 |
| | **Total Area** | **46277** | **100** |

***Source: Statistical Abstract, 2015, Gujarat***

**Table 4.2: Land Unavailable for Cultivation in Kachchh District (2007-08)**

| Sr | Land Use | Use in Hect. | % Share of Land |
|---|---|---|---|
| 1 | Barren uncultivable land | 16856 | 36.4 |
| 2 | Land under non agriculture uses | 742 | 1.6 |
| | **Land unavailable for cultivation** | **17598** | **38.0** |

***Source: Statistical Abstract, 2011,Gujarat***

So Area of the region is larger than even many of the Indian states, but due to its unique ecology; existence of Great and Little Rann of Kachchh and other typical geomorphic conditions, only 15.2 percent land available for cultivation in the district. On the other hand 2.7 percent of the area in the region is fallow land and around 38 percent is other uncultivated land. In district 36.4 percent of the land is not available for cultivation due to natural conditions and approximately 1.6 percent is not available for cultivation due to various non-agricultural uses. The taluka wise land use classification is shown in the table 4.3.

**Table 4.3: Taluka wise Land Use Classification (2003-2004)**

| Sr | Taluka | Forest Area | | | Non Agricultural | | | Grazing Land | | | Net Sown Area | | | Total Area |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Area (Ha.) | % Dist | % Tal | Area (Ha.) | % Dist | % Tal | Area (Ha.) | % Dist | % Tal | Area (Ha.) | % Dist | % Tal | (Ha.) |
| 1 | Lakhpat | 59549 | 19.4 | 31.6 | 71353 | 17.3 | 37.8 | 13400 | 4.0 | 7.1 | 28894 | 4.0 | 15.3 | 188606 |
| 2 | Rapar | 31764 | 10.4 | 10.5 | 78784 | 19.1 | 26.0 | 28062 | 8.3 | 9.3 | 146188 | 20.1 | 48.3 | 302769 |
| 3 | Bhachau | 21235 | 6.9 | 10.5 | 50882 | 12.3 | 25.2 | 6870 | 2.0 | 3.4 | 106180 | 14.6 | 52.5 | 202214 |
| 4 | Anjar | 4228 | 1.4 | 3.5 | 12298 | 3.0 | 10.1 | 19973 | 5.9 | 16.4 | 59959 | 8.2 | 49.3 | 121580 |
| 5 | Bhuj | 50451 | 16.4 | 11.0 | 62628 | 15.2 | 13.7 | 212069 | 62.6 | 46.3 | 103374 | 14.2 | 22.6 | 458123 |
| 6 | Nakhtrana | 43487 | 14.2 | 21.9 | 73115 | 17.7 | 36.8 | 4162 | 1.2 | 2.1 | 55440 | 7.6 | 27.9 | 198732 |
| 7 | Abdasa | 71824 | 23.4 | 29.9 | 26318 | 6.4 | 10.9 | 39418 | 11.6 | 16.4 | 92156 | 12.7 | 38.3 | 240544 |
| 8 | Mandvi | 11188 | 3.6 | 7.8 | 30957 | 7.5 | 21.7 | 9477 | 2.8 | 6.6 | 72718 | 10.0 | 51.0 | 142538 |
| 9 | Mundra | 13044 | 4.3 | 14.7 | 2166 | 0.5 | 2.4 | 4498 | 1.3 | 5.1 | 57304 | 7.9 | 64.5 | 88805 |
| 10 | Gandhidham | 0 | 0.0 | 0.0 | 3998 | 1.0 | 29.1 | 1071 | 0.3 | 7.8 | 5560 | 0.8 | 40.5 | 13718 |
| | **Kachchh** | **306770** | **100** | **15.7** | **412499** | **100.0** | **21.1** | **339000** | **100.0** | **17.3** | **727773** | **100.0** | **37.2** | **1957629** |

***Source: District Statistical Outline, 2011, Kachchh***

It is shown from the table 4.3 that 15.7 percent is forest area in the district. From which highest 31.6 percent forest area is found in Lakhpat taluka. On the other hand 37.2 percent is net sown area where as 21.1 percent is of non agriculture use in district. The highest 64.5 percent net sown area is found in Mundra taluka whereas the lowest 15.3 percent found in Lakhpat taluka.

## 4.4 Size of Land Holdings

All land which is used wholly or partly for agricultural production and is operated as one technical unit by one person alone or with others without regard to the title, legal form, size or location and a person who has the responsibility for the operation of the agricultural holding and

who exercises the technical initiative and is responsible for its operation. He may have fulleconomic responsibility or may share it with others. The operational holder may be Individual/Joint/ Institutional.

**Individual:** If the holding is being operated either by one person or by a group of persons who are the members of the same household, such holding will be considered as an individual holding.

**Joint:** If two or more persons belonging to different households, share jointly as partners in the economic and technical responsibility for the operation of an agricultural holding, such holding will be considered as joint holding.

**Institutional:** Holdings such as government farms, farms of sugarcane factories, cooperative farms, lands managed by trusts would be treated as institutional holdings.

The farmers were of different farm size categories i.e. marginal (< 1hect.), small (1-2 hect.), semi-medium (2-4 hect.), medium (4-10 hect.) and large (>10 hect.).

The data presented in table 4.4 shows that average land holding for all social groups was 4.15 hect. in all classes during the year 2005-06 which decreased to 3.79 hect. during the year 2010-11.The percentage size against total area for marginal farmers, small, semi-medium, medium and lage was 1.47, 7.96, 21.72, 45.11 and 23.75 hect. during the year 2005-06 which changes to 2.08, 10.13, 24.35, 37.99 and 25.45 hectares respectively during the year 2010-11. It shows that the percentage for only medium farmers declined in 2010-11.

**Table 4.4: Number & Area (ha.) of Operational Holders according To Size Class & Social Groups (2010-11) in Kachchh District**

| Sr. No | Size Class | Year | Institutional | | SC | | ST | | Others | | All Social Group | | Avg. Land Holding per | % Size against | % Holding of | % Holding |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | No | AREA | No. | AREA | No. | AREA | No. | AREA | No. | AREA | Person (All Social Groups) | Total Area | SCs | of STs |
| 1 | Marginal | 2005-06 | 37 | 20 | 942 | 612 | 48 | 28 | 17735 | 11011 | 18762 | 11671 | 0.62 | 1.47 | 8.31 | 11.97 |
| | (below 1 hect.) | 2010-11 | 37 | 20 | 1300 | 821 | 180 | 117 | 25829 | 15742 | 27346 | 16700 | 0.61 | 2.08 | 11.5 | 17.96 |
| 2 | Small (1.00 | 2005-06 | 61 | 90 | 2695 | 4036 | 82 | 123 | 39594 | 58762 | 42432 | 63011 | 1.48 | 7.96 | 23.77 | 20.45 |
| | to 1.99 hect.) | 2010-11 | 61 | 90 | 3137 | 4651 | 277 | 412 | 51684 | 76192 | 55159 | 81345 | 1.47 | 10.13 | 27.7 | 27.64 |
| 3 | Semi Medium | 2005-06 | 83 | 243 | 3877 | 10934 | 147 | 418 | 55926 | 160414 | 60033 | 172008 | 2.87 | 21.72 | 34.2 | 36.66 |
| | (2.00 to 3.99 hect.) | 2010-11 | 83 | 243 | 4004 | 11200 | 339 | 945 | 64469 | 183066 | 68895 | 195454 | 2.84 | 24.35 | 35.4 | 33.83 |
| 4 | Medium | 2005-06 | 87 | 540 | 3443 | 19929 | 109 | 579 | 55054 | 336187 | 58693 | 357236 | 6.09 | 45.11 | 30.37 | 27.18 |
| | (4.00 to 9.99 hect.) | 2010-11 | 87 | 540 | 2612 | 16435 | 182 | 1041 | 48853 | 287002 | 51734 | 305020 | 5.90 | 37.99 | 23.1 | 18.16 |
| 5 | Large | 2005-06 | 148 | 28177 | 380 | 5580 | 15 | 435 | 10447 | 153892 | 10990 | 188083 | 17.11 | 23.75 | 3.35 | 3.74 |
| | (10.00 & Above hect.) | 2010-11 | 148 | 28177 | 255 | 7156 | 24 | 956 | 8068 | 168023 | 8495 | 204313 | 24.05 | 25.45 | 2.3 | 2.4 |
| **All Classes** | | **2005-06** | **416** | **29070** | **11337** | **41091** | **401** | **1583** | **178756** | **720266** | **190910** | **792010** | **4.15** | **100** | **100** | **100** |
| | | **2010-11** | **416** | **29070** | **11308** | **40263** | **1002** | **3471** | **198903** | **730025** | **211629** | **802832** | **3.79** | **100** | **100** | **100** |

***Source: Agriculture Census: 2010-11***

## 4.5 Horticulture

Over the years, horticulture has emerged as one of the potential agricultural enterprise in accelerating the growth of economy. Its role in the country's nutritional security, poverty alleviation and employment generation programmes are becoming increasingly important. It offers not only a wide range of options to the farmers for crop diversification, but also provides ample scope for sustaining large number of agro-industries which generate huge employment opportunities on account of significant increase in production in horticultural crops across the country, a golden revolution is in the offing and India has emerged as a leading player in the global scenario. It has now emerged as the world's the largest producer of and exporter of tea, coffee, cashewnut, spices exports of fresh and processed fruits, vegetables, cut flowers, dried flowers have also been picking up. As a result of a number of thoughtful research, technological and policy initiatives and inputs, horticulture in India, today, has become a sustainable and viable venture for the small, marginal and big farmers. It is a matter of satisfaction that their food consumption levels and household income have increased.

## 4.6 Horticulture Development in Gujarat

Looking to the importance of horticulture crops, the State Government focuses and giving considerable emphasis on the development of horticultural crops viz. Fruits, Vegetables, Spices and Flowers. As a result of various steps taken by State Government, area under Horticultural crops has increased significantly. The major fruit crops grown in Gujarat are Banana, Mango, Citrus and Sapota (Chikoo). The productivity of fruit crops is estimated at 20.31 MT/Hectare. The major vegetables are Onion, Potato, Brinjal, Tomato, Okra and Cucurbits. The average productivity of vegetables is estimated at 19.42 MT/Hectare. The State mainly produces spices Viz. cumin, Fennel and Garlic. The State enjoys monopoly in seed spices. Isabgul is prominent medicinal crop grown in the State. Area under flowers like Rose, Lily and Marigold is increasing day by day in the State. There is a scattered cultivation of medicinal plants like; Aloevera, Sena, Gugal in the State. Due to the continuous efforts made by the State Government like Krushi Mahotsav, State is in leading position in Onion, Potato, Banana, Lime, Papaya and also introduced new horticulture crops like Cashew nut, Pamaroza, Sweet Orange and medicinal crops. State has taken a lead in the sector of establishing Greenhouses and produces high value flowers like Dutch Rose, Gerbera and Carnation.

With a view to double the horticulture production and income by adopting end to end approach with simultaneous development of post harvest infrastructure and marketing facilities. "Gujarat State Horticultural Mission (GSHM)" a registered society has been formed for implementation of "National Horticultural Mission (NHM)'' in the state. The mission is being implemented in 16 potential districts and covers important crops of the state viz, Mango, Chikoo, Aonla, Banana, Papaya, Lime, Cumin, Fennel, Flowers, Medicinal and Aromatie crops etc. Non mission districts are also covered under State plans schemes on mission mode programme.

Horticulture covers a wide variety of fruits, vegetables, tuber crops, flower crops, medicinal and aromatic plants, plantation crops and spices. Horticulture crops have inherent advantage of providing higher productivity per unit of land compared to other crops, resulting in higher

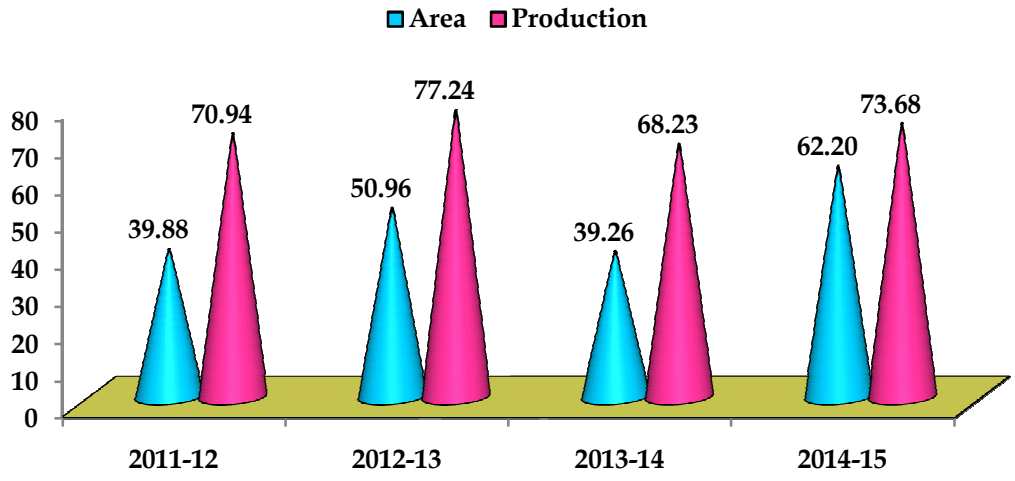
income and higher employment generation in rural Areas. Gujarat has a wide range of soil types, rainfall pattern, temperature regimes, and irrigation facilities. This diverse agro-climatic situation across the state holds promise for development of the horticulture sector in a big way. Horticulture crops suited to subtropical and tropical climates can be grown in the state. The horticulture sector is labour intensive providing more employment and because of value addition potential it gives higher income. Fruits and Vegetable cultivation can provide sustained income and work to small and marginal farmers. Fruit and vegetables are highly perishable commodities and post-harvest losses are around 30 percent. These losses need to be reduced through better post-harvest management measures of packing, transportation, storage and processing.

## A. Fruit Crops

Fruits commonly known as goldmine of vitamins, minerals and fibre are ideal to consummate least 4-5 servings in a day. Since they are in the natural form, account for largest part of water and 100 percent cholesterol free, it's much easier for the body to process and absorb the vitamins and minerals from the fresh fruit. The major crops covered under fruit crops are mango, chiku, citrus, ber, banana etc in the Kachchh district. The area, production and Yield of fruits production is shown in the table 4.5:

The table 4.5 shows that the area under fruit crops has increased from 33661 hec. during the year 2011-12 to 39752 hec. during the year 2014-15. Similarly the production of fruit crops has increased from 561801 M.T. during the period 2011-12 to 733134 M.T. during the year 2014-15.The area under fruit crops for mango, citrus and banana has increased in 2014-15 to 9165 hec., 488 hec. and 1957 hec. as compared to 8230 hec., 359 hec. and 1180 hec. in the year 2011-12 respectively. The yield of fruits production was 16.69 in 2011-12 but it increased to 18.4 during the year 2014-15.The percentage distribution of area and production of fruits is shown in the figure 4.1:

**Figure 4.1**
**Year Wise Percentage Distribution of Area & Production of Fruits**




*Source: District Horticulture Office*

**Table 4.5: Area, Production & Yield of Fruits in Kachchh District**

*(Area in Ha., Prod. in M.T, Yield in M.T./Ha)*

| Sr | Name of Crop | 2011-12 | | | 2012-13 | | | 2013-14 | | | 2014-15 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Area | Prodn | Yield | Area | Prodn | Yield | Area | Prodn | Yield | Area | Prodn | Yield |
| 1 | Mango | **8230** | **59338** | **7.21** | **8495** | **62415** | **7.35** | **8720** | **74120** | **8.5** | 9165 | 78361 | 8.6 |
| 2 | Chiku | **1741** | 21240 | 12.2 | 1722 | 21680 | 12.59 | 1700 | 18838 | 11.08 | 1524 | 17145 | 11.3 |
| 3 | Lemon & Limes | **359** | 3799 | 10.58 | 377 | 5090 | 13.5 | 418 | 3321 | 7.94 | 488 | 3894 | 8.0 |
| 4 | Ber | **335** | 2496 | 7.45 | 360 | 3670 | 10.19 | 402 | 3632 | 9.03 | 503 | 4653 | 9.3 |
| 5 | Bananas | **1180** | 62274 | 52.78 | 1517 | 97450 | 64.24 | 1537 | 77509 | 50.43 | 1957 | 101764 | 52.0 |
| 6 | Guava | **258** | 3839 | 14.88 | 280 | 4500 | 16.07 | 305 | 4902 | 16.07 | 510 | 8180 | 16.0 |
| 7 | Pomegranate | **1475** | 23423 | 15.88 | 1955 | 23310 | 11.92 | 2355 | 30615 | 13 | 3337 | 46718 | 14.0 |
| 8 | Kharek | **16686** | 124089 | 7.44 | 16878 | 135880 | 8.05 | 17249 | 150929 | 8.75 | 17370 | 161715 | 9.3 |
| 9 | Papayas | **2335** | 252017 | 107.93 | 2536 | 212017 | 83.6 | 2910 | 241530 | 83 | 3542 | 299830 | 84.6 |
| 10 | Sitafal | **3** | 18 | 6 | 4 | 18 | 4.5 | 4 | 25 | 6.25 | 8 | 50 | 6.3 |
| 11 | Aonla | **5** | 65 | 13 | 5 | 65 | 13 | 39 | 254 | 6.5 | 30 | 254 | 8.5 |
| 12 | Cashews Nut | **105** | 0 | 0 | 105 | 353 | 3.36 | 105 | 353 | 3.36 | 105 | 364 | 3.5 |
| 13 | Coconut | **883** | 6543 | 7.41 | 887 | 7140 | 8.05 | 918 | 780300 | 850 | 985 | 8382 | 8.5 |
| 14 | Others | **66** | 2660 | 40.3 | 167 | 5820 | 34.85 | 178 | 1367 | 7.68 | 228 | 1824 | 8.0 |
| | **Total** | **33661** | **561801** | **16.69** | **35288** | **579408** | **16.42** | **35922** | **607394** | **16.91** | 39752 | 733134 | 18.4 |

*Source: District Horticulture Office*




The figure 4.1 illustrates that the percentage of area under fruits production was 39.88 percent from the total area under horticulture and the production was 70.94 percent from total horticulture production in the year 2011-12. But in 2014-15 the area and production decreased to 62.20 and 73.68 percent respectively.

## B. Vegetable Crops

The vegetable crops are important sector under horticulture because vegetables are in daily use by all the people in their regular diet in one or other way. Vegetables promotes good immune system, vegetables are healthy, low in calorie and easy to digest as well.Vegetables are important crops due to the opportunities related to processing industry. But due to lack of availability of water Kachchh is not an important vegetable producer. In 2000-01, Kachchh produces less than 1 percent of Gujarat's vegetables. Kheda, which is the top vegetable producer in Gujarat with a 19 percent state's share produced 25 times more vegetables in quantity than Kachchh in 2000-01. Banaskantha in the proximity to Kachchh produced 15 percent of the state's vegetables and was ranked second in the same year.Kachchh and Banaskantha exhibited almost similar trend in production of most of the agricultural commodities, but in case of vegetable production such a difference is surprising. The data for main vegetables crops like potato, onion, brinjal, cabbage, lady finger, tomato, cauliflower, etc are collected in the Kachchh district under vegetable crops. The area, production and yield of vegetable crops for 2011-12 to 2014-15 are shown in the table 4.6:

The table 4.6 reveals that the area under vegetable crops has increased from 13012 hec. during the year 2011-12 to 14306 hec. during the year 2014-15. Similarly, the production of vegetable crops has been increased from 180427 M.T. during the period 2011-12 upto 240588 M.T. during the year 2014-15.The major crops covered under vegetable crops are onion, brinjal, cabbage, lady finger, tomato, cauliflower, cluster been, velavala etc. of the Kachchh district with the area 3900 hec, 1720 hect, 793 hect, 768 hect, 1345 hect, 576 hect, 560 hect and 2406 hect respectively for the year 2011-12. But during the year 2014-15 the area under onion decreased to 300 hect and the area of brinjal, under vegetable crops has increased in 2013-14 to 2199 hec., 2614 hec., cabbage, lady finger, tomato, cauliflower, cluster bean and velevala increased to 2913 hect, 1041 hect, 1196 hect, 1784 hect, 675 hect, 992 hect and 3592 hectares respectively. The percentage distribution of area and production of vegetables is shown in the figure 4.2:

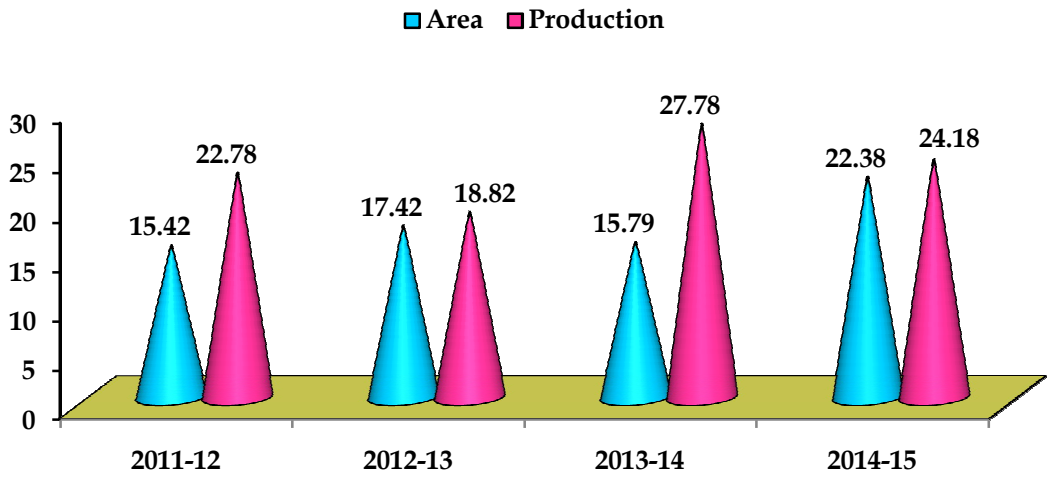
**Table 4.6: Area, Production &Yield of Vegetable Crops in Kachchh District**

*(Area in Ha., Prod. In M.T, Yield in M.T./Ha)*

| Sr | Name of Crop | 2011-12 | | | 2012-13 | | | 2013-14 | | | 2014-15 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Area | Prodn | Yield | Area | Prodn | Yield | Area | Prodn | Yield | Area | Prodn | Yield |
| 1 | Potato | 300 | **5715** | **19.05** | **85** | **1502** | **17.67** | **111** | **1961** | **17.67** | 100 | 1825 | 18.3 |
| 2 | Onion | 3900 | 83031 | 21.29 | 625 | 14820 | 23.71 | 2199 | 49478 | 22.5 | 300 | 6960 | 23.2 |
| 3 | Bringle | 1720 | 14552 | 8.46 | 2492 | 22590 | 9.07 | 2614 | 44438 | 17 | 2913 | 51997 | 17.8 |
| 4 | Cabbage | 793 | 8390 | 10.58 | 841 | 9428 | 11.21 | 913 | 12974 | 14.21 | 1041 | 16656 | 16.0 |
| 5 | Lady Finger | 768 | 5699 | 7.42 | 860 | 7147 | 8.31 | 966 | 8029 | 8.31 | 1196 | 10046 | 8.4 |
| 6 | Tomato | 1345 | 25071 | 18.64 | 1453 | 29248 | 20.13 | 1518 | 38147 | 25.13 | 1784 | 47347 | 26.5 |
| 7 | Cauliflower | 576 | 4873 | 8.46 | 599 | 5265 | 8.79 | 558 | 8816 | 15.8 | 657 | 10413 | 15.8 |
| 8 | Cluster Bean (Guar) | 560 | 4776 | 8.53 | 820 | 8250 | 10.06 | 829 | 8341 | 10.06 | 992 | 10267 | 10.3 |
| 9 | French Beans | 86 | 1118 | 13 | 90 | 1220 | 13.56 | 125 | 1695 | 13.56 | 175 | 2293 | 13.1 |
| 10 | Velavala | 2406 | 20379 | 8.47 | 2918 | 14514 | 4.97 | 3302 | 49431 | 14.97 | 3592 | 54060 | 15.1 |
| 11 | Others | 558 | 6823 | 12.23 | 1282 | 27227 | 21.24 | 1318 | 24040 | 18.24 | 1556 | 28724 | 18.5 |
| | **Total** | **13012** | **180427** | **13.87** | **12065** | **141211** | **11.7** | **14453** | **247350** | **17.11** | 14306 | 240588 | 16.8 |

*Source: District Horticulture Office*

**Figure: 4.2: Year Wise Percentage Distribution of Area & Production of Vegetables**




*Source: District Horticulture Office*

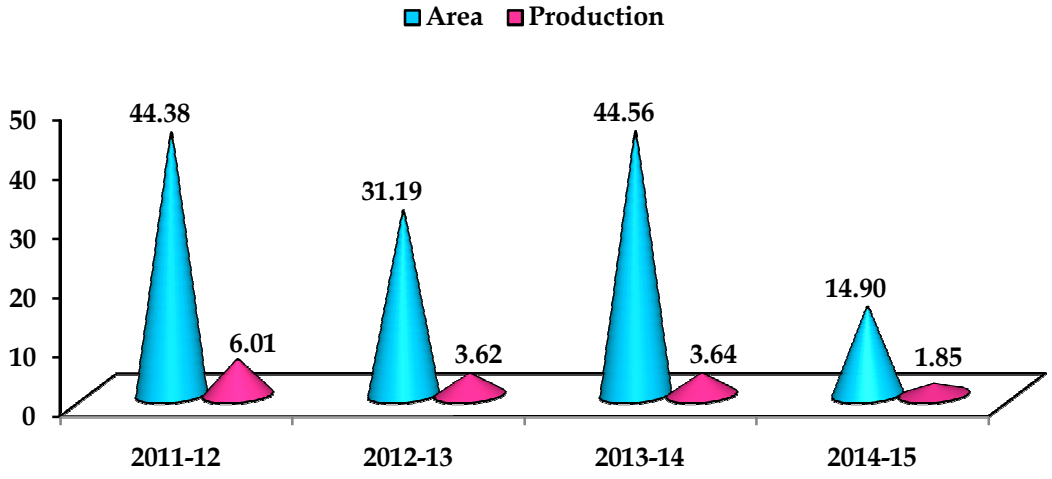
The figure 4.2 illustrates that the percentage of area under vegetables production was 15.42 percent from the total area under horticulture and the production was 22.78 percent from total horticulture production in the year 2011-12 while in the year 2014-15 the area and production increased to 22.38 and 24.18 percent respectively.

## C. Spices

The area, production and yield of vegetable crops for 2010-11 to 2013-14 are shown in the table 4.7:

The table 4.7 reveals that the area under spices and the production of spices was 37455 hectares and 47622 MT respectively during the year 2011-12 but the area and production during the year 2014-15 decreased to only 9523 hectares and 18427 MT respectively.The percentage distribution of area and production of spices is shown in the figure 4.3:

**Figure 4.3: Year Wise Percentage Distribution of Area & Production of Spices**




*Source: District Horticulture Office*

**Table 4.7: Area, Production &Yield of Spices in Kachchh District**

*(Area in Ha., Prod. In M.T, Yield in M.T./Ha)*

| Sr | Name of Crop | 2011-12 | | | 2012-13 | | | 2013-14 | | | 2014-15 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Area | Prodn | Yield | Area | Prodn | Yield | Area | Prodn | Yield | Area | Prodn | Yield |
| 1 | Cumin | **26000** | **14040** | **0.54** | **13415** | **7378** | **0.55** | **31900** | **17542** | **0.55** | 5100 | 3825 | 0.8 |
| 2 | Fennel | **500** | 825 | 1.65 | 510 | 861 | 1.69 | 0 | 0 | 0 | 200 | 396 | 2.0 |
| 3 | Chilli | **1125** | 11082 | 9.85 | 1103 | 10492 | 9.51 | 1160 | 2088 | 1.8 | 75 | 139 | 1.9 |
| 4 | Garlic | **1500** | 12910 | 8.61 | 335 | 911 | 2.72 | 1000 | 3500 | 3.5 | 100 | 355 | 3.6 |
| 5 | Coriander | **2073** | 4425 | 2.13 | 2135 | 4675 | 2.19 | 2238 | 4902 | 2.19 | 6300 | 14049 | 2.2 |
| 6 | Ginger | **6** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| 7 | Turmeric | **0** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| 8 | Fenugreek | **251** | 500 | 1.99 | 256 | 518 | 2.02 | 281 | 568 | 2.02 | 348 | 738 | 2.1 |
| 9 | Isabgul | **6000** | 3840 | 0.64 | 3842 | 2343 | 0.61 | 4200 | 3822 | 0.91 | 2500 | 2750 | 1.1 |
| 10 | Ajawan | **0** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| 11 | Suva | **0** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| 12 | Others | **0** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| | **Total** | **37455** | **47622** | **1.27** | **21596** | **27178** | **1.26** | **40779** | **32422** | **0.8** | 9523 | 18427 | 1.9 |

*Source: District Horticulture Office*

The figure 4.3 illustrates that the percentage of area under spices production was 44.38 percent from the total area under horticulture and the production was 6.01 percent from total horticulture production in the year 2011-12. But in 2014-15 the area decreased to 14.90 percent and the production decreased to 1.85 percent.

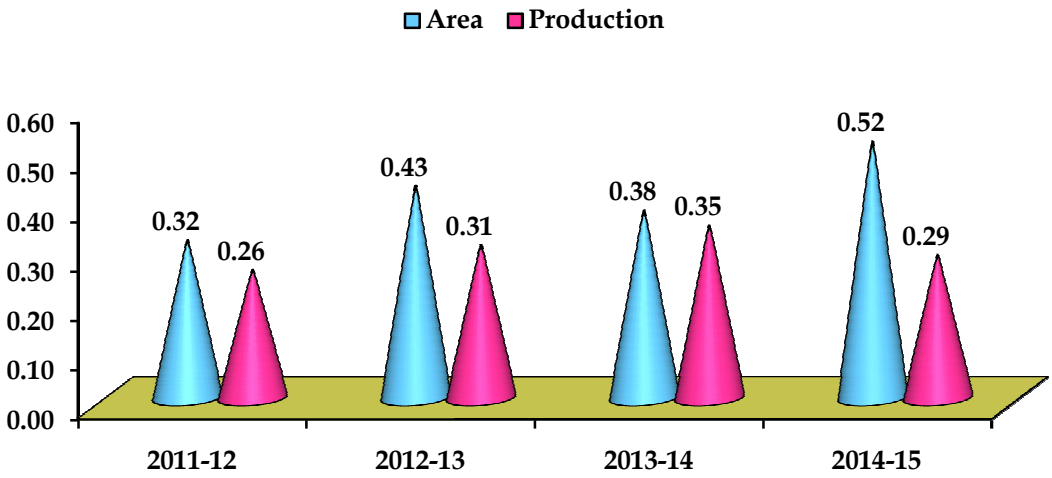
## D.Flowers

The area, production and yield of flowers for 2011-12 to 2014-15 are shown in the table 4.8:

The table 4.8 reveals that the area under production of flowers was 273 hectares in 2011-12 whereas it increased to 333 hectares during the year 2014-15. On the other side the production of flowers was 2077 M.T. in 2011-12 but it increased to 2909 M.T. in the year 2014-15. The table 4.8 also shows that the highest area was found for the rose production i.e. 78 hectares and the lowest for lilly production i.e. 23 hectares in the year 2011-12 and it increased to 100 hectares for rose and 25 hectares for lilly production in 2014-15.

The percentage distribution of area and production of flowers is shown in the figure 4.4:

**Figure 4.4**
**Year Wise Percentage Distribution of Area & Production of Flowers**




*Source: District Horticulture Office*

The figure 4.4 illustrates that the percentage of area under flower production was 0.32 percent from the total area under horticulture and the production was 0.26 percent from total horticulture production in the year 2011-12. But in 2014-15 the area and production increased to 0.52 and 0.29 percent respectively.

**Table 4.8: Area, Production &Yield of Flowers in Kachchh District**

*(Area in Ha., Prod. In M.T, Yield in M.T./Ha)*

| Sr | Name of Crop | 2011-12 | | | 2012-13 | | | 2013-14 | | | 2014-15 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Area | Prodn | Yield | Area | Prodn | Yield | Area | Prodn | Yield | Area | Prodn | Yield |
| 1 | Rose | **78** | **830** | **10.64** | **82** | **917** | **11.18** | **98** | **833** | **8.5** | 100 | 860 | 8.6 |
| 2 | Merigold | **52** | 392 | 7.54 | 59 | 504 | 8.54 | 68 | 592 | 8.7 | 73 | 648 | 8.9 |
| 3 | Mogra | **62** | 461 | 7.44 | 66 | 492 | 7.45 | 78 | 764 | 9.8 | 60 | 555 | 9.3 |
| 4 | Lilly | **23** | 248 | 10.78 | 23 | 252 | 10.96 | 29 | 244 | 8.4 | 25 | 216 | 8.6 |
| 5 | Others | **58** | 146 | 2.52 | 65 | 173 | 2.66 | 78 | 655 | 8.4 | 75 | 630 | 8.4 |
| | **Total** | **273** | **2077** | **7.61** | **295** | **2338** | **7.93** | **351** | **3088** | **8.8** | 333 | 2909 | 8.7 |

*Source: District Horticulture Office*

**Table 4.9: Area, Production &Yield of Food Crops in Kachchh District**

*Area in'000Ha., Prod. In '000 Tonnes, Yield in K.G.s/Ha*

| Year | State | Rice | | | Jowar | | | Bajra | | | Wheat | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | District | Area | Prod | Yield | Area | Prod | Yield | Area | Prod | Yield | Area | Prod | Yield |
| 2008-09 | Gujarat | 7473 | 13029 | 1743 | 1742 | 2082 | 1195 | 7033 | 9613 | 1367 | 10914 | 25926 | 2375 |
| | Kachchh | 0 | 0 | 0 | 0 | 3 | 857 | 461 | 415 | 900 | 201 | 552 | 2746 |
| 2009-10 | Gujarat | 6795 | 12930 | 1903 | 1634 | 1713 | 1048 | 6730 | 8288 | 1232 | 1232 | 23513 | 2678 |
| | Kachchh | 0 | 0 | 0 | 0 | 0 | 857 | 581 | 545 | 938 | 938 | 718 | 2837 |
| 2010-11 | Gujarat | 8081 | 16658 | 2061 | 1258 | 1390 | 1105 | 8724 | 15009 | 1720 | 1720 | 50134 | 3156 |
| | Kachchh | 0 | 0 | 0 | 0 | 0 | 0 | 638 | 700 | 1097 | 348 | 970 | 2787 |

*Source: Directorate of Agriculture, Gandhinagar*



**Table 4.10: Taluka-wise Percentage Cropping Pattern for Selected Food Crops (2011-12) (%)**

| Sr | Taluka | Total Cultivated Land | Wheat | Bajra | Total Food Grains | Mug | Other Pulses | Total Pulses | Vegetables | Potato | Fruits |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Lakhpat | 6.19 | 15.7 | 3.9 | 9.0 | 6.6 | 0.0 | 5.3 | 7.6 | 0.0 | 0.0 |
| 2 | Rapar | 3.71 | 1.6 | 1.1 | 1.3 | 7.1 | 1.7 | 6.0 | 1.6 | 0.0 | 0.0 |
| 3 | Bhachau | 5.96 | 13.3 | 0.3 | 6.0 | 7.5 | 0.7 | 6.1 | 10.3 | 0.0 | 1.1 |
| 4 | Anjar | 14.16 | 16.6 | 11.5 | 13.7 | 19.8 | 0.0 | 15.9 | 14.8 | 30.8 | 0.0 |
| 5 | Bhuj | 17.55 | 6.5 | 32.2 | 21.0 | 12.9 | 46.6 | 19.5 | 4.7 | 0.0 | 11.5 |
| 6 | Nakhatrana | 10.12 | 19.2 | 8.9 | 13.4 | 11.8 | 0.0 | 9.5 | 13.0 | 0.0 | 0.0 |
| 7 | Abdasa | 25.33 | 9.8 | 38.5 | 26.0 | 11.7 | 48.1 | 18.8 | 5.8 | 0.0 | 6.9 |
| 8 | Mandvi | 7.72 | 3.8 | 0.7 | 2.1 | 7.3 | 2.1 | 6.3 | 36.4 | 69.2 | 80.5 |
| 9 | Mundra | 8.77 | 13.1 | 2.7 | 7.2 | 14.6 | 0.8 | 11.9 | 5.1 | 0.0 | 0.0 |
| 10 | Gandhidham | 0.48 | 0.3 | 0.2 | 0.2 | 0.8 | 0.0 | 0.6 | 0.6 | 0.0 | 0.0 |

*Source: District Statistical Outline, 2011-12*

**Table 4.11: Taluka-wise Cropping Pattern for Selected Commercial Crops (2011-12) (%)**

| Sr | Taluka | Total Cultivated Land | Cotton | Ground nut | Sesame | Rape &Mustard Seed | Other oil Seeds (Sun four etc.) | Total Oil Seeds | Castor Seeds | Medicinal Plants | Fodder Crops |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Lakhpat | 5.8 | 8.0 | 6.7 | 14.3 | 3.8 | 4.3 | 3.9 | 10.3 | 10.3 | 6.6 |
| 2 | Rapar | 3.4 | 1.3 | 5.3 | 4.8 | 3.3 | 4.7 | 4.5 | 6.8 | 6.8 | 3.9 |
| 3 | Bhachau | 11.6 | 18.4 | 18.6 | 1.7 | 16.2 | 7.4 | 12.6 | 13.2 | 13.2 | 5.8 |
| 4 | Anjar | 16.2 | 16.1 | 14.6 | 20.6 | 16.2 | 16.2 | 17.6 | 13.6 | 13.6 | 15.9 |
| 5 | Bhuj | 10.4 | 7.5 | 8.7 | 11.1 | 8.4 | 12.3 | 10.4 | 6.2 | 6.2 | 18.3 |
| 6 | Nakhatrana | 11.3 | 13.2 | 16.6 | 9.5 | 11.2 | 10.1 | 13.7 | 12.2 | 12.2 | 7.8 |
| 7 | Abdasa | 20.7 | 12.6 | 4.7 | 14.3 | 18.3 | 25.7 | 16.4 | 10.7 | 10.7 | 16.4 |
| 8 | Mandvi | 7.0 | 6.3 | 6.7 | 10.3 | 3.8 | 7.4 | 7.4 | 3.1 | 3.1 | 7.8 |
| 9 | Mundra | 13.5 | 16.6 | 18.0 | 12.7 | 18.8 | 11.5 | 13.1 | 23.5 | 23.5 | 14.9 |
| 10 | Gandhidham | 0.3 | 0.0 | 0.1 | 0.6 | 0.1 | 0.5 | 0.3 | 0.4 | 0.4 | 2.6 |

*Source: District Statistical Outline, 2011-12*

## 4.7 Food Crops

The area, production and yield of food crops is shown in the table 4.9:

The table 4.9 shows that rice and jowar does not cropped in Kachchh district. The production of bajra is increased to 700 M.T. during 2010-11 from 415 M.T. during the period 2008-09 whereas the production of wheat also increased to 970 M.T. during the period 2010-11 from 552 M.T. during the year 2008-09.The taluka wise percentage cropping pattern for selected crops is shown in the table 4.10:

The table 4.10 shows that in different talukas, among the food grains, wheat is cultivated covering large areas while proportion of land under bajra is less. Rice is not cultivated at all in Kachchh. Land under total food grains is in higher proportion in Abdasa, Bhuj, Anjar and Nakhtarana talukas. Land under bajra is the maximum in the talukas of Abdasa. Wheat is cultivated up to certain extent in Nakhatrana and Bhuj talukas. In terms of land under various pulses, Bhuj again has the largest proportion followed by Abdasa and Anjar.

The taluka wise percentage cropping pattern for commercial crops is shown in the table 4.11:

Among various oil seeds produced in the region, groundnut castor seeds are the two most important oil seed crops. Moreover, Kachchh also produces rape and mustard seedsin certain pockets.

## 4.8 Distribution of Cultivated Land

The distribution of cultivated land is shown in the table 4.12:

The table 4.12 shows the spatial distribution of cultivated land varies in different talukas in the region. Abdasa possesses the largest (25.33 percent) amount of cultivated land, which is the one fourth of the total in the region. Rapar (3,71 percent), Bhachau (5.96 percent), Lakhpat (6.19 percent), Mundra (8.77 percent) and Gandhidham (0.48 percent) are the talukas where cultivated land is the minimum.

**Table 4.12: Distribution of Estimated Cultivated Land Area for Selected Major Crops (2011-12)**

| Sr | Taluka | Total Cultivated Land (Ha.) | Percent |
|---|---|---|---|
| 1 | Lakhpat | 15330 | 6.19 |
| 2 | Rapar | 9190 | 3.71 |
| 3 | Bhachau | 14755 | 5.96 |
| 4 | Anjar | 35055 | 14.16 |
| 5 | Bhuj | 43445 | 17.55 |
| 6 | Nakhatrana | 25045 | 10.12 |
| 7 | Abdasa | 62700 | 25.33 |
| 8 | Mandvi | 19105 | 7.72 |
| 9 | Mundra | 21720 | 8.77 |
| 10 | Gandhidham | 1185 | 0.48 |
| | **Total** | **247530** | **100.00** |

***Source: District Statistical Outline, 2011-12***

## 4.9 SWOC Analysis of Horticulture Development

The SWOC analysis of horticulture development is given in the box 4.1:

**BOX 4.1: SWOC Analysis of Horticulture Development**

**STRENGTH**

- Varied Agro-Climatic Conditions
- Available surplus in Spices, Onion and Cucurbits
- Strong Co-operative Credit and marketing structure

**WEAKNESS**

- Poor irrigation facilities
- Erratic monsoon
- Fragmented Processing industry
- Dependence on ground water

**OPPORTUNITY**

- Scope in area expansion of fruits crops
- Potential to increase production and export of Banana, Mango, Potato, Onion, Cumin, Fennel & Isabgol
- Sardar Sarovar Project will provide irrigation facilities for additional 17.9 Lakh ha
- Vast potential for cultivation of medicinal and aromatic plants
- Shifting consumer preference
- Investment in infrastructure
- Value Addition & processing

**CHALLENGES**

- Drought prone
- Prone to cyclone

## 4.10 Gujarat Horticulture Mission

The Central Government has started National Horticulture Mission from the year 2005-06 for overall development of Horticulture. The Gujarat Government has also registered "Gujarat Horticulture Mission" under the Chairmanship of Principal Secretary of Agriculture. At the district level district mission committee has been formed under the Chairmanship of District Development Officer. The work of Horticulture Mission has been done in the State by this registered mission.

Gujarat State Horticulture Mission (GSHM) a registered society has been formed for implementation of NHM in the state. The mission is being implemented in 16 potential districts

and covers important horticultural crops of the state viz, Mango, Chiku, Aonla, Banana, Papaya, Lime, Cumin, Fennel, and Flowers, Medicinal and Aromatic crops, etc.

Main objectives of Mission are:

- To provide holistic growth of horticulture sector through area based regionally differentiated strategies, which include research, technology promotion, extension, post harvest management, processing and marketing, in consonance with comparative advantage of each State/region and its diverse agro-climatic features.
- Enhance horticulture production, improve nutritional security and income support to farm households.
- Establish convergence and synergy among on-going and plan programmes, for horticulture development.
- Promote, develop and wisdom and modern scientific knowledge.
- Create employment generation disseminate technologies for horticulture development, through seamless blending of traditional opportunities for skilled and unskilled persons, especially unemployed youth.

## 4.11 Agricultural Development Initiatives

Oil Seed Development Programme (ODP), a joint effort by the state and the central government was carried out for more than a decades in the districts of Gujarat. Recently the programme has been merged with the National Pulses Development Programme (NPDP) and along with another mission to develop the palm oil and maize an integrated annual programme called Integrated Scheme for Oil Seeds, Pulses, Oil Palm and Maize (ISOPOM) is developed. Under ISOPOM, with 75 percent funding from the central government and rest by the state government various activities such as purchase of seeds, infrastructure development, block demonstration, manual equipments, power equipments, sprinkler sets, rhizobium uses, farmer's training, etc are the annual targets for each districts. An investment of around INR 233 million was planned for the Fin Year 2004-05, out of which around INR 77 million was spent on various activities in different districts. Around 450 sprinkler sets are being distributed in Kachchh under this programme during the same year.

Moreover, private companies and NGOs are also contributing to development of agriculture and agricultural products in various intensities. Contract farming of aloe-vera is gradually becoming popular in the areas such as Mandvi. Advanced tissue culture of Kachchhi mango is under research in the agriculture extension centre in Mandvi.

## 4.12 Problems and Potentials of Agricultural Development

- Groundnut planting has critical stages, such as flowering, pegging, pod development, etc. Fluctuations in rainfall during these stages results in fluctuations in the yield.
- Cereal development in Kachchh is a distant dream due to scarcity of water.
- Castor is a deep rooted crop, which makes it more preferable for dry conditions. Its commercial value is high and castor oil manufacturing units are being established in the region. Castor is the crop with extreme potential in Kachchh.

- Mung is a potential crop in Kachchh. Among the spices Isabgul is an extremely potential crop.
- Anjar, Mundra and Mandvi are the horticulture potential areas in the region. Mango, papaya, date palm, coconut and new crops such as aloe vera can be produced in orchards.
- Kachchh has a vast amount of virgin land, which has not seen use of chemical fertilisers yet. It creates favourable environment for organic farming for exports.
- Organic farming can be supported through easily available castor cakes, which can be used to produce organic fertiliser.

**BOX 4.2: Development Actions**

- *Stress on organic farming; potential investors to be identified, attracted and feasibility studies to be prepared for viability of organic farming for various cash crops and horticulture products. Identification of potential areas for organic farming to be carried out, which should be supported by an efficient land information system,*
- *To designate the agricultural belt of Mandvi-Mundra-Anjar as Horticulture Development Belt and preparation of detailed master plan with details of land ownerships, land parcels, details of soil types, water availability, a production and marketing information systems,*
- *To facilitate these areas with state of the art infrastructure as per requirements identified in the plan and financing mechanism should be detailed out with participations from people, government and financial institutions. A community based water conservation plan should follow this,*
- *A pulses and oil seed belt to be identified in a similar fashion,*
- *Special marketing approaches to be adopted for attracting private investments in agro-parks, food parks, etc, for which special economic zones can create substantial attraction; large-scale export oriented integrated farms with animal husbandry can be a viable option,*
- *The Department of Forest along with the Directorate of Agriculture is attempting to promote new crops such as Jetropha. A feasibility study on large-scale cultivation of this crop through private investments to be carried out and potential investors to be identified,*
- *In the existing irrigated areas and in the areas to be covered by Narmada Irrigation Schemes, drip and sprinkler irrigation techniques to be promoted and financing mechanism and government supports to be strengthened.*

## 4.13 Irrigation and Water

Irrigation is a necessity for agriculture in Kachchh, but due to lack of infrastructure and rainfall a meagre 37 percent (187 thousand ha) of the gross cultivated area has been brought under various sources of irrigation. The irrigated land by various sources is presented in the table 4.13:

**Table 4.13: Irrigated Land by Various Sources (2005-06 & 2007-08) '00*hect.***

| Description | 2005-06 | 2007-08 |
|---|---|---|
| Government Canals | 236 | 215 |
| Tubewells & Other Wells | 1189 | 1423 |
| Tanks | 3 | 3 |
| Other Sources | 3 | 4 |
| **Total** | **1431** | **1645** |

***Source: Statistical Abstract, Gujarat, 2010 & 2013***

The table 4.13 shows that in 2005-06, the total irrigated area by various sources was 143100 hectares but in 2007-08 it increased to 164500 hectares. The total 23600 hectare area was irrigated by government canals in 2005-06 but in 2007-08 it decreased to 215 hectares.The gross area irrigated and gross cropped area is shown in the table 4.14:

**Table 4.14: Gross Area Irrigated and Gross Cropped Area in Kachchh (2005-06 & 2007-08)**

| Description | 2005-06 | 2007-08 |
|---|---|---|
| Gross Cropped Area (GCA) ('00 hectares) | 6081 | 7038 |
| Gross Irrigated Area (GIA) ('00 hectares) | 1635 | 1955 |
| Percentage of area irrigated to gross cropped area | 26.89 | 27.78 |
| Net Irrigated Aarea (NIA) | 1431 | 1645 |
| Irrigation Intensity (GIA/NIA)*100 | 114.26 | 118.84 |

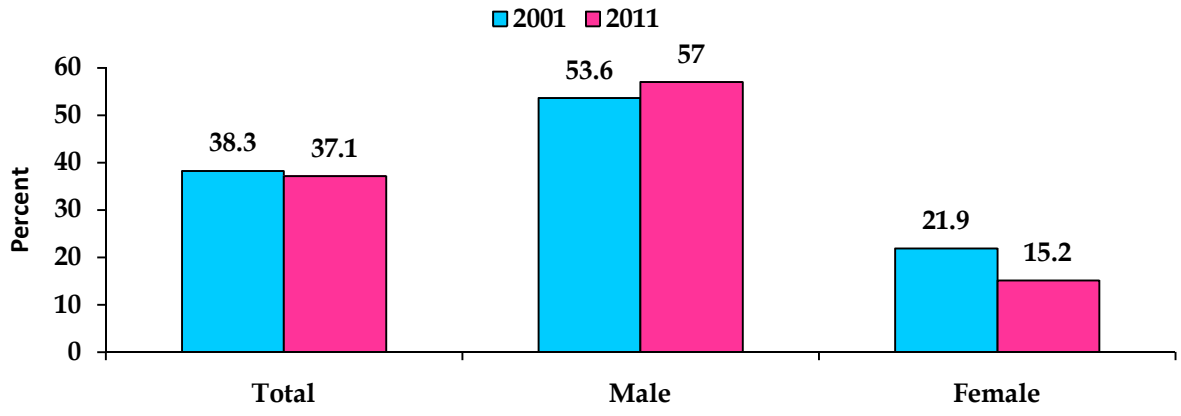
***Source: Statistical Abstract, Gujarat, 2010 & 2013***

The table 4.14 describes that the gross cropped area was 6081 hectares in 2005-06 which increased to 7038 hectares in 2007-08 whereas gross irrigated area was 1635 hectares in 2005-06 and it increased to 1955 hectares which is 27.78 percent of gross cropped area. The irrigation intensity increased to 118.84 in 2007-08 from 14.26 in 2005-06.

## 4.14 Occupational Structure

The work participation rate by sex in Kachchh district is shown in the figure 4.5:

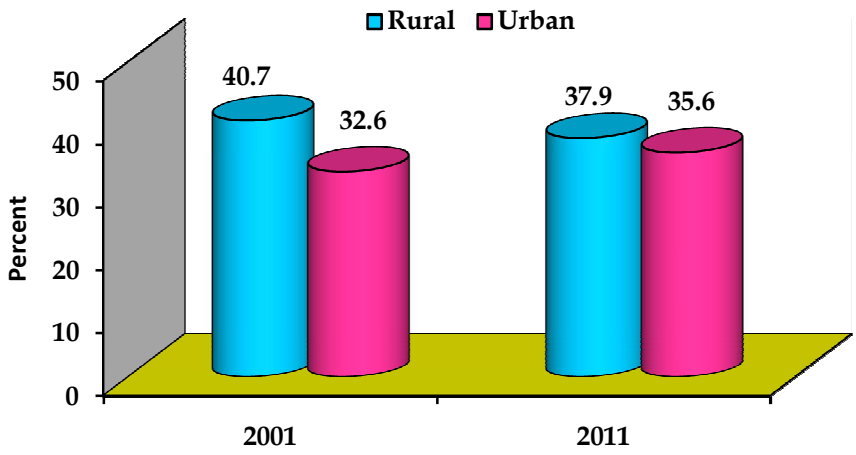
**Figure 4.5: Work Participation Rate by Sex in Kachchh District (2001-2011)**




***Source: Census of India, Gujarat, Registrar General of India, 2001 & 2011***

The figure 4.5 shows that it is worth noticing that the total workforce participation rate has declined between the period 2001 and 2011 in the Kachchh district. The proportion of workers was 38.3 percent in the year 2001. This proportion has increased to 37.1 percent in the year 2011.The work participation rate by residence in Kachchh district is shown in the figure 4.6:

**Figure 4.6: Work Participation Rate by Residence in Kachchh District (2001-2011)**




*Source: Census of India, Gujarat, Registrar General of India, 2001 & 2011*

The figure 4.6 reveals that although the total work participation rate declined in the year 2011 but the percentage of work participation rate in rural area decreased to 37.9 percent in year 2011 from 40.7 percent during the period 2001.The taluka wise work participation is presented in the table 4.15:

The table 4.15 shows that among the taluka of Kachchh district, seven talukas that is Abdasa, Bhachau, Bhuj, Lakhpat, Nakhtrana and Rapar, where the proportion of total workers decreased between the period 2001 and 2011. This fact clearly brings out that the rural Kachchh has registered a fall in the work participation rate during the period 2001 and 2011. As compared to rural areas, the urban area of Kachchh district has registered a rise in the work participation rates during the period 2001-2011. From the analysis it can be argued that there is an entry of new workers in the district workforce. The new entry of the workers both in the rural and urban Kachchh was mainly because of the rise of the pressure which emanates from intensification of effort in search of livelihood opportunities.

**Table 4.15: Taluka Wise Work Participation Rate in Kachchh District (2001 & 2011)**

| State/District/ Taluka | T/R/U | 2001 | | | 2011 | | |
|---|---|---|---|---|---|---|---|
| | | Person | Male | Female | Person | Male | Female |
| Gujarat | Total | 41.9 | 54.9 | 27.9 | 41.0 | 57.2 | 23.4 |
| | Rural | 47.2 | 55.5 | 38.5 | 44.9 | 57.1 | 32.0 |
| | Urban | 33.1 | 53.9 | 9.4 | 35.7 | 57.2 | 11.4 |
| **Kachchh** | **Total** | **38.3** | **53.6** | **21.9** | **37.1** | **57.0** | **15.2** |
| | **Rural** | **40.7** | **53.6** | **27.1** | **37.9** | **56.8** | **17.2** |
| | **Urban** | **32.6** | **53.8** | **9.5** | **35.6** | **57.3** | **11.5** |
| Lakhpat | Total | 40.7 | 52.5 | 28.0 | 34.3 | 53.8 | 13.5 |
| | Rural | 40.7 | 52.5 | 28.0 | 34.3 | 53.8 | 13.5 |
| | Urban | - | - | - | - | - | - |
| Rapar | Total | 40.6 | 52.9 | 27.3 | 36.6 | 52.2 | 20.3 |
| | Rural | 41.3 | 52.9 | 28.8 | 37.3 | 52.1 | 21.8 |
| | Urban | 34.7 | 52.6 | 15.9 | 32.0 | 52.9 | 10.6 |
| Bhachau | Total | 40.5 | 54.0 | 25.9 | 35.6 | 55.6 | 13.4 |
| | Rural | 42.1 | 54.7 | 28.7 | 35.9 | 56.0 | 14.0 |
| | Urban | 32.6 | 51.0 | 12.3 | 34.7 | 54.4 | 10.8 |
| Anjar | Total | 34.7 | 53.7 | 14.6 | 34.7 | 57.0 | 10.2 |
| | Rural | 37.0 | 54.3 | 18.6 | 35.7 | 57.6 | 11.3 |
| | Urban | 31.7 | 52.9 | 9.0 | 33.0 | 55.9 | 8.3 |
| Bhuj | Total | 38.1 | 54.1 | 21.3 | 36.2 | 55.2 | 16.0 |
| | Rural | 41.0 | 52.8 | 28.7 | 35.2 | 52.4 | 17.5 |
| | Urban | 33.8 | 56.1 | 9.6 | 37.2 | 58.1 | 14.4 |
| Nakhtrana | Total | 40.6 | 52.9 | 27.8 | 36.7 | 56.1 | 16.6 |
| | Rural | 40.6 | 52.9 | 27.8 | 36.7 | 56.1 | 16.6 |
| | Urban | - | - | - | - | - | - |
| Abdasa | Total | 45.1 | 55.6 | 34.0 | 39.3 | 58.4 | 18.3 |
| | Rural | 45.1 | 55.6 | 34.0 | 39.3 | 58.4 | 18.3 |
| | Urban | - | - | - | - | - | - |
| Mandvi | Total | 38.2 | 52.7 | 23.5 | 39.4 | 57.3 | 20.6 |
| | Rural | 40.5 | 53.3 | 27.7 | 41.8 | 58.2 | 24.5 |
| | Urban | 31.0 | 50.8 | 10.4 | 32.3 | 54.6 | 9.3 |
| Mundra | Total | 38.4 | 54.4 | 21.7 | 45.4 | 67.4 | 14.2 |
| | Rural | 38.7 | 54.0 | 22.9 | 46.9 | 68.4 | 15.3 |
| | Urban | 36.4 | 56.6 | 15.0 | 36.1 | 60.5 | 8.1 |
| Gandhidham | Total | 32.0 | 53.4 | 7.9 | 35.9 | 57.9 | 10.8 |
| | Rural | 32.9 | 53.7 | 9.4 | 33.3 | 55.6 | 8.6 |
| | Urban | 31.8 | 53.4 | 7.6 | 36.3 | 58.2 | 11.1 |

***Source: Census of India, Registrar General of India, 2001 & 2011***

## 4.15 Workforce Composition

The workforce composition is broadly classified as main workers and marginal workers. The workforce composition is shown in the table 4.16:

**Table 4.16: Taluka wise Distribution of Main and Marginal Workers to Total Workers**

| State/District/ Taluka | T/R/U | 2001 | | 2011 | |
|---|---|---|---|---|---|
| | | Main | Marginal | Main | Marginal |
| Gujarat | Total | 80.1 | 19.9 | 82.2 | 17.8 |
| | Rural | 74.1 | 25.9 | 76.3 | 23.7 |
| | Urban | 94.4 | 5.6 | 92.3 | 7.7 |
| Kachcch | Total | 82.3 | 17.7 | 88.5 | 11.5 |
| | Rural | 78.5 | 21.5 | 86.7 | 13.3 |
| | Urban | 93.3 | 6.7 | 92.1 | 7.9 |
| Lakhpat | Total | 72.5 | 27.5 | 88.4 | 11.6 |
| | Rural | 72.5 | 27.5 | 88.4 | 11.6 |
| | Urban | - | - | - | - |
| Rapar | Total | 75.0 | 25.0 | 77.8 | 22.2 |
| | Rural | 73.0 | 27.0 | 76.1 | 23.9 |
| | Urban | 92.5 | 7.5 | 90.9 | 9.1 |
| Bhachau | Total | 77.7 | 22.3 | 90.6 | 9.4 |
| | Rural | 76.1 | 23.9 | 90.1 | 9.9 |
| | Urban | 87.4 | 12.6 | 92.3 | 7.7 |
| Anjar | Total | 89.6 | 10.4 | 93.7 | 6.3 |
| | Rural | 87.2 | 12.8 | 92.7 | 7.3 |
| | Urban | 93.5 | 6.5 | 95.6 | 4.4 |
| Bhuj | Total | 84.3 | 15.7 | 88.2 | 11.8 |
| | Rural | 79.5 | 20.5 | 87.2 | 12.8 |
| | Urban | 93.1 | 6.9 | 89.3 | 10.7 |
| Nakhtrana | Total | 77.7 | 22.3 | 87.7 | 12.3 |
| | Rural | 77.7 | 22.3 | 87.7 | 12.3 |
| | Urban | - | - | - | - |
| Abdasa | Total | 77.1 | 22.9 | 85.1 | 14.9 |
| | Rural | 77.1 | 22.9 | 85.1 | 14.9 |
| | Urban | - | - | - | - |
| Mandvi | Total | 83.1 | 16.9 | 84.4 | 15.6 |
| | Rural | 81.2 | 18.8 | 82.6 | 17.4 |
| | Urban | 90.9 | 9.1 | 91.0 | 9.0 |
| Mundra | Total | 80.4 | 19.6 | 92.8 | 7.2 |
| | Rural | 78.8 | 21.2 | 92.4 | 7.6 |
| | Urban | 89.8 | 10.2 | 95.5 | 4.5 |
| Gandhidham | Total | 95.6 | 4.4 | 93.3 | 6.7 |
| | Rural | 96.6 | 3.4 | 94.2 | 5.8 |
| | Urban | 95.3 | 4.7 | 93.2 | 6.8 |

*Source: Census of India, Registrar General of India, 2001 & 2011*

The table 4.16 reveals that the percentage of main workers was 82.3 percent in 2001 which increased to 88.5 percent in 2011 where as the percentage of marginal workers was 17.7 percent in year 2001 which declined to 11.5 percent in the year 2011. It is also noticed from the table that in all the taluka, the percent of main workers increased during the period 2011 while the percent of marginal workers declined in all the talukas of Kachchh district.

## 4.16 Total Workforce by Industrial Classification

The total workforce is classified into four categories i.e. cultivators, agricultural workers, household industry workers and other workers. The total workforce according to industrial classification is shown in the table 4.17:

**Table 4.17: Percentage Classification of Types of Workers by Gender & Residence 2001 & 2011**

| District | P/M/F | Total Workers | | Cultivators | | Agri. Lab. | | HH Inds. | | Others | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2001 | 2011 | 2001 | 2011 | 2001 | 2011 | 2001 | 2011 | 2001 | 2011 |
| **Total** | Persons | 38.3 | 37.1 | 18.6 | 14.5 | 23.6 | 23.7 | 5.0 | 1.4 | 52.9 | 61.3 |
| | Male | 53.6 | 57.0 | 18.2 | 11.6 | 15.3 | 18.5 | 1.8 | 0.9 | 58.8 | 66.0 |
| | Female | 21.9 | 15.2 | 11.4 | 10.23 | 16.5 | 44.9 | 3.9 | 3.1 | 19.7 | 41.7 |
| **Rural** | Persons | 40.7 | 37.9 | 24.3 | 19.4 | 30.7 | 34.1 | 5.6 | 1.2 | 39.4 | 45.3 |
| | Male | 53.6 | 56.8 | 25.4 | 21.3 | 21.4 | 27.5 | 1.9 | 0.9 | 44.1 | 50.3 |
| | Female | 27.1 | 17.2 | 12.6 | 12.5 | 18.2 | 57.9 | 3.8 | 2.4 | 13.9 | 27.1 |
| **Urban** | Persons | 32.6 | 35.6 | 1.9 | 2.1 | 2.7 | 3.0 | 3.2 | 1.7 | 92.1 | 93.1 |
| | Male | 53.8 | 57.3 | 1.6 | 7.36 | 1.5 | 2.04 | 2.1 | 1.1 | 92.5 | 94.9 |
| | Female | 9.5 | 11.5 | 2.8 | 3.8 | 5.3 | 8.24 | 4.6 | 5.2 | 58.3 | 82.7 |

***Source: Census of India, Gujarat, Registrar General of India, 2001 & 2011***

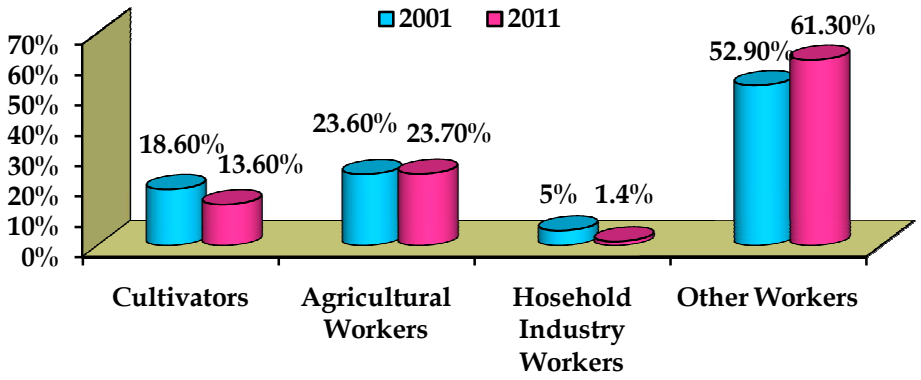
It is shown from the table 4.17 that the number of workers engaged in agriculture as a percentage of total workers has decreased from 18.6 percent in 2001 to 14.5 percent in 2011. This corresponds to the overall common perception that more people are now engaged in non-agricultural activities, such as fishing, retail sales, vegetable vending, selling milk, etc. As all these activities are at the lower end of the spectrum of marketable skills, it remains doubtful if these activities generate enough return for their family's sustenance.

Although a falling cultivator is an expected and desirable change as an economy progresses, it has not been an unmixed good in our context. The share of agricultural labour in total workers engaged in agriculture increased over the census decade (23.6 percent in 2001 to 23.7 percent in 2011). As a matter of fact, between 2001 and 2011, the number of cultivators in Kachchh district came down from 18.6 percent to 14.5 percent while during the same period the agricultural labourers increased. In other words, while the overall dependency on agriculture has been coming down, an increasing number of landless in rural areas join wage work in agriculture as a major activity.

If overall the percentage of working population engaged in agriculture is coming down, then it must be the case that people are joining non-farm employment into two categories: household

industry workers and other workers. In Kachchh district the share of non-agricultural employment has increased from 57.9 percent in 2001 to 62.7 percent in 2011. The percentage of cultivators, household, agricultural and other workers is shown in the figure 4.7:

**Figure 4.7: Percentage of Cultivators, Household, Agricultural and Other Workers**




*Source: Census of India, Gujarat, Registrar General of India, 2001 & 2011*

## 4.17 Livestock

Animal husbandry is the second largest employment providing activities in Kachchh after agriculture. Animal husbandry is a supplementary activity with agriculture as well as it is adopted as sole activity by many castes and communities in Kachchh. Animal husbandry is the main source of livelihood for Shepherds and many nomadic tribes in Kachchh. Cows and Buffaloes are reared as milch cattle in all talukas of Kachchh, mainly by farming communities as a supplementary income source from milk.

Sheep, Goat, Camel, Horse and Donkey are reared mainly by nomadic tribes and shepherds and this lot keeps on moving from one place to another, even outside Kachchh regularly. Sheep and Goat are reared for wool and meat purpose, Camel, Horse and Donkey are reared for breeding purpose and selling them as load carrying animals.

Shepherd and nomadic tribes rearing animal in Kachchh, are having age old expertise in traditional techniques of animal breeding to produce best quality animals and they supply these animals in other parts of the state. Cows and Bulls from Kachchh are preferred for breeding by other districts of Gujarat. In Cow and Bull, "Kankrej" breed and in Buffaloes "Banni" breed are most demanded animals in whole of Gujarat. "Banni" breed name has been given to the breed which originated from the large green pasture (grass lands of "Banni") area in north-eastern part of Kachchh. This breed is giving good high milk output and long period, but relatively very delicate animal for rearing in captive condition of animal dairy farm.

Development In terms of animal husbandry infrastructure provided by the Government of Gujarat, presently there are 1 polyclinic, 24 dispensaries, 29 first aid veterinary centres, 1 disease investigation laboratory and 6 mobile dispensaries in Kachchh. Moreover, there are one cattle breeding farm in Bhuj. In 2003, Gujarat Livestock Development Board is established by

the state government with assistance from the Central Government of India. The board was established to facilitate improvement of indigenous breeds of cattle and buffalo through artificial insemination, production of quality semen by strengthening existing frozen semen production stations, popularise artificial insemination and provide breeding and artificial insemination at farmer's door step, conservation of pure indigenous breeds and encouraging establishment of private artificial insemination centres. Apart from government's initiatives for development of animal husbandry in the region, NGOs such as BAIF (Bharatiya Agricultural Industries Foundation) and Aga Khan Foundation, etc is also engaged in development of this sector.The taluka wise livestock census is shown in the table 4.18:

**Table 4.18: Taluka Wise Livestock Census (2007)**

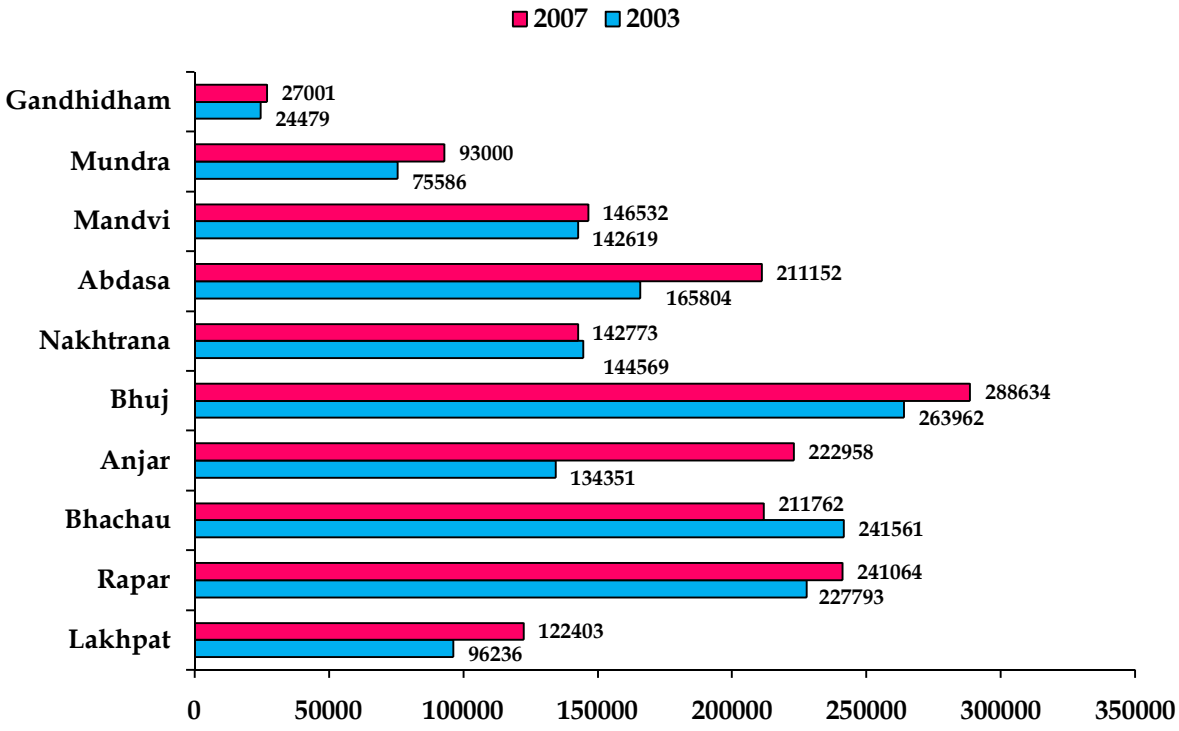
| Sr | Taluka | Cattle | | Buffalo | | Sheep | | Goat | |
|---|---|---|---|---|---|---|---|---|---|
| | | 2003 | 2007 | 2003 | 2007 | 2003 | 2007 | 2003 | 2007 |
| | Kachchh | 334987 | 388717 | 178033 | 225992 | 495253 | 575019 | 459442 | 484982 |
| 1 | Lakhpat | 24734 | 34084 | 11750 | 18377 | 20110 | 30075 | 37655 | 37242 |
| 2 | Rapar | 37283 | 45046 | 26078 | 38214 | 102741 | 96725 | 59925 | 59112 |
| 3 | Bhachau | 31468 | 23512 | 23036 | 22960 | 111995 | 112105 | 70376 | 51400 |
| 4 | Anjar | 27073 | 32729 | 11679 | 14212 | 61520 | 135000 | 33329 | 39274 |
| 5 | Bhuj | 65891 | 79286 | 56800 | 61310 | 50853 | 47186 | 63846 | 90337 |
| 6 | Nakhtrana | 30404 | 26466 | 15798 | 23852 | 36276 | 32929 | 59789 | 57015 |
| 7 | Abdasa | 38658 | 47125 | 10512 | 12528 | 55713 | 73407 | 59596 | 73536 |
| 8 | Mandvi | 47041 | 54668 | 10932 | 13749 | 33890 | 27288 | 45966 | 49669 |
| 9 | Mundra | 14805 | 36803 | 7749 | 15890 | 13329 | 14916 | 24956 | 22894 |
| 10 | Gandhidham | 7630 | 8998 | 3699 | 4900 | 8826 | 5388 | 4004 | 4503 |

***Source- Livestock Census, 2003 & 2007***

The table 4.18 shows that highest cattle were found in Bhuj taluka whereas highest Buffalo is found in Bhuj taluka with 27.1 percent. But the highest sheep is found in Anjar taluka with 23.5 percent. The population of cattle was 334987 in Kachchh during 2003 but increased to 388717 in the period 2001. As well as the population of buffalo, sheep and goat was 178033, 495253 and 459442 respectively during 2003 but it increased to 225992, 575019 and 484982 respectively during 2007. The change in total livestock is shown in the figure 4.8:

The figure 4.8 illustrated that the number of livestock in Bhachau taluka decreased from 241561 in the year 2003 to 211762 during the year 2007 and also the livestock decreased in Nakhtrana taluka to 142773 in 2007 from 144569 in the year 2003. On the other side the livestock increased in Lakhpat, Rapar, Anjar, Bhuj, Abdasa, Mandvi, Mundra and Gandhidham talukas during the year 2007.

**Figure 4.8: Taluka Wise Changes in Livestock (2003-2007)**




*Source- Livestock Census, 2003 & 2007*

There are 24,758 numbers of poultry-population in Kachchh according to the provisional 2003, Livestock Census figures. Systematic poultry farming is a recent initiative in the region. It is a 68 percent increase from the 1997 livestock census figures. After 1999, 11 private poultry farms are established in Bhachau, Anjar and Gandhidham talukas. 8 of these farms with 12900 birds are producing meat and 3 farms with around 4500 bird's produces eggs.

Although in comparison to Nadiyad, which is the largest poultry farming district in Gujarat, development in Kachchh is negligible, but within a

**BOX 4.3: Development of Animal Breeding**

*Animal breeding and rearing can be further emphasized as important economic activities in Kachchh, looking to the age old expertise in animal breeding available with the local population and superior local breeds of animals. Sheep and Goat rearing is being done in Kachchh, but there is ban on meat production and processing in Kachchh, hence currently these animals are illegally sold outside Kachchh and slaughtering is done outside the district for meat / meat processing. As informed by local trade sources, illegal slaughtering of animals and meat production and processing is being done in unhygienic manner as cottage industry in many parts of Kachchh. Due to such illegal activities, full economic advantage of animal rearing is not available to animal rearing communities. This is also hampering the development of by products industries in Kachchh like meat and bones processing, and leather processing.*

short period of time, number of poultry farms may grow due to increase in demand due to intensification of industry and businesses. But production of eggs in Kachchh presents a great fluctuating trend from 5 million in 1993-94 and 5.7 million in 2000-01 to 2 million in 1996-97 and the lowest 0.5 million in 2002-03. However, number of eggs produced in Kachchh is negligible in comparison to 385 million in Gujarat. In Gujarat, numbers of private poultry farms are increasing during past few years. In Nadiyad, there are around 24, 00,000 poultry in 84 layers farms and 157 broiler farms in 2003. The total livestock and poultry is given in the table 4.19:

**Table 4.19: Total Livestock & Total Poultry in Kachchh District (2007)**

| Sr. | Taluka | Total Livestock | | Total Poultry | |
|---|---|---|---|---|---|
| | | No | % | No | % |
| | Kachchh | 1707279 | 100.0 | 12585 | 100.0 |
| 1 | Lakhpat | 122403 | 7.2 | 513 | 4.1 |
| 2 | Rapar | 241064 | 14.1 | 56 | 0.4 |
| 3 | Bhachau | 211762 | 12.4 | 1893 | 15.0 |
| 4 | Anjar | 222958 | 13.1 | 407 | 3.2 |
| 5 | Bhuj | 288634 | 16.9 | 3941 | 31.3 |
| 6 | Nakhtrana | 142773 | 8.4 | 617 | 4.9 |
| 7 | Abdasa | 211152 | 12.4 | 3153 | 25.1 |
| 8 | Mandvi | 146532 | 8.6 | 1000 | 7.9 |
| 9 | Mundra | 93000 | 5.4 | 132 | 1.0 |
| 10 | Gandhidham | 27001 | 1.6 | 873 | 6.9 |

***Source: Livestock Census 2007***

Animal rearing activities is adversely affected from time to time, due to frequent draughts in Kachchh. It is expected that after the availability of Narmada water for irrigation there will be positive impact on agriculture and water availability will improve substantially even for animal rearing activities. Milk and milk production will also increase due to round the year availability of fodder for milch cattle, at relatively cheaper rates.

## 4.18 Potentials Related to Animal Husbandry Sector

- Potential for increase in the overall milk production through increase in numbers of buffaloes and through an effective system of fodder development and distribution process,
- Large-scale integrated farming or contract farming can be a potential if large investments can be attracted in animal based food processing industries. The region has large barren land.
- Potential for revival of large Banni Grassland (3000 sq km, GEC 1994) to support a large livestock population, there is great potential for converting some of the areas into fodder development farms,
- Potential for special branding of goat milk as large numbers of productive goats are available and around 24,360 tones of goat milk is produced, which is one of the highest (2003-04) among the districts in Gujarat,

- The joint initiative of revival of the Kachchh dairy with NDDB is extremely potential for development of dairy industry,
- Potential for development of a woollen yarn making facility and potential for attracting carpet manufacturing industries for exports (Gusheel feedback),
- for poultry meat will be increasing with increase in numbers of hotels, restaurants and also due to in- migration. Gandhidham-Anjar-Kandla and areas surrounding Mundra are potential areas for poultry farming, which may later lead to processing industries for exports.

## 4.19 Development Actions

- Grass land development and management through artificial seeding; airborne seeding to be introduced,
- Include grassland development and management by village institutions as programmes that could be supported under the watershed development and other similar programmes (EPC),
- Building on Environmental Planning Collaborative(EPC), Ahmedabad's proposal on assessment of minimum required grassland area to feed the livestock expected at various levels: village level, cluster of village level and regional level (Ecology Planning for Drought Proofing and Long Term Development under the Kachchh Ecology Fund by UNDP, EPC),
- Checking advances of Gando-Vaval or Prosopis Juliflora in the grass land areas, but effective management procedure and balance is required as this species contributes to reduce soil erosion and also protects desertification. Special areas can demarcated specially for this species along with other plants.
- Demarcation, mapping and information system creation for grass land areas; Gujarat Institute of Desert Ecology (GUIDE) and Space Application Centre (SAC) of ISRO are presently engaged in 'grassland mapping', which will facilitate detailed examination of changes such as spread of Prosopis Juliflora at a scale of 1: 50,000. GUIDE is also engaged in development of a Kachchh Land Resources Management System (KLARIS) under GIS domain, which has to be explored fully and integrated with the animal husbandry system in the region.
- Creation of an accounts of migratory livestock breeders and their movement patterns must be tracked through use of sophisticated information systems to facilitate these with artificial insemination, dissemination of knowledge on breeding techniques, vaccination and disease prevention measures, collection and marketing products, social development, etc. Mobile facilitating units can be of great use at the context of typical animal husbandry system and settlement patterns in Kachchh.
- Creation of an emergency support system to support animal husbandry during the droughts. Identification of specific villages and development of a hierarchical distribution and support system, learning from experience of NGOs can help in developing fodder banks and their extensions. A participatory framework can be separately developed.
- Formulation of policies for unproductive animals, which uses the scarce natural resources without contributing to the economy,

- Concentration on community planning and special focus on 'maldharis'. To encourage scientific and controlled breeding among the migratory breeders, mostly among the 'maldharis,' and preparation of an integrated community development plan for their socio-economic development,
- To support NDDB for revival of dairy industry in the region. § Formulation of strategies for capacity building on silvi-pastoral systems / alternate land use systems, furniture making, honey bee farming, gum and resin collection and cattle feed making as proposed by EPC in Kachchh Ecology Fund study.
- Separate feasibility study for attracting investments for large-scale ranching and integrated animal husbandry development zones along with processing units for exports. These can manufacture their own fodder, maintain own grassland, manage livestock and take care of these with all necessary infrastructures. These can be also integrated with organic farming and other commercial farming and tourism initiatives and can also support traditional animal husbandry system with technology and other support.
- Introduction of scientific HR development and performance assessment systems for veterinary institutes and enhancing professionalism and co-ordination with NGOs, other private initiatives.

## 4.20 Micro, Small & Medium Enterprises

The Indian industrial economy is largely characterised by a dynamic and versatile set of entrepreneurs, who though are small and medium in terms of scale of operations, make huge contributions of varied kind to the economy. The MSME sector has the ability to make available cost effective, low-volume customised products and also enjoys flexibility in its working to deliver as per the specificrequirements. The other typical behavior of these MSMEs is that in most of the cases, depending upon their specializastion, they have evolved as clusters.

The importance of MSME for the Indian economic growth is well established. However with the changing focus from economic growth to inclusive growth, MSME sector's role in the socio economic development of India now needs to be understood, explored and facilitated.

The investment & employment of micro, small & medium enterprises is shown in the table 4.20:

**Table 4.20: Investment & Employment of Micro, Small & Medium Enterprises (in lakhs)**

| Year | MICRO | | | SMALL | | | MEDIUM | | | Total | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Units | Investments | Employment | Units | Investments | Employment | Units | Investments | Employment | Units | Investments | Employment |
| 2006-07 | 9 | 123 | 56 | 10 | 1699 | 221 | 0 | 0 | 0 | 19 | 1822 | 277 |
| 2007-08 | 80 | 1411 | 849 | 34 | 6147.33 | 1012 | 2 | 860 | 93 | 116 | 8418.33 | 1954 |
| 2008-09 | 226 | 4156.64 | 3353 | 69 | 14642.74 | 1916 | 6 | 4534 | 32 | 301 | 23332.38 | 5301 |
| 2009-10 | 144 | 2493.78 | 2004 | 53 | 8680.93 | 1439 | 9 | 8056.00 | 243 | 206 | 19230.71 | 3686 |
| 2010-11 | 170 | 3087.71 | 1759 | 52 | 7877.45 | 1572 | 6 | 5599.81 | 423 | 228 | 16564.97 | 3754 |
| 2011-12 | 184 | 3425.11 | 1278 | 61 | 13616.66 | 1376 | 5 | 5508.00 | 416 | 250 | 22549.77 | 3070 |
| 2012-13 | 158 | 3975.38 | 1559 | 88 | 16144.62 | 2136 | 17 | 14249.64 | 787 | 263 | 34369.64 | 4482 |
| 2013-14 | 1131 | 19786.88 | 12442 | 452 | 80960.71 | 11420 | 53 | 47042.27 | 3194 | 1636 | 147789.86 | 27056 |
| **Total** | **2102** | **38459.5** | **23300** | **819** | **149769.44** | **21092** | **98** | **85849.72** | **5188** | **3019** | **274077.66** | **49580** |
| **I/E ratio (employment generated in per lakh investment** | | **1.65** | | | **7.10** | | | **16.55** | | | **5.53** | |

*Source: District Industries Centre*

## 4.21 Below Poverty Line (BPL)

The taluka wise BPL families is presented in the table 4.21:

**Table 4.21: Taluka Wise BPL Families**

| Sr | Taluka | 2001 (Old List) | 2007 (Add On) | 2009 (Add On) | Total | No of rural families in census (2001) | % of BPL families to total families (2001) |
|---|---|---|---|---|---|---|---|
| | **Kachchh** | **73225** | **22216** | **138** | **95441** | **221577** | **33.06** |
| 1 | Lakhpat | 4087 | 601 | 0 | 4688 | 7255 | 56.33 |
| 2 | Rapar | 12166 | 4193 | 0 | 16359 | 27652 | 44.00 |
| 3 | Bhachau | 7874 | 172 | 1 | 8047 | 19714 | 39.54 |
| 4 | Anjar | 4343 | 2101 | 0 | 6444 | 15618 | 27.75 |
| 5 | Bhuj | 11666 | 6782 | 137 | 18585 | 37673 | 20.87 |
| 6 | Nakhtrana | 9412 | 3145 | 0 | 12557 | 22332 | 42.15 |
| 7 | Abdasa | 9119 | 1813 | 0 | 10932 | 16596 | 48.52 |
| 8 | Mandvi | 5681 | 1752 | 0 | 7433 | 55509 | 17.44 |
| 9 | Mundra | 4852 | 1628 | 0 | 6480 | 13960 | 34.78 |
| 10 | Gandhidham | 1025 | 29 | 0 | 1054 | 5238 | 19.57 |

***Source: Commissionarate of Rural Development, Gujarat***

The table 4.21 shows that in 2001 there were 73225 families under below poverty line. In 2007 total 22216 families and in 2009 total 139 families were added this category. Government had taken many initiatives for livelihood promotion of these families.

## 4.22 Public Distribution

The state initiative to address basic requirements of food grains and other essential commodity of the economically and socially underprivileged strata is the objective of a public distribution system. Today the public distribution system has branched out to several other outlets also to meet the demands for consumer products. When compared to regular super markets the products of such stores carry subsidized prices. The total ration shops and ration card holders are presented in the table 4.22:

The table 4.22 reveals that highest number of ration shops is found in Bhuj taluka (144) and it is followed by Mandvi and Rapar taluka with 72 and 71 numbers respectively. On the other side the highest average population on per ration shop is found in Gandhidham with 6173 and the lowest average population on per ration shop is found in Abdasa taluka with 2177 numbers.

## 4.23 Government Initiatives

The government has implemented many schemes for livelihood promotion. These are:

### Swarnajayanti Gram Swarojgar Yojana (SGSY)

Swarnjayanti Gram Swarojagar Yojana is centrally sponsored which came into effect from 01/04/1999. Scheme basically emphasizes on self-employment. Scheme covers all aspect of self-

**Table: 4.22: Taluka Wise Number of Ration Shops & Ration Card Holders**

| Sr | Taluka | Total population | Ration Shops | Ration Card Holders | Average Population per Ration Shop |
|---|---|---|---|---|---|
| | **Kachchh** | **2092371** | **644** | **414662** | **3249** |
| 1 | Lakhpat | 62552 | 25 | 12491 | 2502 |
| 2 | Rapar | 217315 | 71 | 36785 | 3061 |
| 3 | Bhachau | 186035 | 69 | 36920 | 2696 |
| 4 | Anjar | 235537 | 53 | 46195 | 4444 |
| 5 | Bhuj | 443269 | 144 | 95819 | 3078 |
| 6 | Nakhtrana | 146367 | 63 | 31244 | 2323 |
| 7 | Abdasa | 117538 | 54 | 25053 | 2177 |
| 8 | Mandvi | 203373 | 72 | 40527 | 2825 |
| 9 | Mundra | 153219 | 40 | 23886 | 3830 |
| 10 | Gandhidham | 327166 | 53 | 65742 | 6173 |

***Source: District Statistical Outline, 2013***

employment like capacity building, subsidy, infrastructure facility, credit, skill upgradation, insurance and marketing. BPL/APL of 80:20 of rural poor are the target group.

### National Rural Livelihoods Mission (NRLM)Aajeevika - National Rural Livelihoods Mission (NRLM)

This schemewas launched by the Ministry of Rural Development, Government of India in June 2011. Aided in part through investment support by the World Bank, the Mission aims at creating efficient and effective institutional platforms of the rural poor enabling them to increase household income through sustainable livelihood enhancements and improved access to financial services.NRLM has set out with an agenda to cover 7 Crore rural poor households, across 600 districts, 6000 blocks, 2.5 lakh Gram Panchayats and 6 lakh villages in the country through self-managed Self Help Groups (SHGs) and federated institutions and support them for livelihoods collectives in a period of 8-10 years. In addition, the poor would be facilitated to achieve increased access to their rights, entitlements and public services, diversified risk and better social indicators of empowerment. NRLM believes in harnessing the innate capabilities of the poor and complements them with capacities (information, knowledge, skills, tools, finance and collectivization) to participate in the growing economy of the country.

### Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)

MGNREGA Launched on 2nd February 2006 as a momentous initiative towards pro-poor growth. For the first time, rural communities have been given not just a development programme but also a regime of rights. The Mahatma GandhiNational Rural Employment Guarantee Act, 2005 (NREGA) guarantees 100 days of employment in a financial year to any rural household whose adult members are willing to do unskilled manual work. This work guarantee also serve other objectives: generating productive assets and skills thereby boosting the rural economy, protecting the environment, empowering rural women, reducing rural urban migration and fostering social equity, among others. The Act offers an opportunity to strengthen our democratic processes by entrusting principle role to panchayat's at all levels in

its implementation and promises transparency through involvement of community at planning and monitoring stages.

### Indira Awas Yojana (IAY)

Indira Awas Yojana launched during 1985-86 aims at providing houses to the poor in rural areas and is funded on a 75:25 cost-sharing basis between the Government of India and state governments. According to GOI guidelines (2004), the major target groups for houses under IAY are below poverty line households living in rural areas belonging to scheduled castes/scheduled tribes, freed bonded labourers and non-SC/ST BPL rural households, and widows. The objective is primarily to help construction/upgradation of dwelling units of members of the target groups by providing them financial assistance.The Department of Rural Development under the Ministry of Rural Development is the apex body for overall implementation of IAY. At the state level, generally the department/s of rural development and panchayti raj look after IAY. A state level vigilance and monitoring committee for rural development programmes monitors the programme.

## Integrated Watershed Management Programme (IWMP)

The main aims of the IWMP are to restore the ecological balance by harnessing, conserving and developing degraded natural resources such as soil, vegetative cover and water. The outcomes are prevention of soil run-off, regeneration of natural vegetation, rain water harvesting and recharging of the ground water table. This enables multi-cropping and the introduction of diverse agro-based activities, which help to provide sustainable livelihoods to the people residing in the watershed area.Gujarat is among the front runners in the country in taking up new projects. The Government of India has sanctioned 151 watershed projects covering 7.08 lakh hectares involving more than Rs. 930 crores. To manage the IWMP at state level, Gujarat State Watershed Management Agency has been established.

### Gokul Gram Yojana

Inspite of the implementation of various development schemes under various five yearplans even after a period of 50 years, we have not been able to provide basic amenities in the villages in Gujarat. Although there was never a question of lack of resources, a comprehensive planning for the overall development of each village appears to be basically lacking in all our developmental efforts. The pitiable plight of the people living in the far-flung and interior areas of the State does require a special care. It is in this context that the Government has visualized the concept of Gokul Gram for the comprehensive development of the villages.Because of the implementation of the Gokul Gram Yojana, a clear change will be visible in the situations prevailing in the villages. Every village will indeed get vital infrastructure of basic amenities. At the same time a purposeful planning has also been made to ensure that each village becomes clean, beautiful and rich. As a result, a balanced development will take place and all the villages of the State that have been deprived of minimum needs will get these basic needs in a uniformed manner, in a disciplined time-frame of the coming 5 years.

### Sakhi Mandal Yojana

The project is to enable the poor women, particularly in rural areas of Gujarat to improve their access to resources and consequently strengthen livelihoods and quality of life. Sakhi Mandals are formation of women self help groups based on thrift and credit principles. It provides financial services to accelerate the process of economic development and ensure welfare of women. They are encouraged to foster decision skills and develop a framework of wider range of participation in micro finance development. In one year, the Gujarat Government aims for one lac Sakhi Mandals across the state.

### Fish Entrepreneur Yojna

Government encourages scheduled caste/tribe women to sell fishes to be self reliant. For the purpose, required instruments and facility is provided to buy weighing machine, Insulated box, etc. On average Rs.10,000/- Unit cost, 50% assistance is given to women belonging to scheduled caste/tribe. Training is given to Women for growth of 'Zingo' fishes under a ten day course with Rs.100/- scholarship.

### Krishi Talim Yojna

Krishi Talim is to give training in the field of Agriculture is imparted to women farmers and farmer's wives for research and use of latest technology. These agricultural women are paid stipend and transportation for the training course.

## 4.24 Sagarkhedu Sarvangi Vikas Yojna for Coastal Areas

A unique twelve point flagship program amounting to Rs. 11,000 crore for Eleventh Five Year Plan focuses attention in an integrated manner on the developmental issues of 60 lakh population living in 3000 villages of 38 coastal talukas in 13 districts. This program addresses special problems to improve quality of life and HDI in coastal areas, especially fisherman population. It takes a holistic and integrated view that people living in the coastal area play a distinctive role not only in the ecosystem but in the preservation of the ecosystem. The focus areas include capacity building and training, upgradation of technology in traditional professions, specific and time bound action plan for improving wage and self-employment, educational facilities, health infrastructure, drinking water, housing, salinity ingress, electrification and water conservation, creation of infrastructure and coastal security. Narmada Water Resources, Water supply and Kalpasar Department has planned to execute the following works:

1. Bandharas
2. Tidal Regulators
3. Recharge Tanks
4. Spreading Channels
5. Anti sea erosion work and irrigation scheme

Following benefits can be achieved after completion of above works.

- Preventing salinity ingress as well as to prevent conversion of fertile land in to barren land.
- Conserving the potable water of the river which otherwise become saline.

- To provide surface water for lift irrigation in coastal area.
- To prevent migration of the population residing in the salinity affected area.

In Kachchh district this scheme is implemented in seven talukas i.e. Lakhpat, Abdasa, Bhaurch, Anjar, Mundra, Mandvi and Gandhidham.The physical and financial achievements of Sagarkhedu Sarvangi Vikas Yojna is presented in table 4.23:

**Table 4.23: Physical & Financial Achievement under Sagarkhedu Sarvangi Vikas Yojna In Kachchh District (June 2014)**

| Sr | Type of Work | Taluka | No.of Work | Total Exp. | Benefitted Area (in hect) |
|---|---|---|---|---|---|
| 1 | Bandharas | Anjar | 1 | 455.89 | 480 |
| | | Mandvi | 2 | 456.11 | 224 |
| | | Abdasa | 1 | 392.14 | 561 |
| | | Lakhpat | 1 | 44.71 | 360 |
| | | Mundra | 1 | 26.35 | 120 |
| 2 | Tidal Regulators | Mundra | 1 | 464.13 | 1000 |
| 3 | Recharge Tanks | Mandvi | 1 | 50.65 | 55 |
| 4 | Increase Depth of | Anjar | 3 | 14.53 | 30 |
| | Tanks | Mandvi | 4 | 14.57 | 40 |
| | | Abdasa | 2 | 14.2 | 20 |
| | | Mundra | 3 | 32.79 | 30 |
| | | Bhachau | 5 | 60.46 | 50 |
| 5 | Recharge Wells | Anjar | 114 | 71.65 | 0 |
| | | Mandvi | 125 | 8.3 | 0 |
| | | Abdasa | 138 | 60.39 | 0 |
| | | Lakhpat | 142 | 24.32 | 0 |
| | | Mundra | 158 | 96.02 | 0 |
| | | Bhachau | 140 | 45.08 | 0 |
| 6 | Radial Channel | Abdasa | 2 | 623.6 | 561 |
| | | Lakhpat | 1 | 14.97 | 220 |
| | | Mandvi | 1 | 15.27 | 115 |
| 7 | Mota Checkdam | Anjar | 12 | 535.5 | 615 |
| | | Mandvi | 26 | 1607.88 | 740 |
| | | Abdasa | 15 | 1039.08 | 1339 |
| | | Lakhpat | 8 | 1012.01 | 827 |
| | | Mundra | 5 | 377.15 | 1085 |
| | | Bhachau | 23 | 361.26 | 1634 |
| 8 | Nana Checkdam | Anjar | 68 | 434.92 | 500 |
| | | Mandvi | 117 | 683.22 | 1044 |
| | | Abdasa | 149 | 836.56 | 992 |
| | | Mundra | 114 | 840.14 | 878 |
| | | Bhachau | 143 | 647.24 | 1170 |

***Source: District Panchayat Office, Kachchh***

## 4.25 SWOC Analysis

The SWOC analysis for livelihood promotion is presented in the box 4.4:

**BOX 4.4 : SWOC Analysis for Livelihood Promotion**

**STRENGTH**

- Average land holding per person in all social groups is 3.79 hectares.
- The yield of papaya is 84.6 in Kachchh district.
- The embroidery is still done by hands with the help of threads, small mirrors, needles and pearls.
- Livestock rearing is an important occupation for arid district, Kachchh.
- The agricultural policy of the state to bring more area under irrigation resulted in promotion of agriculture in Kachchh.
- For livelihood embroiderey is still done by hands with the help of threads, needles, small mirrors, needles and pearls so the identity of folk art is still sustaining.

**WEAKNESS**

- 38 percent of total land is unavailable for cultivation
- Net sown area in Lakhpat, Bhuj, Nakhtrana and Abdasa is less than 40 percent.
- The area under production of spices is decreasing.
- Lack of communication linkages with demand side (retailers) and heavy dependence on traders for marketing of handicrafts are some of the other problems, the sector suffers from.

**OPPORTUNITY**

- Salinity increase and market demand will promote the production of oil seeds
- Regular awareness campaigns of government schemes and programs to facilitate people in agriculture and animal husbandry.
- If water bodies are properly managed to increase the potential of irrigation sources then agricultural productivity of the district can be increased substantially.
- High potential for development of dairy and poultry sector.

**CHALLENGES**

- Kachchh district is characterized by it aridity, low rainfall and extreme temperatures.
- More population in coastal region will enhance the degree of calamity in case of severity of cyclonic storms.

## 4.26 Success Stories of Livelihood Projects in Kachchh District

Khamir works to strengthen and promote the rich artisanal traditions of Kachchh district. Khamir means 'intrinsic pride' in Kachchhi, the local language. In Hindi it means 'to ferment,' an equally apt name given the constant fermentation of ideas and activity on going both within the organization, and in Kachchh at large. Khamir is a joint initiative of Kachchh Nav Nirman Abhiyan and the Nehru Foundation for Development, Khamir was formally registered under the Societies and Trust Acts in 2005. Today, it serves as a platform for the promotion of traditional handicrafts and allied cultural practices, the processes involved in their creation, and the preservation of culture, community and local environments.Our vision is of a vibrant, sustainable Indian craft sector in which crafts and artisans alike are highly valued by people worldwide. Some of the success stories are below:

**Box 4.5: Success Story: Khamir's Recycled Plastic**

*Bhuj produces large quantities of plastic waste, and the city's waste disposal system is problematic at best. The Recycled Plastic project was conceived as one that would target the urban waste problem, while simultaneously supporting traditional weaving skills and methods. Today, it provides income to waste collectors, weavers and tailors around Bhuj. It also serves to educate the public about the environmental hazards of plastic waste. The Recycled Plastic project was launched in 2010. During its initial phase, Khamir trained 12 women to wash, cut and weave plastic collected from industrial and residential areas. After the pilot program proved successful, Khamir scaled the initiative to include more people in the production chain and develop more woven plastic products.*

*The plastic collection is coordinated with the help of Sahjeevan, an environmental NGO based in Bhuj that also works on urban issues. Collected plastic is transported to Khamir, where it is cleaned and segregated on the basis of colour and quality. The clean plastic is cut into long strips, which are then given to weavers. The weaving is carried out both on traditional pit looms as well as frame looms. Plastic weaving is currently practiced by a large number of women trained by Khamir. As it is a skill that can be easily learned by new weavers, it can also generate supplementary income for medium skilled weavers, home-based workers, people with disabilities, and senior citizens.*

## Box 4.6: Success Story: Kala Cotton Project

*Kachchh has experienced rapid industrialisation since the 2001 earthquake. While the impact of big industry has its positives, it has adversely impacted cultural livelihoods and their endurance is now shrouded in uncertainty. The number of weavers in Kachchh has declined from over 2000 in the mid 1990s to only 600-700 in practice today. Small-scale weavers cannot buy raw materials in bulk, and face the greatest difficulties in integrating with changing markets. There was a clear need to develop a local value chain in order to insulate these weavers from external market fluctuations. To do this, a raw material was required that was locally grown, environmentally friendly, that had the potential to create social value. Kala cotton is indigenous to Kachchh and by default organic, as the farmers do not use any pesticides and synthetic fertilizers. It is a purely rain fed crop that has a high tolerance for both disease and pests, and requires minimal investment. It is both resilient and resurgent in the face of stressful land conditions. Kala Cotton is one of the few genetically pure cotton species remaining in India, and one of the only species of pure, old world cottons to be cultivated today on a large scale. It forms a strong, coarse, stretchable fibre that is often used in denim. As it is difficult to produce fine quality textiles with it, as its short staple length translates to fewer twists per inch of yarn, over time its use has diminished significantly in mainstream markets.*

### *About the Kala Cotton Initiative*

*Khamir began this initiative in 2007, by partnering with Satvik, an association of organic farmers in Kachchh, to explore the production possibilities for Kala Cotton. As the cotton's short staple length makes it difficult to spin and weave, Khamir and Satvik first consulted with many experts to develop a process for converting it into yarn. Additionally, local weavers had to be convinced of the value of Kala Cotton – a particular challenge since weaving it requires changes in the loom set-up, as well as differing yields and shafts. After years of experimentation and perfecting both spinning and weaving techniques, Khamir began producing its first Kala Cotton goods in 2010. Today, the Kala Cotton Initiative encourages sustainable cotton textile production in harmony with local ecology. The project aims to create a value chain at multiple levels by working with marginalized communities and promoting locally grown species. To implement this initiative, Khamir and Satvik have created a supply chain between the Kala Cotton farmers, ginners, spinners and weavers to convert the raw cotton into hand woven products. It is hoped that eventually, the Kala Cotton Initiative will serve as an example for other communities to replicate.*

***Kala cotton on loom - linking the farmer with weaver***

***The final product: Orginally grown, handpicked, hand woven & naturally dyed***

**Box 4.7: Success Story: Horticulture Development**

*The Kutch, once a barren wasteland known more for its salty Rann, is fast developing into a fruitbowl as farmers use modern irrigation technology to grow exotic species.*

*Batuksinh Jadeja, 51 years old, a few years after his return from a small-time job in Muscat, he bought 50 acres of barren land near his village Mota Mau near Bhuj. He worked like a man possessed, pouring money and sweat in equal measure into his land. Jadeja embarked on a search for a fruit that had never been grown before in the region and that was Kesar mango.*

*The Kesar, named for its deep saffron colour, is originally from Junagadh district. Jadeja bought 100 Kesar saplings from Junagadh, and after discarding 40, planted the remaining on his farm. He tasted success with his very first harvest: emboldened, Jadeja then began ploughing his earnings into buying more land. His orchards cover 240 acres now and he uses no chemical fertilisers. He's even installed speakers so that the trees can listen to bhajans every morning. The Kutchi Kesar is now in demand in the Gulf and the UK. A decade ago, production of the Kutchi Kesar was just 200 tonnes and today it becomes one lakh tonnes, of which 10 per cent is exported.*

*The next two developments in the Kutch miracle came in 2001 and in 2003. In 2001, soon after the devastating earthquake, a satellite-based groundwater survey by the state Government threw up a surprise: Kutch had enough. The rush was on, pushed by horticulturists like Jayanti Thakkar, who played a key role in publicising it as a golden growth opportunity for local farmers. In 2003, the Gujarat Government floated the Gujarat Green Revolution Company to encourage sprinkler and drip irrigation with a 50 per cent subsidy on capital investment on drip irrigation as against 33 per cent given by the Centre. Drip irrigation, which regulates water delivery to plants through perforated pipes, helps save water, and in Kutch's case, groundwater.*

*The sweet Kesar is but the flagbearer of the Kutch revolution. Local dates, which used to be grown in small quantities in Kutch and were preferred as a border fencing plant by farmers, are now export material. The sweet lime is another success story, as indigenously devised techniques have turned it into another gold mine. Imported fruits like the Taiwanese papaya and watermelon too are being grown on Kutch soil by local farmers using modern cultivation techniques like mulching-the use of plastic covers for underground fruits and vegetables to regulate humidity. To the Taiwanese papaya, Kutchi farmers are now adding vegetables like capsicum which had never been grown in this region.*

CHAPTER - V

# Industrial Growth and Development

# Chapter 5

# Industrial Growth and Development

## 5.1 Introduction

The geological formations in the region range from Middle Jurassic to late Tertiary periods. It has unconformities breaking the succession between the Middle Cretaceous and Supra-trappean and Middle Kirthar and finally Miocene and Pliocene. Kachchh is considered to be an eastern extension of the mobile belt then a part of the unfolded and stable peninsular foreland of India. In this orogen, Mesozoic and Tertiary terrestrial and marine sediments and Deccan Traps have been involved in folding movements which began in middle Tertiary time and continued intermittently into the Quaternary.

The Jurassic rocks occupy a large area in Kachchh and are exposed in three anticlinal ridges trending east-west. The northern range which is about 160 km long includes four elevations, viz., Pachham, Khadir, Bela and Chorad in the Rann of Kachchh. The middle range is about 290 km from Lakhpat to west. The southern ridge, south of Bhuj, is 64 km long. The general anticlinal folds in Kachchh are NW- SE in the western part of the district swinging to E-W in the eastern part. Small structural domes and saddles, aligned along the anticlinal axes are typical to this region. The basic rock formation is of four main divisions based on fossil contains, viz., Pachham, Chari, Katrol and Umia series. Geology of Kachchh has provided the region with various non-metallic minerals in abundance.

Kachchh is a mineral rich region. Mineral resources in a region play very important role in industrialisation. The important minerals available in Kachchh are mostly of fuel, metallic and non-metallic categories. Limestone, bauxite, lignite, kaolin and bentonite are the important and gypsum, white clay, ball clay, fire clay is the 'minor' minerals available in Kachchh. Moreover, Kachchh is also bestowed with sand stone, murram, black trap, etc.

Kachchh is an extremely rich region for non-metallic minerals. The region has the largest reserves of limestone, kaolin, bauxite, silica sand and bentonite in Gujarat and these reserves are also significant as far as India's reserves for these minerals are concerned. Kachchh has the largest number of mines under lease in Gujarat. The table 5.1 shows the mining and quarrying in Kachchh and Gujarat.

**Table 5.1: Mining and Quarrying Leases in Kachchh and Gujarat (2002-03)**

| Region | Mines | | Quarry | | Total | |
|---|---|---|---|---|---|---|
| | No | Area | No | Area | No | Area |
| Kachchh | 152 | 7074 | 476 | 901 | 628 | 7974 |
| Gujarat | 1217 | 35896 | 5106 | 8805 | 6323 | 44701 |
| **% Share of Kachchh** | **12** | **20** | **9** | **10** | **10** | **18** |

*Source: Study on Potential Development of Kachchh, Gujarat, 2005, Gujarat*

In 2002-03 Kachchh contributed 14 percent of the total mineral production in Gujarat. The share of major minerals to the total mineral production in Kachchh was 70 percent. Mineral production in Kachchh as in Gujarat is dominated by non- metallic minerals. Kachchh has the largest number of leased mines in Gujarat. In 2002-03, 628 mines and quarry in an area of 7974 hectares was leased for mineral production in the region. The availability of minerals in Kachchh, Gujarat and India is shown in the table 5.2:

**Table 5.2: Minerals in Kachchh, Their Availability in Other Parts of Gujarat and India**

| Sr | Mineral | Kachchh | Gujarat | India |
|---|---|---|---|---|
| 1 | Kaolin | Rapar, Bhachau | Kachchh, Sabarkantha, Mehsana, Patan | Kerala, Rajasthan, Gujarat, AP |
| 2 | Gypsum | Rapar, Nakhatrana | Kachchh, Jamnagar, Rajkot | NA |
| 3 | Bauxite | Mandvi, Nakhatrana, Abdasa, Lakhpat | Kachchh, Jamnagar, Sabarkantha, Junagadh, Kheda | Orissa, Gujarat, Jharkhand, Maharashtra |
| 4 | Fine Clay | Rapar, Bhachau | Kachchh, Mehsana, Rajkot, Sabarkantha, Surendranagar | Gujarat |
| 5 | Ball Clay | Rapar, Bhachau, Mandvi | Kachchh, Banaskantha | Gujarat |
| 6 | Lignite | Lakhpat | Bharuch, Bhavnagar, Surat, Kachchh | Tamil Nadu, Rajasthan, Gujarat |
| 7 | Lime Stone | Lakhpat, Abdasa | Kachchh, Sabarkantha, Banaskantha, Junagadh, Amreli, Bhavnagar | MP, AP, Rajasthan, Gujarat, Chhattisgarh |

***Source: Study on Potential Development of Kachchh, Gujarat, 2005, Gujarat Infrastructure development Board***

Kachchh has a significant share in mineral resource base of Gujarat. Gujarat is one of the important states for mineral production in India. The state accounts for 9 percent of India's total value of mineral production and is ranked second in terms of number of operating mines. In 2002-03, 628 mines and quarry with an area of 7974 hectares was leased mineral production and Kachchh is the largest contributor of royalties earned from leased mines in Gujarat. Nearly 75 % of the total minerals of Gujarat State are produced in the Kachchh only. The table 5.3 shows the production of minerals in Kachchh district.

## 5.2 Industrial Development

In the era of economic liberalisation, Gujarat has proved itself to be the second most favoured destination of industrial investments after Maharashtra. From August 1991 to July 2004 a total of 8848 industrial project were approved in Gujarat with an estimated investment of INR 3516.97 billion with an estimated employment of 1.4 millions (1408116 persons). Out of which, till July 2004, 4025 projects were implemented and another 1403 projects are now under implementation. Rate of implementation of industrial projects in Gujarat is around 61 per cent.

Kachchh has re-emerged from the ruins of one of the most disastrous earthquakes in the history that took place in January 2001 and today has become a major industrial hub. It contributes to significant share of salt production in the country. With large reserves of limestone, bauxite, lignite and bentonite, Kachchh district is one of the preferred destinations for most of the mineral based industries.

It boasts of being the world's largest manufacturer of Submerged Arc Welded (SAW) pipes. A good number of medium /large scale industries are supported by a sizeable number of small scale industries. Due to presence of two important ports, Kandla and Mundra, Kachchh district accounts for a very high cargo movement. Analysis of regional distribution of investments in Kachchh district indicates that industrial development is concentrated in Anjar, Gandhidham, Mundra, Bhachau and Lakhpat Talukas while other regions like Mandvi and Nakhtarana still remain backward. Over the recent years the state Government has initiated some measures to enhance the industrial growth in backward talukas of Mandvai and Abdasa through suitable incentives leading to an increased investment potential of these regions over the next decade. Details of taluka wise large scale investments in Kachchh district till 2012 is presented in the table 5.4:

The table 5.4 shows that uring the year 1983 to 2014, 1232 projects were issued with 353194 lakh rupees, 371 projects were commissioned with 23628 lakh rupees, 634 projects were under implemented with 322995 lakh rupees and 227 projects were not implemented of 6571 lakh rupees.

Rapid growth of industrialization in the district has widened the scope for establishment of ancillary units in MSME segment. As per the MSME investment Part–II statistics, overall there are 1150 units operating in the district attracting an investment of INR 97,350 lakhs in 2012 as shown in table 5.5:

The table 5.5 shows that out of 1150 industries830 were micro industries, 290 were small and 30 industries were medium with 15,291 lakh Rs, 54,659 lakh Rs and 27,000 lakh Rs investment respectively. During the year 2012, 992 industries were manufacturing sector units and 158 were service enterprises with 76, 211 lakh Rs and 21,139 lakh Rs investment respectively.

**Table 5.3**
**Production of Mineral (2010-11)**

| Sr | Name of Mineral | Production in tones |
|---|---|---|
| **Major Mineral** | | |
| 1 | Ball Clay | 3410 |
| 2 | Bauxite | 1493808 |
| 3 | China Clay | 1954787 |
| 4 | Fire Clay | 1020 |
| 5 | Gypsum | 47 |
| 6 | Laterite | 245736 |
| 7 | Lignite | 6394984 |
| 8 | Limestone | 4398194 |
| 9 | Pozzolonic Clay | 153745 |
| 10 | Silica Sand | 196151 |
| 11 | White Clay | 1856593 |
| **Minor Minerals** | | |
| 12 | Bentonite | 1348647 |
| 13 | Blacktrap | 8366712 |
| 14 | Hard Murrum | 56419 |
| 15 | Building Limestone | 120001 |
| 16 | Soft Murrum | 56419 |
| 17 | Ordinary Clay | 5011620 |
| 18 | Ordinary Sand | 1754247 |
| 19 | Sandstone | 90028 |

***Source: Dept of Mines & Geology, Bhuj***

**Table 5.4: Large Scale Investment Scenario in Kachchh (1983 to 2014)**

| Sr | Taluka | Issued | | | Commissioned | | | Under Implementation | | | Not Implemented | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Pro | Inv | Empl | Pro | Inv | Empl | Pro | Inv | Empl | Pro | Inv | Empl |
| 1 | Lakhpat | 38 | 29417 | 21267 | 4 | 1687 | 1432 | 28 | 25598 | 17284 | 6 | 2132 | 2551 |
| 2 | Rapar | 5 | 563 | 452 | 1 | 50 | 44 | 3 | 511 | 288 | 1 | 2 | 120 |
| 3 | Bhachau | 216 | 10063 | 97508 | 83 | 2330 | 43988 | 92 | 7365 | 22368 | 41 | 368 | 31152 |
| 4 | Anjar | 206 | 22049 | 57794 | 88 | 6890 | 24363 | 96 | 14803 | 26331 | 22 | 356 | 7100 |
| 5 | Bhuj | 247 | 44253 | 66084 | 80 | 1676 | 13146 | 124 | 41096 | 45862 | 43 | 1481 | 7076 |
| 6 | Nakhtrana | 5 | 1862 | 1890 | 0 | 0 | 0 | 5 | 1862 | 1890 | 0 | 0 | 0 |
| 7 | Abdasa | 37 | 30650 | 14148 | 6 | 1978 | 1007 | 27 | 27822 | 10855 | 4 | 850 | 2286 |
| 8 | Mandvi | 15 | 64906 | 10309 | 0 | 0 | 0 | 7 | 64906 | 4960 | 8 | 0 | 5349 |
| 9 | Mundra | 98 | 95712 | 40745 | 25 | 3761 | 6129 | 56 | 90746 | 26794 | 17 | 1205 | 7822 |
| 10 | Gandhidham | 326 | 13807 | 29382 | 81 | 3651 | 10575 | 160 | 9979 | 9848 | 85 | 177 | 8959 |
| | Not Classified | 39 | 39912 | 247711 | 3 | 1605 | 866 | 36 | 38307 | 23845 | 0 | 0 | 0 |
| | **Total** | **1232** | **353194** | **364290** | **371** | **23628** | **101550** | **634** | **322995** | **190325** | **227** | **6571** | **72415** |

***Source: Industries Commission, 2014***

**Table 5.5: MSME Investment Scenario in Kachchh (2012)**

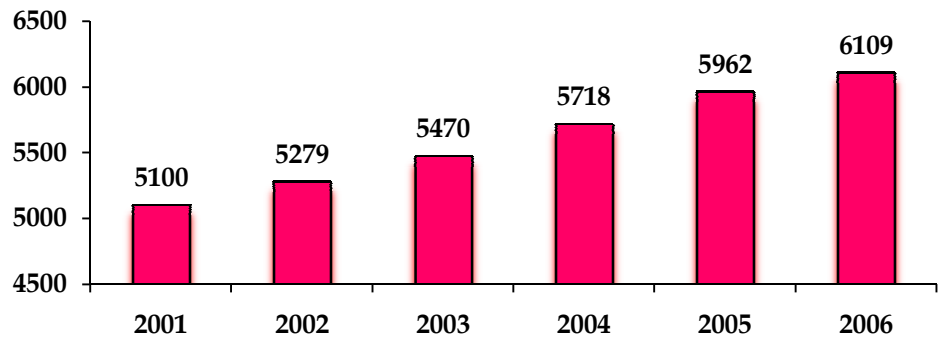
| Category of Industries | Number of Units | Investment in Rs. Lakhs |
|---|---|---|
| Micro | 830 | 15,291 |
| Small | 290 | 54,659 |
| Medium | 30 | 27,400 |
| Total | 1150 | 97,350 |
| Manufacturing Sector Units | 992 | 76,211 |
| Service Enterprises | 158 | 21,139 |

*IEM, MSME Part-II Data till 2012-13*

## 5.3 SSI Units Registration

The progress of Registration of SSI units in Kachchh is shown in the figure 5.1:

**Figure 5.1: Progress of SSI Units Registration (2001 - 2006)**



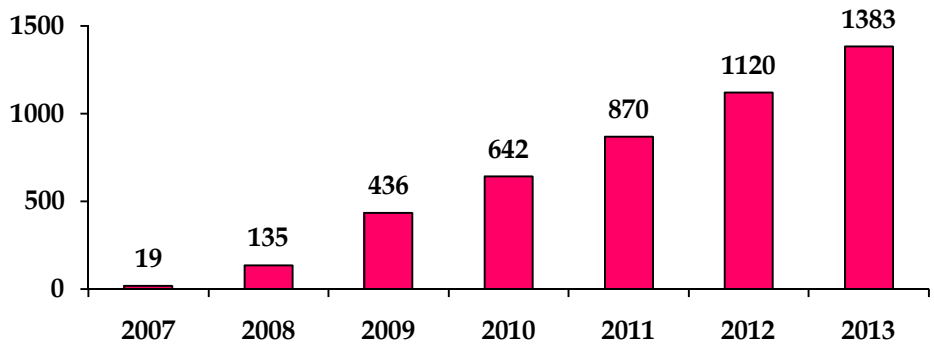

*Source: Industries in Gujarat, Industries Commission, 2013*

The figure 5.1 shows that the registration of SSI units in Kachchh is continuously increasing from 2001 to 2006. In 2001 the registration of SSI units was 5100 which increase to 6109 units during the year 2006.

## 5.4 MSME Units

The progress of MSME units in Kachchh is shown in the figure 5.2:

**Figure 5.2: Progress of MSME Units in Kachchh District**




*Source: Industries in Gujarat, Industries Commission, 2013*

## 5.5 Micro, Small and Medium Enterprises

The number of units, investment and employment of micro, small and medium enterprises is shown in the table 5.6:

**Table 5.6: Units, Investment & Employment of Micro, Small & Medium Enterprises (2006 to 2013)**

| Category | Unit | | Investment (Rs. in Lakh) | | Employment | |
|---|---|---|---|---|---|---|
| | No | % | No | % | No | % |
| Micro | 1015 | 69.43 | 17188.01 | 13.30 | 11370 | 47.81 |
| Small | 398 | 27.22 | 71417.17 | 55.28 | 10339 | 43.47 |
| Medium | 49 | 3.35 | 40596.45 | 31.42 | 2073 | 8.72 |
| **Total** | **1462** | **100.00** | **129201.6** | **100.00** | **23782** | **100.00** |

*IEM, MSME Part-II Data till 2012-13*

The table 5.6 shows that out of 1462 units, 1015 units are micro, 398 units are small and 49 units are medium which is 69.43 percent, 27.22 percent and 3.35 percent of total units. The table 5.6 also shows that 17188.01 lakh Rs was invested in micro units, 71417.17 lakh Rs was invested in small and 40596.45 lakh Rs was invested in medium enterprises which is 13.30, 55.28 and 31.42 percent respectively of total investment. On the other hand 23782 was employed in total 1462 units.The taluka wise units, investment and employment is shown in the table 5.7:

**Table 5.7: Talukawise Units, Investment & Employment of Micro, Small & Medium Enterprises(from 2006 to 2014)**

| Sr | Taluka | Units | Investment(Rs in Lakh) | Employment |
|---|---|---|---|---|
| 1 | Lakhpat | 3 | 434.00 | 60 |
| 2 | Rapar | 18 | 2322.24 | 393 |
| 3 | Bhachau | 142 | 30549.56 | 4177 |
| 4 | Anjar | 301 | 25884.14 | 5236 |
| 5 | Bhuj | 418 | 23819.28 | 4737 |
| 6 | Nakhtrana | 29 | 2534.00 | 453 |
| 7 | Abdasa | 23 | 10077.50 | 137 |
| 8 | Mandvi | 73 | 5706.35 | 768 |
| 9 | Mundra | 61 | 5192.89 | 752 |
| 10 | Gandhidham | 568 | 41917.66 | 10354 |
| | **Total** | **1636** | **148437.62** | **27067** |

*Source: Industries Commission, 2014*

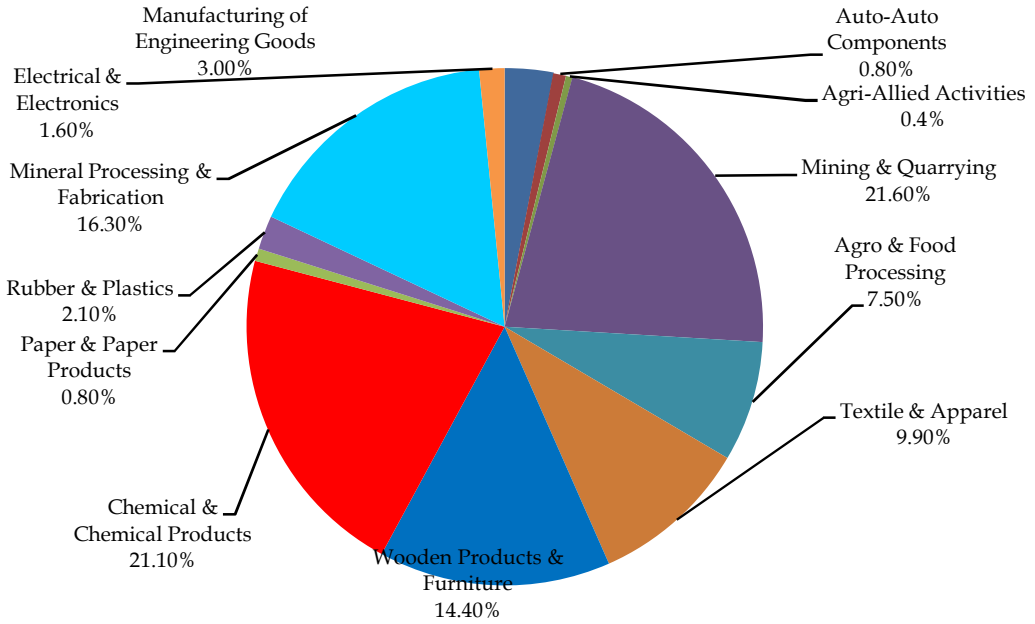
The table 5.7 reveals that out of total 1636 units highest 568 units were found in Gandhidham taluka with 41917.66 lakh Rs investment and 10354 employment and the lowest only 3 units were found in Lakhpat taluka with 434 lakh Rs investment with 60 employment.

## 5.6 MSME Manufacturing Scenario

Among the manufacturing based MSME units, Chemical and Chemical Products, Mining and Quarrying, Wooden Products and Furniture and Mineral Processing and Fabrication are the most prominent industries both in terms of units and investment in MSME manufacturing

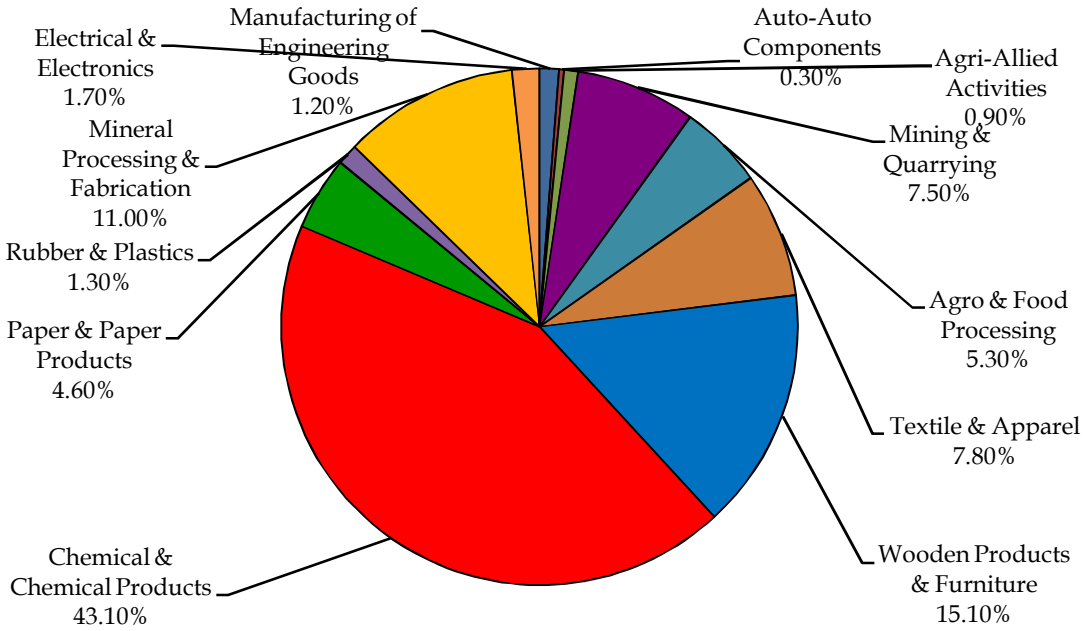
units. Composition of MSME manufacturing enterprises and investments are presented in the figure 5.3 & 5.4:

**Figure 5.3: Composition of MSME Manufacturing Units (2012-13)**




*IEM, MSME Part-II Data till 2012-13*

**Figure 5.4: Composition of Investments in MSME Manufacturing Units (2012-13)**




*IEM, MSME Part-II Data till 2012-13*

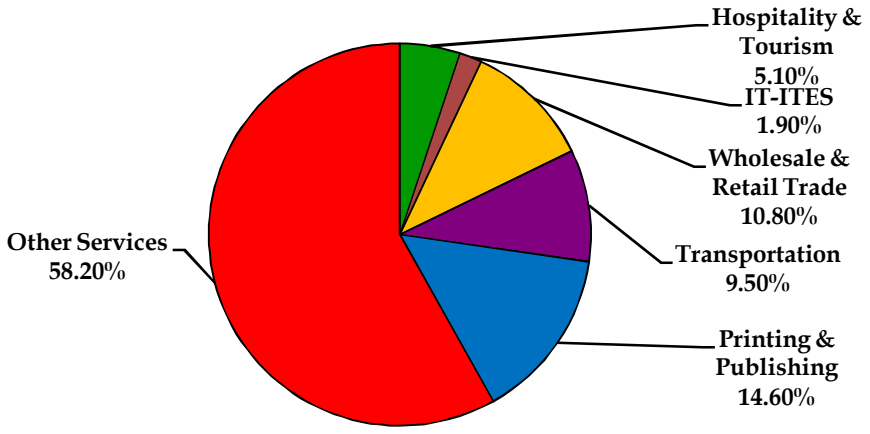
The figure 5.3 illustrates that out of total MSME manufacturing units, highest 21.60 percent units were of minning and quarrying and it is followed by chemical and chemical products with 21.10 percent units. On the other side lowest 0.4 percent units were of agri – allied activities and it is followed by auto - auto components with 0.80 percent.

The figure 5.4 illustrates that out of total investment in MSME manufacturing units, highest 43.10 percent investment was in chemical and chemical products and it is followed by wooden products and furniture with 15.10 percent. On the other side lowest 0.30 percent investment was in auto – auto components and it was followed by agri – allied activities with 0.90 percent.

## 5.7 MSME Services Scenario

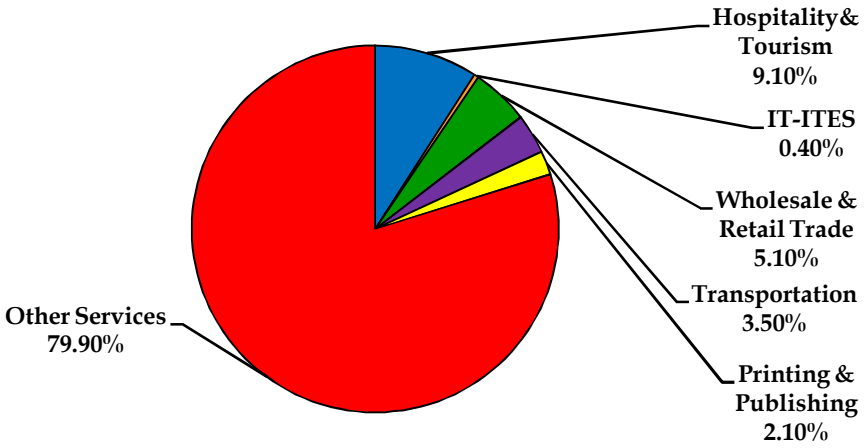
While the level of organized investments in services enterprises are low as evident from the MSME Part-II statistics, sectors of whole sale and retail trade, Printing and Publishing, transportation and Hospitality have seen considerable investments in the district. Composition of MSME service enterprises and investments are presented in the figure 5.5 & 5.6:

**Figure 5.5: Composition of MSME Service Enterprise (2012-13)**




*IEM, MSME Part-II Data till 2012-13*

**Figure 5.6: Composition of Investments in MSME Service Enterprise (2012-13)**




*IEM, MSME Part-II Data till 2012-13*

Amongst the service sub-sectors, the tourism sector has been major driver of Kachchh economy. It is emerging strongly with the experiences of palaces, wildlife, fairs and festivals. The district accounted for 2.39 % of total tourist inflow in Gujarat during 2006-07. The key tourist attractions include Aina Mahal (Old Palace), Prag Mahal (New Palace), Indus Valley Civilization site, Swaminarayan Temple, Lakhpat, Wildlife Sanctuary, Chinkara Sanctuary and Mandvi Beach. Apart from the above, there are several festivals like the Kachchh Desert Festival and the Navratri Fair.

There are several opportunities for investment in the tourism sector in the form of deluxe and budget hotels, golf club, beach resorts and heritage & archeological site development.Amongst the higher education firms, the relevant ones are Shyamji Krishna Verma Kachchh University, Veerayatan Institute of Pharmacy and Vivekananda Research and Training Institute at Mandvi. Kachchh has medium penetration in terms of medical institutions, with over around 31,671 people per institution. The district has 37 primary healthcare centers, 13 community healthcare centers and 5 hospitals. Apart from the above, Kachchh has G.K. General Hospital and Bidada Hospital.

The road infrastructure of Kachchh consists of National Highway 8A connecting Kachchh with Ahmadabad, Vadodara, Rajkot and Surat. The district is connected to Mumbai via 5 broad gauge stations and is also connected to the DMIC via broad gauge. Kachchh has an operational airport in Bhuj and Kandla, Mandvi Mundra airstrips are under development. Kachchh has Mundra port, Kandla and Mandvi.Kachchh has 266 bank offices with a total bank credit amount of 4,561 Cr INR and a total deposit amount of 16,447 Cr INR as of Mar 2012. Ahmadabad has a low penetration of banking and financial services with a density of 7,858 people per bank as of March 2012. While the number of banks has increased at a CAGR of 7.5 percent from 2007 to 2012, the amount of deposit and credit have increased at a CAGR of 15.5 percent and 20.6 percent respectively from 2007-2012.

Owning to the soil characteristics, only a very small percentage of district geographical land is cultivable (23 percent of total area) with intra district variations. Talukas like Bhachau, Mandvi, Anjar and Gandhidham talukas have about 35 percent of their geographical area under cultivation while Lakhpat taluka has only 3.9 percent land under cultivationKachchh lies in North West agro climatic zone and has low rainfall conditions. Being a low rainfall witnessing region, the district has limited spread of irrigation facilities with only 40 percent of net cultivable area under irrigation. The lack of rainfall and irrigation facilities has resulted in poor agriculture in the district.Poor nitrogen content in Kachchh soils has resulted in large scale usage of nitrogen rich fertilizers. Awareness levels on organic farming and vermin-compost methods are low in the region indicating immediate need to improve the same by promoting holistic sustainable agricultural practices.

Bajra, Greengram, Groundnut, Cotton and Castor are the key Kharif crops while Wheat, Mustard, Isabgul are the main Rabi crops grown in the district. The ratio of area under Rabi to Kharif crop is 0.2 indicating lack of multiple cropping majorly due to poor irrigation and lack of rainfall. Main horticulture crops include Fruits (Datepalm, Mango), Spices (Isabgul, Cumin, and Coriander) and vegetables (Tomato, Cucurbits and Brinjal). Currently usage of hybrid crop

varieties is low with a need to promote this practice across crop categories. There is a need for Taluka Seed Farms in the district to improve the availability of quality seeds. Sheep and goats are main cattle varieties in Kachchh with 4,95,253 sheep population and 4,59,442 goats. Other prominent domestic animals under animal husbandry activities are cows and buffaloes. The high number of sheep and goats indicate potential for wool and meat yielding animal husbandry.

## 5.8 Workforce Distribution

Kachchh has witnessed tremendous growth in industrial activities leading to employment generation in the secondary sector after 2001. While historically dependency on agriculture is high, trend over the recent years has been promising with the district making progressive steps towards reducing the dependency on agrarian activities. Comparison of percentage of workforce distribution scenario in Kachchh and Gujarat is presented in the table 5.8:

**Table 5.8: Percentage Workforce Distribution in the Kachchh District**

| Region | Labour Force Participation | Workforce Participation | Percentage of Employment | | |
|---|---|---|---|---|---|
| | | | Primary Sector | Secondary Sector | Tertiary Sector |
| Kachchh | 59.74 | 38.25 | 57.68 | 10.06 | 32.26 |
| Gujarat | 59.27 | 41.95 | 59.34 | 15.86 | 24.8 |

***Source: KPMG Analysis (2012)***

The table 5.8 shows that participation of labour force in Kachchh district was 59.74 percent whereas Gujarat's participation was 59.27 percent. On the other side workforce participation in Kachchh district was 38.25 percent whereas Gujarat's participation was 41.95 percent.Organized industrial employment in registered factories and service enterprises has contributed to significant share of secondary sector employment in the district. Registered and commissioned industrial units have generated an employment base of 1.15 lakhs.Large scale enterprises accounted for major share of the employment with Industrial Instruments, Electrical Equipments, Ceramics, Electronics and Rubber & Plastics as key segments. Details of category wise industrial employment as per 2012 statistics are presented in the table 5.9:

**Table 5.9: Organized Employment in Kachchh**

| Category of Industries | Employment |
|---|---|
| Large Scale Industries (Commissioned + UnderImplementation) | 2,47,358 |
| MSME Category | 18,500 |
| Manufacturing Units | 16,296 |
| Service Enterprises | 2,204 |
| **Total** | **2,65,858** |

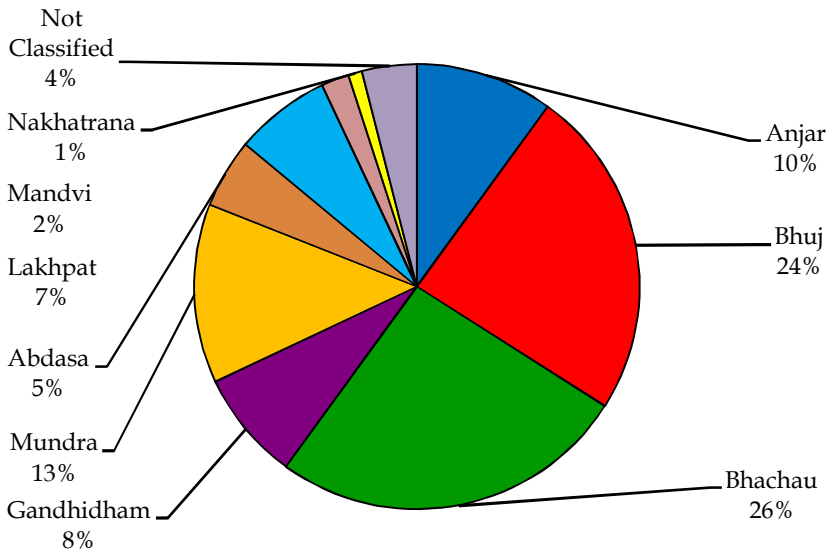
***IEM, MSME Part-II Data till 2012-13***

The table 5.9 shows that total 2,47,358 were employed in large scale industries, 18,500 employed in MSME category, 16,296 employed in manufacturing units and 2204 were employed in service enterprises.

## 5.9 Large Scale Industrial Employment Scenario

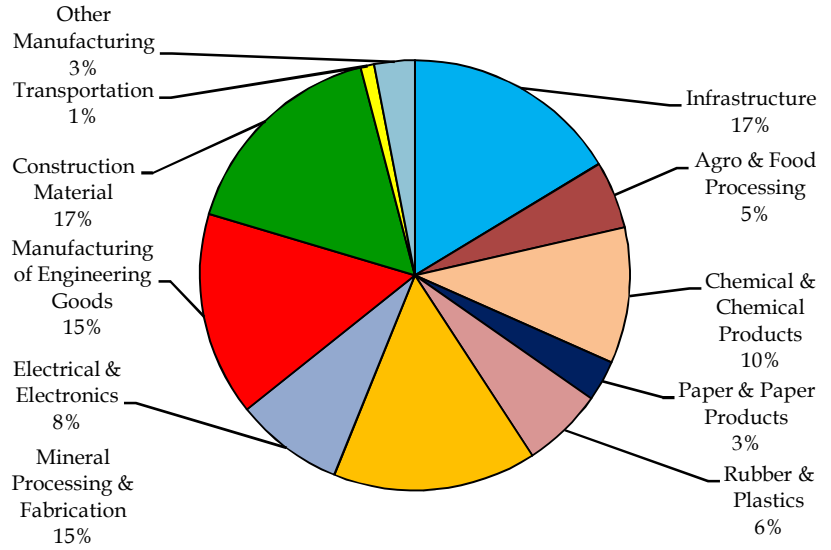
Regional and sectoral analysis of large scale industrial employment indicates a clear concentration of employment in key sectors within specific taluka regions. Bhuj and Bhachau talukas account for a majority share of employment in this category. Infrastructure, construction material, manufacturing of engineering goods, mineral processing & fabrication are major employment generating segments within the district. Regional, sectoral break up of large scale industrial employment is presented in the figure 5.7 & 5.8:

**Figure 5.7: Regional Distribution of Large Scale Industrial Employment (2012-13)**




*IEM, MSME Part-II Data till 2012-13*

**Figure 5.8: Composition of Employment in Large Scale Industries (2012-13)**




*IEM, MSME Part-II Data till 2012-13*

The figure 5.7 illustrates that out of total industries highest 26 percent large scale industries were found in Bhachau taluka and it was followed by Bhuj taluka with 24 percent. On the other

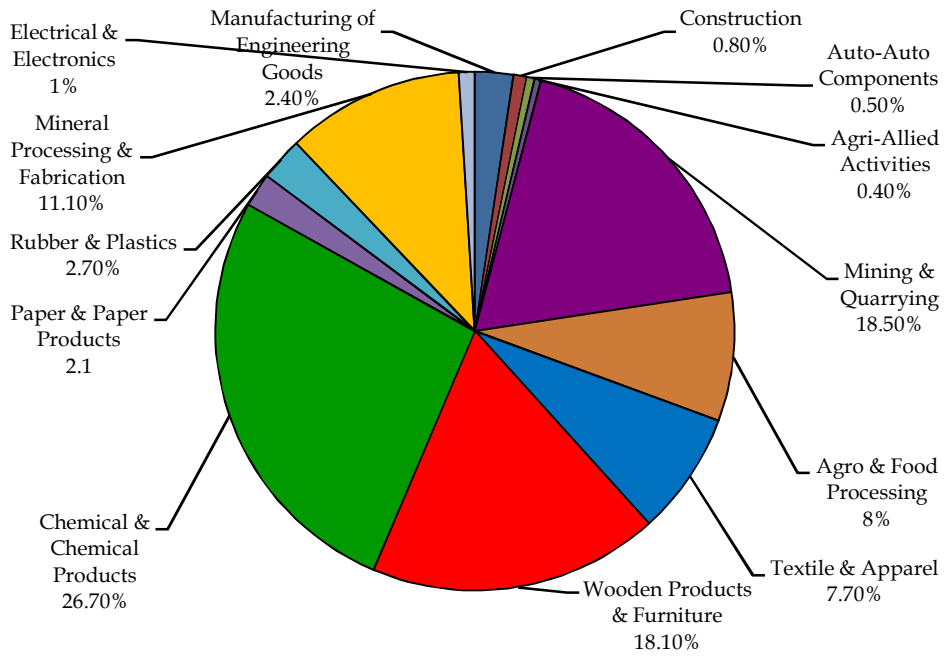
side lowest 1 percent large scale industries were found in Nakhatrana taluka and it was followed by Mandvi taluka with 2 percent.

The figure 5.8 illustrates that highest 17 percent employment was found in construction material and infrastructure based large scale industries and it was followed by mineral processing and fabrication and mineral engineering units with 15 percent. On the other side lowest 1 percent employment was found in transportation industry.

## 5.10 MSME Employment Scenario

Among the manufacturing units in MSME, Mining, chemical & chemical products, wooden products & furniture, mineral processing & fabrication, agriculture& food processing units have accounted for majority share of the employment in all the categories of industries. Whole sale & retail trade, transportation, Publishing & printing, hospitality are major employment generating sectors within tertiary enterprises. Details of sector wise industrial employment in manufacturing and services MSME units as per 2012 statistics are presented in the figure 5.9 & 5.10:

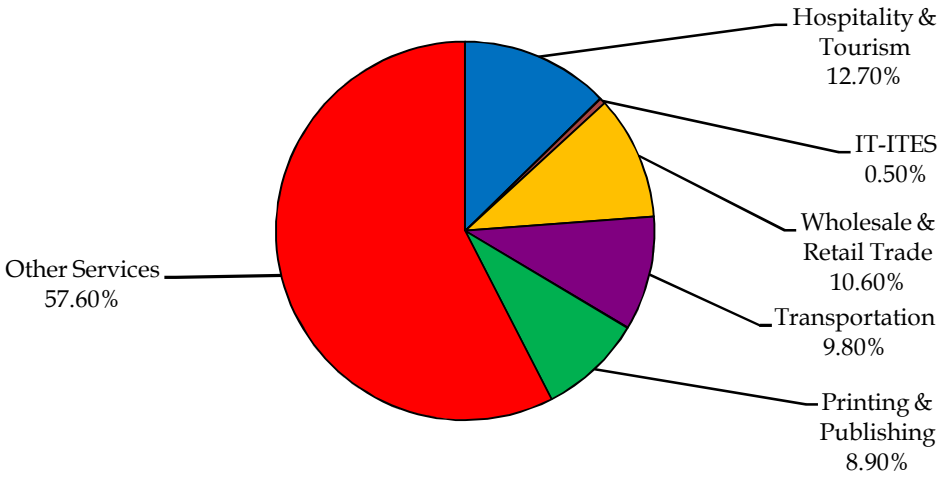
**Figure 5.9: Composition of Employment in MSME Manufacturing Units (2012-13)**




*IEM, MSME Part-II Data till 2012-13*

The figure 5.9 shows that out of total employment in MSME manufacturing units highest 26.7 percent employment found in chemical and chemical products and it was followed by mining and quarrying with 18.50 percent. On the other side lowest employment 0.4 percent found in agri – allied activities and it was followed bu auto – auto components with 0.5 percent.

**Figure 5.10: Composition of Employment in MSME Service Enterprises (2012-13)**




*IEM, MSME Part-II Data till 2012-13*

The figure 5.10 illustrates that out of total eployment in MSME service enterprises 12.7 percent involved in hospitality and tourism sector and 9.80 percent employment involved in transportation.

## 5.11 Number of Factories and Average Number of Workers

The number of factories and average number of workers is presented in the table 5.10:

**Table 5.10: Number of Factories and Average Number of Workers in Kachchh and Gujarat**

| Year | Kachchh | | | | Gujarat | |
|---|---|---|---|---|---|---|
| | Factories | % | Workers | % | Factories | workers |
| 2008 | 400 | 1.67 | 41249 | 3.51 | 23942 | 1175091 |
| 2009 | 409 | 1.60 | 43319 | 3.44 | 25569 | 1257957 |
| 2010 | 429 | 1.70 | 46079 | 3.50 | 25206 | 1317634 |
| 2011 | 441 | 1.69 | 48507 | 3.50 | 26088 | 1387157 |

*IEM, MSME Part-II Data till 2012-13*

The table 5.10 describes that in 2008 there was 400 factories which was 1.67 percent of total factories of Gujarat but in 2011 the number of factories increased to 441 which was 1.69 percent of Gujarat. On the other side in 2008, 41249 workers was employed which is 3.51 of total workers in Gujarat but in 2011 this increased to 48507 which was 3.50 of total workers in Gujarat.

## 5.12 Handicraft Industry

Kachchh is famous for its handicrafts. The handicrafts mainly textile related crafts done by Kachchhi women has given a unique identity to Kachchh. Quality handicrafts produced in Kachchh is not only symbol of their colourful way of life as well as it has been a source of livelihood for people. There is a wide range of Kachchhi handicraft varying from textile-based

handicrafts like hand embroidery, tie-dye (Bandhani), weaving, block printing to pottery with lime paste and mirror work decoration. Some of the villages and communities have specialized for generations in certain crafts and thereby create masterpieces. Few examples are Sodha embroidery of Loria village, patch work of Bhirandiyara, the Rabari embroidery of nana Nakhatrana, the leather work of Meghwal artisans, silver work on precious metal of Bhuj and Anjar, lacquer work on cloth of Chobari and Nirana villages. Kachchh contributes significantly in Handicraft export from Gujarat. Handicraft industry in Kachchh is unorganised and therefore it very difficult to estimate value of production. Gujarat State Handlooms and Handicrafts Development Corporation Ltd regularly purchases handicraft items through their office in Bhuj.The handicrafts and handlooms purchased by GHHDCL is presented in table 5.11:

**Table 5.11: Handicraft and Handlooms Purchased by GHHDCL (1993-94 to 2003-04)**

| Year | Handicrafts (In Lakhs) | Handlooms (In Lakhs) | Total (In Lakhs) |
|---|---|---|---|
| 1993-94 | 168.93 | 1.67 | 170.6 |
| 1994-95 | 120.71 | 4.53 | 125.24 |
| 1995-96 | 92.5 | 3.97 | 96.47 |
| 1996-97 | 89.48 | 2.01 | 91.49 |
| 1997-98 | NA | 15.49 | 15.49 |
| 1998-99 | 52.6 | 46.46 | 99.06 |
| 1999-00 | 61.82 | 26.9 | 88.72 |
| 2000-01 | 108.48 | 20.18 | 128.66 |
| 2001-02 | 92.02 | 36.15 | 128.17 |
| 2002-03 | 51.23 | 34.05 | 85.28 |
| 2003-04 | 23.5 | NA | 23.5 |

***Source: Gujarat State Handloom and Handicrafts DevelopmentCorporation, Bhuj***

The table 5.11 shows that during the year 1993-94 handicrafts items purchased by GHHDCL was of 168.93 lakh Rs but in 2002-03 it was decreased to only 51.23 lakh Rs. On the other side handloom items purchased by GHHDCL was of 1.67 lakh Rs. during the year 1993-94 but it was increased to 34.05 lakh Rs. during the year 2001-03.

Gujarat Handloom and Handicrafts Development Corporation Ltd has district level centre in Bhuj to facilitate supply of raw materials and new designs to the artisans and weavers at their doorstep. According to figure provided by corporation in 2002-2003 Rs. 51.23 Lakhs of Handicrafts and Rs. 34.05 Lakhs of Handlooms had been purchase through Bhuj office. Purchase figures of corporation do not indicate any trend; in 1993-94 Rs 168.93 Lakhs of handicraft items has been purchase was highest in last ten years. Dependency on Government agencies decrease after entrance of NGOs and individual exporter who directly purchase items from the handicraft artisans.

**BOX 5.1: Gujarat Handloom & Handicrafts Development Corp. Ltd**

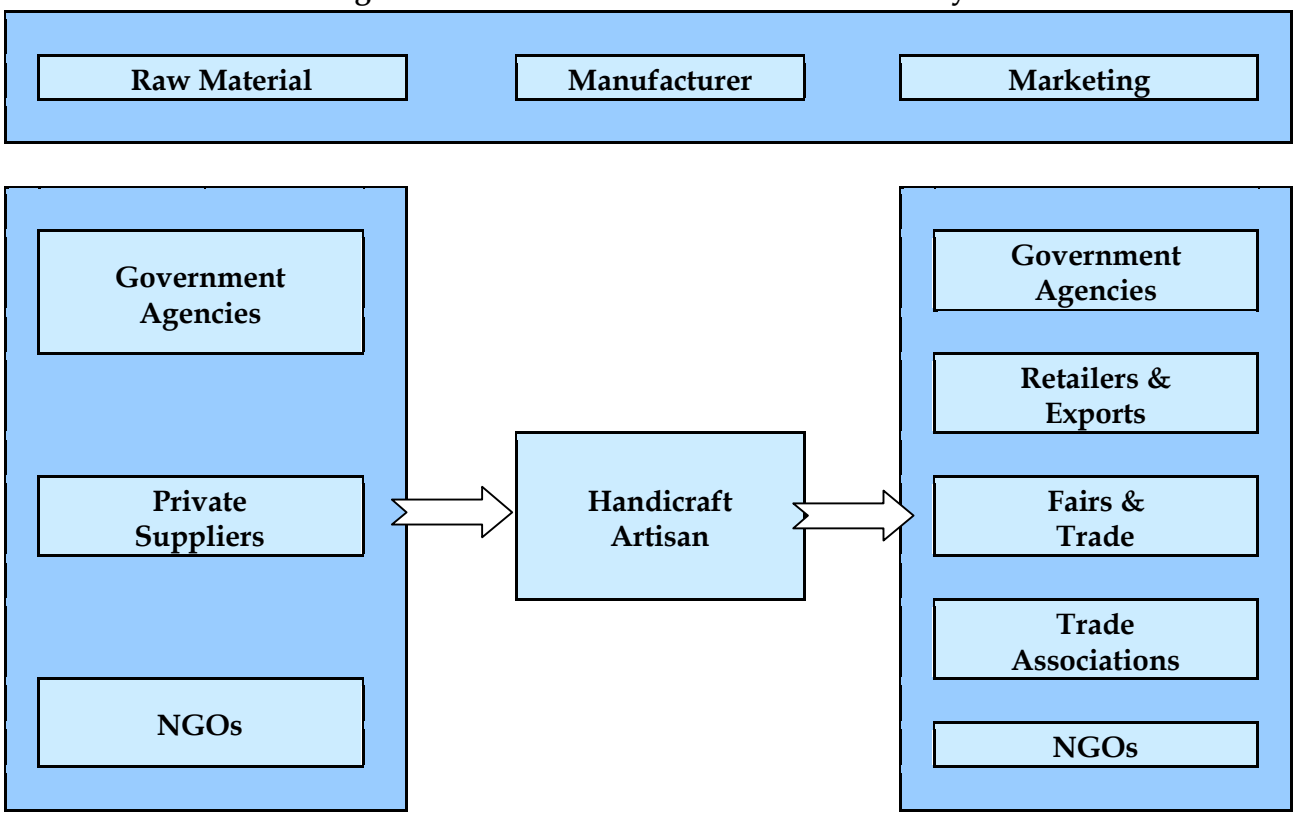
*Gujarat State Handloom & Handicrafts Development Corporation Ltd., (GSHHDC), an undertaking of Government of Gujarat was established in 1973 with the main objective of identification, revival, development of handicrafts and handlooms of Gujarat. With the advent of GSHHDC, it has been possible to develop handloom and handicraft products and a continuous process of providing design in put to make the products having more utilitarian value and suitable for contemporary life style without altering the traditional values of craftsmanship. Thousands of artisans/weavers, who are inhabited in rural, urban and even remote area of Gujarat, are covered under its various schemes of training and designs development. Their products have received acclamation not only across the country but in overseas countries too. Our activities have helped in creating sustainable employment opportunities and income generation to the artisans working in the area of handloom and handicrafts, which is a non farming sector of our Indian economy. With a view that ample marketing opportunities are available to these artisans/weavers, the Corporation markets their products through its GARVI-GURJARI chain of emporia across the country and supply to exporters, which has created its market in overseas countries.*

*Gujarat has an array a rich variety of crafts. Its embroidery, bead work, wood crafts, printed and woven clothes, pottery and tribal art are expression of the folklore and festivals. The exclusive range of these works of craftsmen and woven imbued with the social and cultural hue of the region from where they have sprung are original in nature and craftsmanship. Today far moved from the hut or the village of the craftsman, pieces of handicrafts come to adorn the houses of the elite, the five star hotels both at home and abroad.*

## 5.13 Value Chain of Handicraft Industry

The value chain of handicraft industry is shown in the figure 5.11:

**Figure 5.11: Value Chain of Handicraft Industry**




Handicraft artisan purchase raw material from market directly and government agencies and NGOs also give raw material to handicraft artisans and take finished products to sale it in market. Non Government Organisations like Srujan, Kachchh Mahila Vikas Sangathan, Kala Raskha, SEWA, Dastakar and VRTI are working with handicraft artisans by forming societies. Some international funding agencies like Oxfam Great Britain purchase handicraft items from Kachchh and sale it in Britain through their stores. Marketing of handicraft done through many channels, Government agencies market these products through their emporiums established in various cities, some NGOs purchase these products sale it through their emporiums like Bhujodi and Kachchh Craft Association has show rooms in Ahmedabad and Mumbai. Handicraft artisans also participate in trade fairs organise in various parts of country. Retailers also purchase directly from artisans and sale it in domestic market and export it in international market.

## 5.14 New Trends in Marketing

Handicraft items are also getting space in online trading. Self Employed Women Association (SEWA) organising women artisans by forming Kachchh Craft Association and Banaskantha Craft Association booked orders through their websites and send products directly to purchasers. Bhujodi Association and India mart also booked orders through their websites.

## Handicraft Artisans in Kachchh

Handicraft industry in Kachchh highly unorganised it is difficult to get exact number of artisans in Kachchh. To estimate number handicraft artisans review of various studies, working papers, census report and discussion with NGOs has been done. According our estimate approximately 32000 artisans are engaged in handicraft industry in Kachchh this figure will go up if we considered part time workers. Bhuj taluka in Kachchh dominates in Handicraft industry more than 9500 artisans are in this taluka which is around 30.7 percent of total artisans in Kachchh. Approximately 21000 handicraft artisans are residing in Bhuj, Nakhatrana, Abdasa and Mandvi taluka which are around 70 percent of total handicraft artisan's population.

**Table 5.12**
**Handicraft Artisans in Kachchh**

| Sr | Taluka | Artisans | % Share |
|---|---|---|---|
| 1 | Lakhpat | 1800 | 5.6 |
| 2 | Rapar | 1900 | 5.9 |
| 3 | Bhachau | 2000 | 6.3 |
| 4 | Anjar | 2500 | 7.8 |
| 5 | Bhuj | 9500 | 29.7 |
| 6 | Nakhatrana | 4000 | 12.5 |
| 7 | Abdasa | 4500 | 14.1 |
| 8 | Mandvi | 3800 | 11.9 |
| 9 | Mundra | 1000 | 3.1 |
| 10 | Gandhidham | 1000 | 3.1 |
| | **Total** | **30240** | **100** |

***Source: Gujarat State Handloom and Handicrafts Development Corporation, Bhuj***

Gujarat Handloom and Handicrafts Development Corporation Ltd had distributed handicrafts and handlooms tool kits to 12652 earthquake affected artisans and weavers. New Non Government Organisations (NGOs) have also started working with handicraft artisans under livelihood generation programme after earthquake. According to data received from GSDMA approx. INR. 62.1 million have been raised by NGOs from various sources to support handcraft industry in Kachchh.

## Key Infrastructure Initiatives

Kachchh Nav Nirman Abhiyan (KNNA) has established Common Resource Centre (CRC) with prime objective to facilitate a sustainable recovery for the artisans. Centre provides need based support to NGOs working in the craft sector, such as design/ technical marketing inputs and support systems etc. Centre facilitated the buyer-seller relationship by linking international and national buyers to various artisans. Centres also conduct research activities related to handicraft and block printing of Kachchh. Centre has planned a holistic intervention with selected groups of artisans in Dhamadka and Bhujodi with the help of Confederation of Indian Industry (CII) to setup a crafts park in Bhuj to provide a single window platform to portray the crafts of Kachchh.

FICCI-CARE has setup Business Resource Centre with long term objective of evolving into a community owned, professionally managed, commercially viable institution providing sustainable business development services to rural artisans. At present BRC is working with nearly 500 artisans in Anjar and Bhuj taluka. To bring improvement in the designs and in the products to meet the specific requirement of market Centre has tie-up with National Institute of Fashion Technology (NIFT) for developing 200 new product designs and ideas. Centre has organised workshops, exposure visits to link artisans with mainstream markets.

## 5.15 State Government Schemes

The Corporation is implementing the various schemes for the promotion development of the handicrafts sector as per the details given below:

### (i) General Scheme

The Corporation is implementing various schemes for the promotion and development of handicraft sector as per the below details:-

- **Sales Promotion through Exhibition**
  Exhibitions are being organized within and outside the Gujarat to create awareness of the Gujarat Handicrafts and its reach to the elite clientele of contemporary living. The products manufactured by the artisans are sold in these exhibitions. The artisans are also invited for live demonstration of their crafts in the exhibition
- **Design Development**
  The handicrafts of Gujarat are appreciated and have attained new horizons in the world of crafts. However continuous design development is needed in the present market trends. New designs are developed through qualified freelance designers to crate sustainable employment opportunities to the artisans. Prototype samples are developed on the basis of the new designs and these samples are replicated in bulk quantities as per the market demand.
- **Publicity and Advertisement**
  To achieve higher sales it is necessary to create awareness about the products in the market. So under this scheme, publicity is carried through TV channels, Newspaper Ads, Handbills, Souvenirs, Banners, Hoarding, etc to create awareness among the customers.

### (ii) Special Component Scheme

The Corporation is implementing this scheme for the benefit of the schedules caste artisans as per the below details.

- **Supply of raw materials**
  The artisans are not able to procure good quality raw materials to produce the goods as per the market demand due to their poor financial conditions. So good quality raw materials like cloth, threads, etc are supplied for the production of marketable products and to generate employment to the artisans.
- **Design Development**
  Design Development is a continuous process to achieve higher sales in the present market trends. New designs are developed through the qualified freelance designers to create sustainable employment opportunities to the artisans. Prototype samples are developed on the basis of the new designs and these samples are replicated in bulk quantities as per the market trend.
- **Procurement of the products from the artisans**
  The Corporation is providing employment by purchasing the products like beadwork, embroidery, patch work etc, from the artisans and these are being sold through the chain of Garvi-Gurjari outlets of the Corporation and exhibitions.

### (iii) Tribal Scheme

The Corporation is implementing various schemes for the promotion and development of tribal artisans and crafts as per the below details.

- **Training**
  Training is imparted to the tribal artisans at their door steps by the qualified technicians and master craftsman according to the market demand. During the training Rs. 1500/- p.m. stipend is paid to the artisans.
- **Tribal Mela**
  Tribal Melas are organized within Gujarat and outsides the Gujarat State to create awareness of the Gujarat tribal crafts and its reach to the elite clientele of contemporary living. The products manufactured by the tribal artisans are sold in these exhibitions and provide employment. The tribal artisans are also invited to give live demonstration of their crafts in the exhibitions. The artisans are paid travelling, lodging & boarding expenses and compensation of work loss to participate in the exhibition.
- **Supply of raw materials**
  The artisans are not able to produce the goods as per the market demands due to lack of quality raw materials and their poor financial conditions. So quality raw materials like cloth thread, etc are provided so as to generate employment to the tribal artisans.
- **Design Development**
  Tribal crafts of Gujarat are our age old tradition of uninhibited expressions of the native psyche and continuous innovation is a process to attain elite clientele market. New designs are being developed through the qualified freelance designers to create sustainable employment opportunities to the artisans. Under this scheme prototype samples are developed on the basis of new designs and these samples are replicated in bulk quantities as per the market demands.
- **Procurement of products from the artisans**
  The Corporation is providing the employment by purchasing the products from the tribal artisans and these are sold through the chain of Garvi-Gurjari outlets of the Corporation and exhibitions.
- **Publicity and Advertisement**
  To achieve higher sales, it is necessary to create awareness about the products in the market. Publicity is carried out through TV channels, Newspaper Ads. Hand bills, Souvenirs, Banners, Hoarding, Video films, etc. to create awareness among the customers.
- **Training of Carpet Washing and Clipping**
  A large number of tribal artisans are engaged in carpet weaving. The carpets woven by these artisans are sent to Jaipur for post weaving processors like clipping, washing, etc. Keeping in view of the employment popularity in this field, the training is imparted to the tribal artisans on post weaving process. During training the artisans are paid compensation of work loss, travelling and lodging & boarding facilities.
- **Tribal Corner**
  To create awareness of the tribal crafts and its reach to the elite clientele of contemporary living, it is necessary proper display of the products in the emporia. So scheme separate tribal corners are created in the emporia within State and Outside State for display and selling of the tribal products.

## 5.16 Problems of Handicraft Industry

Handicraft industry in India is indirectly linked with tourism. Handicraft industry in other parts of country getting market through inflow of foreign and domestic tourist typical example is of Rajasthan where inflow of foreign tourist is very good. In Kachchh inflow of foreign and domestic tourist is very less. Handicraft industry in Kachchh is basically compartmentalised in household industry due to this artisans are unaware about present market trends. Productivity is very low due to use of inferior technology which increase price of handicraft items.

**BOX 5.2**
**Potentials of Handicraft Industry in Kachchh**

*Handicraft industry's potential in Kachchh is based on the following considerations:*

- *Recent growth of handicraft exports from India*
- *Available local skilled labourers*
- *Rich local tradition*
- *Special economic zones*

## 5.17 Action Plan for Development of Handicraft Industry

Handicraft industry in Kachchh has great potential for development due to its uniqueness and presence of skilled artisans. Potential can be develop through capacity building of artisans, already some base work had been done by CII, Abhiyan, VRTI and Shrujan.

- Incentives provided in SEZ will assist in development of an integrated handicraft manufacturing design, training and trade centre.
- Integration of handicraft and textile and garment manufacturers and exporters in the region through development of an industry partnership, financing and marketing model
- CII's initiatives for develop ing the 'craft park' in Bhuj and their initiatives for marketing can be integrated with tourism promotion initiatives and apparel industries in the region,
- Research and Development Centre for Handicraft industry with the help of IITs, NID, NIFT, etc is an option for overall increase in productivity with better quality and design.
- Marketing management and branding etc can be created through involving IIM, Ahmedabad.
- Take part in international shows such as Dallas Super Market Show USA, Asian Gifts, Premium and Household Product Show, Hong Kong, Bangkok International Gifts and House Ware, Giftionery, Taipei, etc
- Strategic tie ups with companies such as Walmert, Sears, Zellers, etc
- Quality control with assistance from Handloom and Handicraft Export Council NID, NIFT
- Kachchh University is also a good local option for carrying out research in handicraft sector.
- Disintegrated or partially integrated handicraft sector and development initiatives can be organised at the district level through a district level government or semi-government institute.

## 5.18 SWOC Analysis of Industrial Sector

The SWOC analysis of industry sector is presented in the box 5.3:

**BOX 5.3: SWOC Analysis of Industry**

**STRENGTH**

- Industrialization will lead to immigration of people in the Kachchh.
- Kachchh as emerged as a hub for chemicals, minerals, textiles, engineering, oil & gas and port based industries.
- Kachchh is an ideal gateway to Asian, African and American markets as Mundra port offers shortest land route from any port to the vast hinterland of western and northern India.

**WEAKNESS**

- Absence of institutions that can produce skilled manpower to work in industries.
- MSMEs in the district are lagging behind in the point of view of dimensional and motivational strategy.

**OPPORTUNITY**

- There is a huge scope of further development of the ancillary units like spares and parts useful in various types of industries in huge quantity so ancillary engineering and packing industries can be developed in the district.
- There is wide scope of development of setting up of small scale industries by new entrepreneurs in the district and ultimately they will achieve good market for their products in the small scale sector.
- Large potential of domestic and international markets of handicrafts.
- High spending by government will help boost export in the sector. Increase in flow of tourists will also provide market for handicrafts.

**CHALLENGES**

- Poor water conservation may pose a problem for the future industrial set up.
- Industrialization of the district may affect ecology and environment of the district.
- Low level of technological development can cause a major challenge unless it is changed or modernized.

## 5.19 Success Story of Handicrafts

### BOX 5.4 : Success Story : Shrujan Story

***Wonder weaves: How these Kutchi women wove themselves a successful life and career***

*In 1969, Kachchh experienced a particularly severe drought. Chandaben Shroff went there to assist with a famine relief project. During this trip, she realized that the rural women excelled at the local art of embroidery. This culture of embroidery has been handed down from mother to daughter for generations immemorial. Each tribal group and community in the area has it's own particular style of embroidery, and lexicon of stitches and motifs. Since, they were already so skilled, she did not have much to do except convince them to join her in her mission to commercialise the art. But that was the hardest part as it was considered a blasphemy in their community. Finally, hardships made them relent. Chandaben Shroff developed a unique, sustainable means of income generation for village women. She got the local women to produce saris with exclusive embroideries. The first exhibition of saris was held in October 1969 in Mumbai with considerable success. The profits were reinvested into building the organization. Currently Shrujan works with 16 different styles of embroidery, done by 3,500 women across 100 villages.*

*Yashodaben, a 37 years old widow and mother of three teenagers. She used to work as a labourer and domestic help. The only working member of her family, money was a problem until she started working as an embroiderer with a Bhuj based NGO, Shrujan. It was a big step for her as she belonged to the Ahir community where selling embroidery was prohibited. People from this community were not even allowed to embroider for their own daughter/son or any other member of the family. But she chose to excel in life than suffer in ignorance. "Forget education for my kids, earlier, feeding my family was a huge problem. But after I decided to defy rules and show my embroidery skills to the world, our life changed for the better. Today, I make Rs 20,000 on a sari and the best part is that two of my kids are in school," she says.*

*Yashodaben is not alone. Rajiben (40) started working with the NGO when she was only 19 (one of the first woman to join). Today, she is a supervisor and earns Rs 40,000 a month, with a daughter and engineer son, who is well-settled. Long gone are the days when life was drudgery because of drought and there was no source of income. "These days I teach the younger generation the tricks of the art and how to experiment with colour. I am happy that things are easy-going now," she says.*

*Artist and master craftswoman Parmaben, who was among the first group of Ahir women to become part of Shrujan, has a similar story. "Today, everyone is earning and getting work. Everyone comes to my house and knows me. Everyone respects me in my village and outside. Earlier we were dependent upon agriculture, which was not reliable and had to migrate a lot. Today, I get wages at home, in my village."*



CHAPTER - VI

# Tourism and Recreation

# Chapter 6

# Tourism and Recreation

Kutch is located in western India Gujarat state. This region is famous for its culture, handicrafts and natural heritage making it an important tourist destination. Among the many attraction of Kutch the main city of this region is Bhuj. The town of Bhuj is well connected by road, rail and Air network with rest of the country.

## 6.1 Dholavira, the Planned Harappan Urban Settlement

With the discoveries in Dholavira potential of Kachchh for archaeological, historic and research based tourism has increased up to a great extent. But yet the site has not attracted tourists in large-scale due to lack of publicity, proper documentation and related infrastructure facilities.

The Archaeological Survey of India has been conducting large scale archaeological excavation since 1990 at Dholavira located in the island of Khadir in the salty marshes of the Great Rann of Kachchh. The 123.5 acres site has revealed advanced town planning, monumental as well as aesthetic architecture, an ingenious water harvesting system, the finest stone dressing, sophisticated technology, funerary architecture, lapidary and shell-working, copper smithy and ceramic industries.

The evidences suggest a nearly continuous habitation from about 2900 to 1500 B.C in Dholavira and there are traces of strong trade linkages with their contemporary Mesopotamians. The pride of place goes to the inscription of signboard comprising ten Harappan large sized letters painted on a wooden board in the citadel's north gate, and to the recent finds of a headless stone monitor lizard, seals, sealings copper implements, stone beads, large reservoirs one having a damaged flights of 50 steps and another rock cut one are among the finds of extraordinary significance in the Harappan context.

The settlement had an extensive and remarkably sophisticated water supply system that included finely chiselled reservoirs, wells and rainwater tanks. A third of the city's 50 hectares was devoted to the collection and distribution of fresh water. Planners developed the city on a slope, between two streams that even now run after a rainstorm. At the point where one of the streams meets the city walls, Dholavira's inhabitants carved a large reservoir out of the rock. This was connected to an intricately engineered complex of large (the largest measuring 263

feet by 39 feet and 24 feet in depth) and small reservoirs that provided the entire settlement with a year-round supply of water. The giant reservoirs together held more than 325,000 cubic yards of water. These reservoirs were connected to wells that filled cisterns for drinking and bathing. A 4.25-m-wide well, the largest ever found in a Harappan ruin, leads through a spill channel into the citadel itself.

Similar to Harappa and Mohenjodaro, Dholavira traces a parallelogram, encircled by a stone-and- brick wall 5 m thick at its base. Inside, the wall of the citadel is 18.5 m thick, while the so-called 'middle town' with spacious homes suggesting occupation by well-off traders, had its own fortification. A developed public space nearly 300 m by 50 m edges the citadel; Archaeologists hypothesise it to be a multi-purpose sports stadium, assembly arena and occasional bazaar. Farther out, a more densely packed colony of houses adjoins the middle town. Beyond the walls, yet another settlement has been found. The city was a vibrant place. Most walls, roads, floors, and possibly even building roofs were likely constructed of pink-and-white clay.

The well-preserved site has offered up a trove of Harappan artefacts--pottery, clay figurines and animals, beads made from lapis lazuli, gold, silver and shell, and the objects most associated with Harappan digs: weights and seals depicting bulls, unicorns and other beasts. In addition to these, excavations in a cemetery west of the city have uncovered tombs, idols, and ritual objects belonging to ethnic groups that practiced a variety of religious rituals.

Around 2100 B.C. the culture began to show signs of decay: the citadel was abandoned, building repairs displayed shoddy workmanship and houses encroached on the well-planned streets. By around 2000 B.C. the city was abandoned, to be partially rehabilitated nearly 100 years later. The quality of artisanship crumbled still further, producing weights made not only of stone but also of pottery fragments. After abandoning it again the city appeared to be reoccupied around 1500 B.C., this time by rural folk who lived in circular houses similar to ones built by villagers today. About 50 years later, the site was abandoned for good. Scientists believe that floods and earthquakes may have doomed most of the civilization. As for Dholavira itself, experts believe that the disruption of trade with war-torn Mesopotamia chipped away at the city's economy, even as rapidly increasing aridity forced a return to a simpler lifestyle.

A wonderful and sophisticated town planned 4000 years ago is not only pride for India, but is an asset for the whole world. It is a milestone in the human civilisation and an important heritage site. Dholavira therefore, in addition to normal tourists, can create immense interests for city planners, architects, civil engineers, archaeologists, geographers and for various professionals world-wide.

## 6.2 The Great and Little Rann of Kachchh, Banni Grass Lands, Flamingo City and Mangroves

Ecological tourism is an important aspect of the industry. Kachchh provides extremely unique ecological regimes creating vast potential in this sector. The Great and the Little Rann of

Kachchh and their associated features such as Banni Grass lands are unique physical features in the world.

The Great Rann of Kachchh is a unique geomorphic feature with an identical ecology. It is a massive low lying area with 18,130 sq. km of land mass; a saline desert and a flat land formation with alluvial and colluvial silt and sand deposits. It merges with the Thar Desert of Pakistan and Rajasthan in the north and surrounded by Banaskantha district in the east, the Little Rann of Kachchh in the south-east, Banni Grass lands and Kala Dungar in the south and Kori Creek in the Arabian Sea in the west. The Great Rann has thirteen islands in it and seasonal inundation by rain water and diurnal inundation by sea water, coupled with a high inherent salt content of the soil are the major characteristics. Leaving the islands or the raised lands and for a few highly salt tolerant halophytes like Suaeda spp. and Atriplex spp., etc the Rann is devoid of any vegetation. Banni Grass lands are ecologically disguised grass lands with very sparsely distributed small settlements. It is about 3000 sq. km. flat but slightly raised newly formed land. Silt deposition and receding of the sea are two main reasons of its formation. Today, a land locked mangrove of some fifty odd 'Cher' (Avicinnia marina) trees in the southern border of Banni is the sole evidence of the ancient shoreline, and indicates that Banni is mainly a benthic silt deposition exposed due to the receding of the sea.

Flamingo City the marshes of Kachchh are only known breeding grounds for flamingos in India. In a cycle of once in a decade, when favourable condition prevails, plenty of flamingos breed in islands of Great Rann, following a good rainfall. These can be seen in Dhand, in Banni, which is accessible by 48 hours journey on camel though marshy land.Moreover, around 293 sq. km. of area in the western Kachchh is covered by mangrove forests. Main species of these mangroves are Avicinnia marina, Rhizophora mucronata and Ceriops roxburghiana. Mangroves are extremely useful ecosystem as they provide breeding ground for many marine animals and some of which have high commercial value products. They also prevent coastal erosion and high turbidity, which results in an environ-suitable for survival of marine life.

## 6.3 Bhuj, a Historic City and the District Headquarter

Bhuj is a historic city, presently a C class city is the district head quarter of Kachchh. The city surrounds a hillock known as Bhujia Hill with an old fort a top and has typical physical settings. The high- density historic city surrounded by walls was developed adjacent to the hillock with a man made lake. In the 19th and 20th century, the city expanded towards south and east. Many of the landmark buildings built in the British Period are found scattered outside the historic old core city. Important buildings of tourist importance are Aina Mahal, Pragmahal Palace, the Sharad Baug Palace, Royal Cenotaphs (Chatris), Kachchh Museum, Ethnology Museum and Bharatiya Sanskriti Darshan complex etc. Aina Mahal is a royal palace built in the 18th century while Pragmahal Palace was designed as an elegant Italianate palace. Kachchh Museum is the oldest museum in Gujarat. Aina Mahal, Kachchh Museum, Chatris have been major tourist attracting places, which have suffered severe damage during the earthquake of 2001.

An Urban Development Plan for Bhuj has been prepared and adopted through government procedures during the post earthquake reconstruction period. New development control regulations were formulated and adopted to support it. Later on detailed land pooling schemes in the severely destroyed and congested old areas has been also prepared. Subsequently a massive up gradation of utility infrastructure with state of the art drinking water treatment and supply, underground sewerage system, roads development and up gradation, a new solid waste management system, new relocation colonies, etc has been carried out.

Implementation of the urban development plan and the town planning schemes and the urban infrastructure development project is substantially changing city's physical appearance with wider roads, new earthquake resistant buildings and with opening up of huge amount of land for future development. Simultaneously a massive amount of investments has been injected in up-gradation of social infrastructure facilities inclusive of few state of the art hospitals and newly constructed schools and colleges. A new Kachchh University is also being established in the city which also has the potential of developing the city's image as a centre of educational activities and research. With all these, Bhuj is undergoing a massive and unprecedented transformation creating a lot of tourism potential. But poor traffic management and a lack of street level planning in the few of the older roads such as in the Bus Stand Road gives an anarchic and dirty impression of the city. Lack of landscaping, cycle and pedestrian friendly environment, greenery and recreational facilities are the major hurdles to portray the city as a very attractive tourist destination.

## 6.4 Mandvi, Its Beaches and Palaces

Mandvi it is situated 60 km south of Bhuj and approximately 100 km west of Gandhidham. The town was founded in 1581 A.D. by the rulers of Kachchh and was a historic harbour. The port of Mandvi was an important sea trade port between the near east and the far east, and brought considerable prosperity to the royal family of Kachchh. The sailors of Mandvi were known to be adventurous and it is said even Vasco Do Gama used a sailor from Mandvi to navigate to Zanzibar. As most of the top ports of India were controlled by Europeans, especially the Portuguese, even the Mughals held the Maharaos of Kachchh in high esteem, as they needed

the port of Mandvi for exports, imports and for pilgrimages to Mecca. Mandvi town was therefore as important to the Maharaos as their capital city of Bhuj and they endowed it with some splendid palaces and buildings.

The famous Aina Mahal of Mandvi, built in the mid-18th century by Ram Singh, who had been ship wrecked in Europe, learnt the arts of foundry, glass blowing, stone carving etc in the Dutch and Venetian tradition, and was patronized by the Maharao Lakhpat Sinhji of Kachchh, is no longer as grand as the same sort of extravaganza they created in Bhuj, having been converted into a college for girls, but still has interesting sculpture of Dutch sailors and dancing girls. The Vijay Vilas palace, erected in the 1940s, with splendid architectural features such as umbrella domes and cupolas of the Rajasthani and Bengali styles consort with Gothic arches and Baroque features.

There are few good and virgin beaches in the town. Apart from the popular beach in the town, where wind mills have been planted, there is also a two kilometre long private beach of the Maharao with beautiful white sands accessible with a minimum fee. Next to the beach are the docks where wooden ships are being built. There is also a large private sanctuary of the royal family known as Pragsar.

In the town, one can visit numerous old buildings of princely times. The Rukmavati Bridge in its entrance is the longest stone bridge; built in 1883 A.D. Mandvi is well known for handicraft industry particularly for its relief, filigree and enamel work. One can pick up handicrafts such as silverware, shell-work, Kachchhi embroideries, bandhini tie-and-dye saris and block prints.

## 6.5 Lakhpat, Koteshwer and Narayan Sarovar

Lakhpat, Koteshwer and Narayan Sarovar situated in the extreme western part of the country are important religious destinations and surrounding areas also have potential of ecological tourism.

Lakhpat is situated in the Kori Creek, approximately 135 km from Bhuj. It was named either after Rao Lakha or many Lakhpatis (millionaires) residing there in the peak days of its glory. There are many temples and dargahs inside the Lakhpat fort, which is 500 year old. It has one Gurudwara and as per popular believes Gurunanak made his sojourn to Mecca from it.

## 6.6 Gandhidham, Kandla and Mundra

Kachchh has great potential of port based and business tourism, which has not been sufficiently exploited yet. The state of the art ports, Kandla and Mundra and rapid development of Gandhidham near Kandla can act as catalysts for development of port based, business and urban-recreational tourism.Moreover, Bhadreshwar, located 25 km west of Gandhidham, nestles ruins of the ancient town of Bhadrawati. A famous Jain temple of 10th century is also located there. Anjar 15 km from Gandhidham is famous for Jesal Toral Tomb and there is also a museum for Kachchhi art.

Koteshwer and Narayan Sarovar are located 183 km west of Bhuj and are famous for the lake and temples, which are sacred as per Hindu belief. Mata-no-math on the way to Koteshwer is a very popular religious destination in Gujarat.Moreover, the Chinkara Sanctuary located in the proximity to Narayan Sarovar is the home of the Chinkara (Gazella gazelle) of the Indian Gazelle and Naliya/Lala Sanctuary is famous for the Great Indian Bustard. Jhakhau with views of the mangroves and natural lagoons is a small port in proximity.

## 6.7 Kachchh as a Jurassic Park

Valuable Jurassic and post Jurassic fossils are also being collected from Kachchh. The region had been an attractive habitat of dinosaurs and other extinct animals, birds and plants in various geologic time periods. Out of more than 10,000 dinosaur eggs found and documented in India the Kachchh region itself has yielded more than 2,000 of such eggs. At personal levels dinosaur fossils and eggs are being collected and even there is a private museum of such kind in Kachchh. Geologists have even found pugmarks embedded in the land, and plant and elephant fossils, which suggest that the now arid desert of Kachchh was once a dense forest complete with rivers and they also believe that desertification in the region started due to tectonic activity taken place around 10,000 years ago.

Moreover, the extinct volcano Dinodhar, which is the highest point in Kachchh, 2300 years old Nani Rayan Excavation site, camel breeding farm at Wandh, Fossil Farm at Vithan, etc have potential of being good tourist spots in future.

## 6.8 Routes and Circuits

Kachchh tourist circuit is one of the five major tourist circuits in Gujarat. The existing major tourist routs in Kachchh originate from Bhuj.

1. Bhuj- Bhirandiara (Banni) - Khavda-Black hills-Indira Bridge (the Great Rann of Kachchh).
2. Bhuj- Mata no Math- Lakhpat- Koteshwer- Narayan Sarovar
3. Bhuj- Mandvi - Bhadreshwar- Bhuj
4. Bhuj- Anjar- Bhachau- Rapar- Dholavira

5. Various other routes and destinations in the region are being followed by national and international tour operators.

## 6.9 Fairs and Festivals

Kachchh Mahotsava is an initiative by Tourism Corporation of Gujarat Limited of the Government of Gujarat in the month of March/ April every year. It is organised in the form of a guided tour, which offers wide range of sights and scenes to the visitors. Moreover, there are two religious and cultural fairs of local importance called Ravechi-no-melo and Navratri Fair being held in the region. Ravechi- na-melo is organised at Ravechi, which is 170 km from Bhuj in Rapar taluka. The fair is organized in month of September every year near the temple of Goddess Ravechi. The Navratri Fair is held twice a year at Mata no Math, 100 Km west of Bhuj, during March-April and Sept-October.

## 6.10 Tourist Flow Patterns

Tourist inflow in Kachchh, in major destinations (Bhuj, Gandhidham, Mandvi and Mundra) in year 2003-04 was 156 thousand. It has gone down in comparison to the last year by 38 percent. Decrease in inflow of people concerned with rehabilitation and reconstruction activities which were mainly business tourists, may be one of the reasons.The tourist flow in Kachchh district is presented in the table 6.1:

**Table 6.1: Tourist Flow in Kachchh District (2013-14)**

| Sr. | Taluka | No. | % |
|---|---|---|---|
| 1 | Bhuj | 357474 | 43.86 |
| 2 | Gandhidham | 287564 | 35.28 |
| 3 | Mundra | 46539 | 5.71 |
| 4 | Mandvi | 123418 | 15.14 |
| | **Total** | **814995** | **100.00** |

***Source: Annual Report 2013-14, Department of Tourism***

The table 6.1 shows that total flow of tourist in Kachchh district was 814995 during the year 2013-14. Out of this 43.86 percent was in Bhuj taluka and 35.28 percent were from Gandhidham taluka whereas 5.71 percent and 15.14 percent tourist were from Mundra and Mandvi taluka respectively.

## 6.11 Tourist Origin

The origin of tourists in Kachchh district is presented in the table 6.2:

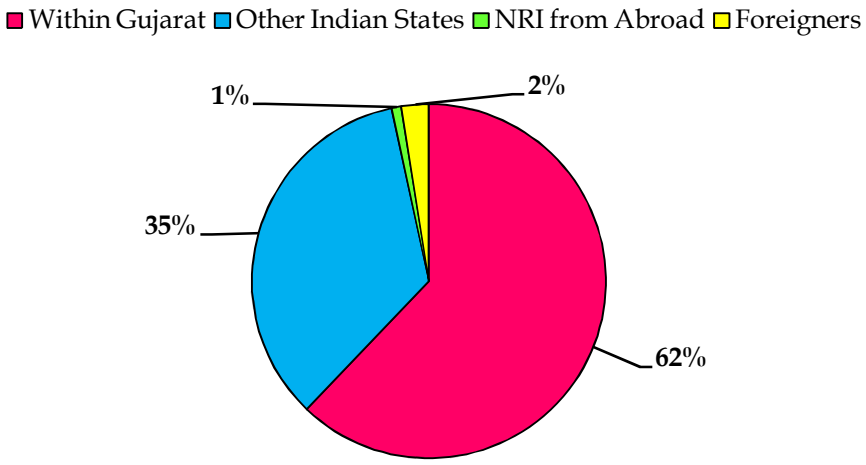
**Table 6.2: Destination Wise Tourist Origin in Kachchh District (2013-14)**

| Destination | Bhuj | Gandhidham | Mundra | Mandvi | Total |
|---|---|---|---|---|---|
| Within Gujarat | 223156 | 157316 | 27616 | 98310 | 506398 |
| Other Indian States | 114557 | 125820 | 16679 | 24150 | 281206 |
| NRI from Abroad | 4892 | 1868 | 7 | 419 | 7186 |
| Foreigners | 14869 | 2660 | 2237 | 539 | 20305 |
| **Total** | **357474** | **287664** | **46539** | **123418** | **815095** |

***Source: Annual Report 2013-14, Department of Tourism, Kachchh***

The table 6.2 shows that during the year 2013-14, 506398 tourists were from within the Gujarat which is the 62 percent of total within Gujarat tourists. Tourists from other Indian states in Kachchh district was 281206 which is the 35 percent of total tourist from other Indian states. Total 7186 tourists were NRIs from abroad and 20305 were foreigners which are the 2 percent of total tourists.The percentage of destination wise tourist origin is presented in the figure 6.1:

**Figure 6.1: Percentage of Destination Wise Tourist Origin in Kachchh District**




***Source: Annual Report 2013-14, Department of Tourism, Kachchh***

The flow of tourists from other Indian states is presented in the table 6.3:

The table 6.3 describes that highest 110698 tourists was from Maharashtra which is 39.4 percent of total flow of tourists from other Indian states in Kachchh district. It is followed by UP/Bihar and Rajasthan with 45987 and 31500 tourists respectively. In Kachchh district only 7.9 percent tourist was from other North/East Indian states and 8.8 percent tourists was from South India in Kachchh District.

**Table 6.3: Flow of Tourists from Other Indian States (2013-14)**

| Sr | State | Bhuj | Gandhidham | Mundra | Mandvi | Total |
|---|---|---|---|---|---|---|
| 1 | Maharashtra | 45951 | 47689 | 7895 | 9163 | 110698 |
| 2 | Madhya Pradesh | 9047 | 8827 | 809 | 2276 | 20959 |
| 3 | Rajasthan | 10605 | 15835 | 1390 | 3670 | 31500 |
| 4 | UP/Bihar | 15819 | 23258 | 2821 | 4089 | 45987 |
| 5 | West Bengal | 14986 | 7318 | 678 | 1990 | 24972 |
| 6 | Other North/East Indian States | 8754 | 11189 | 1314 | 1083 | 22340 |
| 7 | South India | 9395 | 11704 | 1772 | 1879 | 24750 |
| | **Total** | **114557** | **125820** | **16679** | **24150** | **281206** |

***Source: Annual Report 2013-14, Department of Tourism, Kachchh***

## 6.12 Purpose of Tourism

The system recognizes four purposes viz. business, religion, leisure and other. It recognizes the single most dominant purpose for a given tourist and excludes scope for multiple purposes and ranking of these on the part of an individual tourist. The purpose of tourism in Kachchh district is shown in the table 6.4:

**Table 6.4: Tourist Purpose in Kachchh District (2013-14)**

| Sr | Purpose | Bhuj | Gandhidham | Mundra | Mandvi | Total |
|---|---|---|---|---|---|---|
| 1 | Business | 25915 | 71785 | 8726 | 7286 | 113712 |
| 2 | Leisure | 31965 | 63638 | 9877 | 15369 | 120849 |
| 3 | Spiritual | 107773 | 72364 | 16052 | 31841 | 228030 |
| 4 | Other | 191821 | 79779 | 11886 | 68924 | 352410 |
| | **Total** | **357474** | **287566** | **46541** | **123420** | **815001** |

***Source: Annual Report 2013-14, Department of Tourism, Kachchh***

The table 6.4 shows that out of total tourists 120849 tourists went to Kachchh district to spend their leisure time which is 14.83 percent of total tourists where as 228030 tourist arrived Kachchh district to do religious tour which is 27.98 percent of total tourists.

## 6.13 Economics of Tourism

Share of tourism in GDP at national level is 5-6 percent. In Gujarat according to CII, a rough estimation of contribution of tourism is around 2-3 percent accounting for approximately INR 3000 million to the state exchequer (report on preparation of 20 years perspective plan for development of sustainable tourism in Gujarat, 2003).

The state government has projected an outlay of INR1255 million for tourism in the Tenth Plan, which is a meagre 0.26 percent of the total outlay. As per annual plan of the state, for the year 2002-03 the approved outlay for tourism was INR 172.3 million, which is a 0.21 percent of the total. An amount of INR 3 million has been provided for development of Kachchh as a special tourist area in this year.

Employment created by tourism in Kachchh is not exactly known. As per estimates, around 45 jobs are created with a direct investment of INR.1 million in tourism and also one foreign tourist generates one direct job while 17 domestic tourists generate one direct job (study report on preparation of 20 years perspective plan for development of sustainable tourism in Gujarat, 2003).

## 6.14 Rann Utsav

Rann Utsav is a cultural and artistic extravaganza which is organized by the Gujarat Tourism Department annually. The Utsav or fair takes place at different locations within Rann of Kachchh in Gujarat, India.


The fair showcases traditional Indian art forms of India and celebrates the distinctiveness and diversity of the Kachchh district highlighting the cultural splendor of Gujarat. The fair is held every year generally on the full moon night of December. The Rann Utsav has a variety of programmes like cultural and folk dances, craftsmanship, music, carnival processions, pageantry, etc. All this is combined with the true spirit and zeal of the inhabitants of Kachchh. During the Rann Kachchh Utsav there is a showcase of Indian traditional art forms of Kachchh. People from various parts of the Gujarat and India gather during the festivities to celebrate the spirit and warmth of the people of Kachchh. Many cultural activities and programmes are organized during the Utsav that engages each visitor.

There is a magnificent display of arts and crafts of the region. The most captivating experience is the display of different art forms, dances, Music during the chilling winters in the radiant aura of the full moon. Visitors can enjoy living in tents, sit by the evening bonfires, watch artisans work, dance with local folk dancers and enjoy camel safaris. The ethnic stuff displayed by local artists and various NGOs is also worth buying. Many tourists from different states enjoy the Rann Utsav as part of various tour packages which involve sightseeing in Kachchh and its adjoining areas during the Utsav. The fair offers a unique opportunity for people from around the world to visit Kachchh and experience the essence of this region.

## 6.15 Attraction of Rann Utsav

Kutch isn't just a desert, but a cultural celebration, something that the Gujarat Government has now tried to bottle in its annual festival of Rann Utsav.This festival of Kutch celebrates the colour of the region, providing an arena for the arts and crafts of Gujarat to be displayed and purchased.

## (A) Bhunga: The Mud House

Bhungas are closely linked to the identity of Kachchh desert areas. A traditional bhunga house has circular mud walls and a thatched roof. The typical diameter of these houses is approx 15-18 feet with a foundation depth of 24 inches. The roof is made of wooden top dome where bamboo sticks are tied together with a dried grass rope which weaved with thick layer of grass is then placed on the roof and securely tied down. The walls are made of bamboos sticks with a layer of grass tied to it. Mud and cow dung are used as wall plaster over the grass. They are single cylindrical structures put close to each other to form a house. In common terminology, each bhunga would be equivalent to a room in a house. Bhungas are mainly found in desert islands in the northern parts of Kachchh region of Gujarat- specially Banni and Pachham.

## (B) Tent City at Rann Utsav

Tent city is a superb temporary tourist facility set up by the Kachchh Collector and Gujarat Tourism every year specially for the domestic/international visitors/tourists/guests of Rann Utsav near remote Rann of Kachchh border area in Gujarat. Rann Utsav tourism festival is celebrated in Gujarat's bordering Kachchh district every year in December around full moon day.

### (C) Handicraft

Kachchh is one of the world's finest centers for embroidery with various styles differing with the community and area. The Rabari embroidery, Ahir embroidery, Sindhi embroidery, Banni embroidery, Mutwa embroidery, Ari embroidery, Soof embroidery and some other styles include mirror or bead inlay. Kachchh has a wealth of traditional crafts, not only in textiles, but also in woodcarving, cast silver work, lacquer work, terracotta pottery. Traditional houses are ftern decorated with designs made from mud, cow dung, clay slip and mirrors.

## 6.16 Tourism Development Strategies for Kachchh

This region has only three major destinations namely Bhuj, Gandhidham and Kachchh. The total numbers of tourists visiting this region are around 1, 75,000 of which 88,000 are from within Gujarat, 86,000 from outside the state and approximately 15,000 foreigners. It accounts for 2% of the total tourist traffic in Gujarat. 74% of the tourists visiting this region are leisure tourists and the rest 26% are for Business. The share of foreign tourists is 36% of all the foreign tourists visiting this state; it's higher than the business hubs of the state. If the Government's plan to develop this region industrially materializes then there would be a considerable increase in the business tourist traffic. As of now the focus should be on leisure tourists and foreign tourists who come to this region for heritage and cultural purposes.

## 6.17 Existing Proposals and Initiatives

Gujarat Tourism and Tourism Corporation of Gujarat Ltd. are the state public sector agencies responsible for development of tourism in Gujarat. Gujarat Tourism operates tour programmes, manages a chain of hotels called 'Toran' and is responsible for publicity of the tourist destinations. In Kachchh, Gujarat Tourism organises 'Kachchh Mahotsava' every year to attract international tourists. The state government has taken special initiatives during 'Vibrant Gujarat' (an initiative to attract investment to the state in various sectors) to develop tourism as an important industry in Gujarat and has documented 26 projects with an estimated investment of INR 66185 million, out of which a total of two projects were conceptualised for Kachchh with an investment of INR 4270 million.

Moreover, during past few years, there is considerable increase in the number of private tour operators with tour programmes in Kachchh. Along with many of such Indian operators, there are also few foreign ones offering tour programmes in the region.

### 6.18 SWOC Analysis

The SWOC analysis of tourism sector in Kachchh district is presented in the box 6.1:

**BOX 6.1: SWOC Analysis of Tourism**

| Strength | Weakness |
|---|---|
| • Dholavira in Kachchh is famous ancient city excavated in India.<br>• Gujarat has India's first Marine National Park in the Gulf of Kachchh with beautiful coral-reefs and a rich marine life.<br>• Strong cultural heritage, very rich and diverse ecosystem, bird watchers paradise, Calm and sandy beaches, well-developed port, flat deserts, unique combination of sea and desert. | • Inadequate tourist infrastructures and basic amenities at many tourist destinations.<br>• Poor connectivity among different tourist destinations.<br>• Lack of proper tourist information centers.<br>• No facilities around archaeological monuments like seating arrangements, good eating joints, clean rest rooms, garden scape etc., so the tourists stay there for some time.<br>• Extensive damage to the heritage sites due to the earthquake. |
| **SWOC ANALYSIS** | |
| • Huge scope for investments in new ventures or projects related to tourism industry.<br>• With strict measures for civic hygiene and cleanliness at lowest destinations, more tourist both foreign and domestic, can be easily attracted to all the centers.<br>• Allowing multinational companies related to tourism sector to enter the state, will give the state a global perspective. | • Kachchh falls in high risk zone for earthquakes and it's beaches also fall in high tide zone risk.<br>• Poor infrastructure along the coast is a major constraint in developing beach tourism.<br>• Pollution is a major problem to the tourism industry. Garbage, plastic wastes and sound pollution near tourist centers are big deterrents for the tourists, particularly the international tourists to visit those places. |
| **Opportunity** | **Challenges** |

## 6.19 Success Story of Dhordo Village

### BOX 6.2 : Success Story

### Village in Gujarat's Rann of Kutch is now on World Tourism Map

*In danger earlier of turning into a salty marshland, Dhordo in the Rann of Kutch today has become the face of Gujarat's development and growing pride, thanks to an annual festival that has put this nondescript village on the world tourism map. The village, the last one in the district's Banni region on the northern side, now has a telephone exchange, two solar-powered ATMs, two schools and a milk co-operative.*

*Dhordo, which falls on the way before the blinding white desert straddling the Indo-Pak border takes over, has found that its traditional bhungas (round houses) are a hit with tourists who throng the place during Rann Utsav, which is currently underway here. But the village owes its success story to the vision of a Gujarati man who dreamt of the festival in the Indian spirit of 'Atithi Devo Bhava', which says that the 'Guest is Supreme'. Located about 86km from Bhuj, the district headquarters which bore the brunt of the 2001 earthquake, this 500-strong village still thanks Gulbeg Miyan, whose house today has become practically a memorial. His son, Miyan Husen, who is the present village sarpanch, recalled his father's role and his legacy. "My father could find his way in the blinding light of the desert here... It was his vision to host this festival here. "About 30 years back, he met Narendra Modi, and espoused the idea of holding a festival to bring development to the region and promote its native art " Husen said. "While a small-scale day-long festival began in the early 90s, it was only in 2008 that the festival really kicked off here with its iconic tent city life," Husen told PTI. Gulbeg died in 1999 aged 78. His son has now taken upon himself to promote the festival and the indigenous art that is bringing progress to the remote village. A row of framed black and white images adorns the bhunga at the entrance of his house, capturing Gulbeg's life and times. The monochromes are juxtaposed with recent coloured images of the village which has undergone a dramatic transition, going from being a "backward" spot to becoming "Gujarat's pride". Husen, in his late 40s, is hardly literate, yet uses tech -savvy words like "Internet" and "wi-fi" with ease. "It gives us pride to see streets lit up with electricity and tourists using latest technology in a remote corner of the country," he said.*

*As to the bhungas, visitors are amazed at the techniques used and the aesthetics built into it, both in the interiors and on the outside. "These houses don't collapse in earthquakes," Husen pointed out. "Our bhungas have become an international hit. You can see them at luxury resorts put up here by the state government. They are also used in Bhuj, which suffered the earthquake. But we in Dhordo didn't suffer much due to these round bhungas," he said. "Now, we have a primary and a high school and solar-powered ATMs, one of which even has a biometric facility for the unlettered. "Also, more and more girls are going to school here... As the festival progresses, so will our lives," he said. "Rann Utsav has made our village internationally famous and prosperous... Our bhungas can be seen in foreign publications and, when you search "Dhordo" on the web, you will see its popularity, he said, pride writ large on his face.*

CHAPTER - VII

# A Way Forward

# Chapter 7

# A Way Forward

To understand impact of development of export hub and rapid industrialization in Kutch on prevailing socio-economic structure a broad analysis to anticipate its impact on culture, economy, and quality of life is carried out.

## 7.1 Impact on Social Structure

Development of Export hub and industrialization will increase employment opportunity in the region, which is potential to lead to influx of skilled and unskilled labours from other parts of the state and country. It is envisaged that Bhuj, Gandhidham, Mundra and Bhachau will experience major influx of population with cultural diversification and multi-culturalism. Bhuj, Bhachau and Mundra will have major impact. Gandhidham already has the trend due to migrated population and diverse industrial and service base. International cases such as in Shenzhen have shown unprecedented migration due to special economic zones and related economic growth. Almost fivefold increase in population has been experienced by Shenzhen SEZ (from 20,000 in 1979 to 10 million in 2002). Socio-economic impact of such a situation is of unimaginable scale. But increasing income levels and systematic planning are capable of mitigating the negative aspects of such impacts.

## 7.2 Impacts of Mega-projects

It has been found that Kutch is suitable for mega-industrial and infrastructure projects and initiatives such as SEZs. Initially these mega-projects may not create substantial local employment, but these projects are capable of generating ancillary and down stream small and medium industries and numerous services, which will maximise local employment opportunities. Such projects will also contribute to development in the region through:

- By providing domestic water supply to surrounding villages, towns and communities,
- Setting up of townships, schools, hospitals and sport and recreational facilities,
- Supporting development of urban and regional infrastructure,
- Supporting various training programmes and local resource based community development programmes, etc.

## 7.3 Impact on Urban Economy

Sudden influx of population is potential to create demand and supply gap in housing and real estate. This may initially lead to sharp increase in real estate prices to increase investments in real estate business. Already real estate prices in Bhuj and Gandhidham are comparatively higher. New housing schemes will develop and expansion of cities will take place. Construction industry will experience positive growth trend. Commercial activities in cities will increase, new shopping malls will come up and entertainment and recreational spots will be developed.

It will change face of cities and revive economy of cities by generating supporting activities. Possible stress on infrastructure cannot be negated.

## 7.4 Impact on Regional Economy

Agriculture productivity in some part of Kutch is very low as compare to other parts of State. Export hub and industrialisation will create employment opportunities and there are possibilities of occupational shifts and intra-regional migration to cities. It is estimated that the composition of 255 thousand agricultural workers and labourers and 350 thousand non-agricultural workers in 2001, may experience change. Approximately 50,000 marginal labourers in agriculture and allied activities may shift towards various secondary and tertiary activities. It is estimated that out of additional 150 thousand employments generated in Kutch by the next decade, approximately half in the secondary sector and around 60 to 70 percent in the tertiary sector will be local. On the other hand, primary activities inclusive of farming, animal husbandry, fishing, and household manufacturing may see a boost due to optimisation of labour force, increasing demand, mechanisation and commercialisation.

## 7.5 Impact on Quality of Life

Export hub and industrialisation will definitely have positive impact on the quality of life of the people, provided that infrastructure demand is constantly made. Employment created by the industries and in service sector will improve economic status of people through increase in income and ultimately leading to higher purchasing power. Export hub will have multiplier effect on local people by opening new avenues for commercial activities and tertiarisation.

## 7.6 Impact on Environment

Industries and construction activities in region may have adverse impact on environment and ecology of region, which can be checked and minimised through adoption of environmental management plans and procedures. Particularly, region's depleted water resources, wild and marine life, rich traditional culture, grass lands and other environmentally sensitive aspects are important aspects to consider in such plans. Gujarat Institute of Desert Ecology, Kutch University, NGOs, etc can be brought together through a regional level institutional arrangement and continuous monitoring programme of the environmental concerns and environmental revitalisation initiatives can be taken up in co-ordination with industries, businesses and services in the region. An initial precaution and integrated strategic move will facilitate sustainable economic development.

## 7.7 A Way Ahead and Policy Recommendations

The analysis is indicative of the fact that there are wide spatial variations in the sub-indices of human development in Kachchh district. This calls for an active state intervention and an active social response. Following are the section-wise action oriented policy recommendations, if translated into an actionable plan, can improve the human development level significantly.

### Education

A look at the current situation of education in Kachchh district reveals that the progress and achievements so far has been behind the targets as far as the following are concerned: universal elementary education, education for disabled children, free and compulsory education up to 14

years, eradication of dropout from the schools, and equity in education. Uneven development of education on many counts among different blocks and municipalities of the district demonstrates that a large number of goals of national education polices of different periods have not been achieved so far as all the indicators of literacy and education in Kachchh district remained below the state average. In this context, following are the actionable policy recommendations related to education:

- Analysis clearly points out the wide gaps in literacy in rural-urban, male-female, within rural areas and within urban areas and remains behind the state averages. So, to remove these gaps and for balanced and high human development, all the necessary physical and intellectual infrastructure should be in place, especially in rural areas. This requires immediate attention of the state.
- Considering the sizeable and considerable number of school dropouts and out of school children in rural Kachchh and at all school levels, serious efforts for removal of out of school children problem and for the retention of students at all school levels should be made in rural areas as well as in urban areas of the district. For the purpose immediate actions are required to solve these problems. There is a need to involve parents of the school children through PTA and rigorous implementation of mid-day meal scheme.
- Higher than the stipulated student teacher ratio in many schools of the district urgently require new appointments of teachers in schools. For the improvement in school education and school environment stipulated teacher student ratio should be brought down to around 1:20 or 1:25. As far as the issue of vacant posts is concerned it has been observed that the situation is bad in primary schools as compared to secondary schools. In the light of this evidence, for the improvement in school education and school environment, the need of the hour is to fill all the sanctioned posts of both primary and secondary teachers as early as possible on regular basis. Further, it is recommended that all part time/contract basis/adhoc teachers be replaced with permanent regular teachers. Analysis of schools without regular and permanent headmasters/principals of primary and secondary schools of the district reveals serious and unwarranted situation. So it is pertinent to provide regular and permanent headmasters/principals to all the schools of the district without waiting more time. Further, it is strongly recommend that all the schools should be shifted under education department of the State. Poor pass percentages, higher percentages of students failed and placed under compartment as compared to Punjab put the question mark on the quality, performance and effectiveness and achievements of teachers of Kachchh district. Hence, the proper monitoring and evaluation of teachers be ensured and therefore, there is urgent need to look upon this issue to address it as early as possible involvement of PRIs and local bodies.
- Majority of the primary schools are facing the inadequacy of basic physical infrastructure especially safe buildings, toilets and clean and safe drinking water. Hence, the basic physical infrastructure should be provided and strengthened in all the schools of the district. It has been reported that many primary schools in the district have single teacher for all the classes. Thus for the improvement in school education and school environment all the schools should be provided stipulated strength of teachers. Target allocation of 6 per of the gross domestic product (GDP) of the state for education should be provided so that the problems of stagnation of funds and insufficient funds be tackled.

- It has been observed that access to secondary schools in rural areas is a little difficult as some schools draw their students from more than 5 kilometres distance so some existing school should be upgraded in those areas.
- Mid-day meal scheme remained a problem in many of the schools mainly because of per student low monetary provisions, cooking, material and management problems. To make mid-day meal scheme meaningful monetary support should be increased and for better implementation permanent trained cooks and employees should be appointed. Therefore, it is urgently required that problems of the mid-day meal be immediately looked into. It is important to note that during interaction with block education officers of the district it was reported that refresher courses and seminars lacks seriousness and were of poor standards. Thus the need of the hour is to thoroughly change the present system of teacher development programmes as it is sheer wastage of resources. For the purpose, a state level teacher development institute should be established for intensive subject refresher courses/workshops/seminars for teachers and each teacher would be required to attend a course of minimum of two to three weeks every three years.
- Education for disabled students and disabled out of school children has posed serious challenge. The disabled out of school children of the district should be enrolled as early as possible. So, all efforts should be made for inclusive education of these children in the district. If the schooling for these children is not found suitable new specialised need schools should be opened in adequate number.
- Efforts should be concentrated to open higher educational institutions, especially in the educationally backward blocks and municipalities. More students should be encouraged to go for higher studies in professional courses as well as in liberal arts courses. Low literacy rates, low education index and low ranking in education index points out the deprivation in literacy of the concerned block and municipality of the Kachchh district. Hence, to reduce deprivation in literacy the areas with low education index ranking must be targeted, first.

**Health**

- The health and medical care services are not only inadequate but also unequally distributed across different blocks and municipalities of the Kachchh district. Although, the system is overloaded yet there is no dearth of funds. Economically backward regions are also poor in terms of health services. Following areas need immediate attention of the planners and policy makers.
- The healthcare system needs to be strengthened and made affordable and more inclusive, through strengthening of government hospitals and dispensaries.
- There is an urgent need of the time to introduce a health insurance schemes for people in the below poverty line region.
- The health related database of the district needs to be strengthened and standardized and information on health related aspects of population should be regularly collected and processed.
- The utilization of public funds in the government health institutions be regularly monitored and regular flow of these funds be ensured in the backward blocks and especially in the rural areas.

- A comprehensive survey needs to be undertaken to prepare the registry of HIV/AIDS cases in the rural areas. An awareness campaign and a curative programme should be implemented at a war footing.
- An elaborate drinking water census is need of the time.
- Viability of government-private partnership in the operation and maintenance of the select government hospitals be explored.

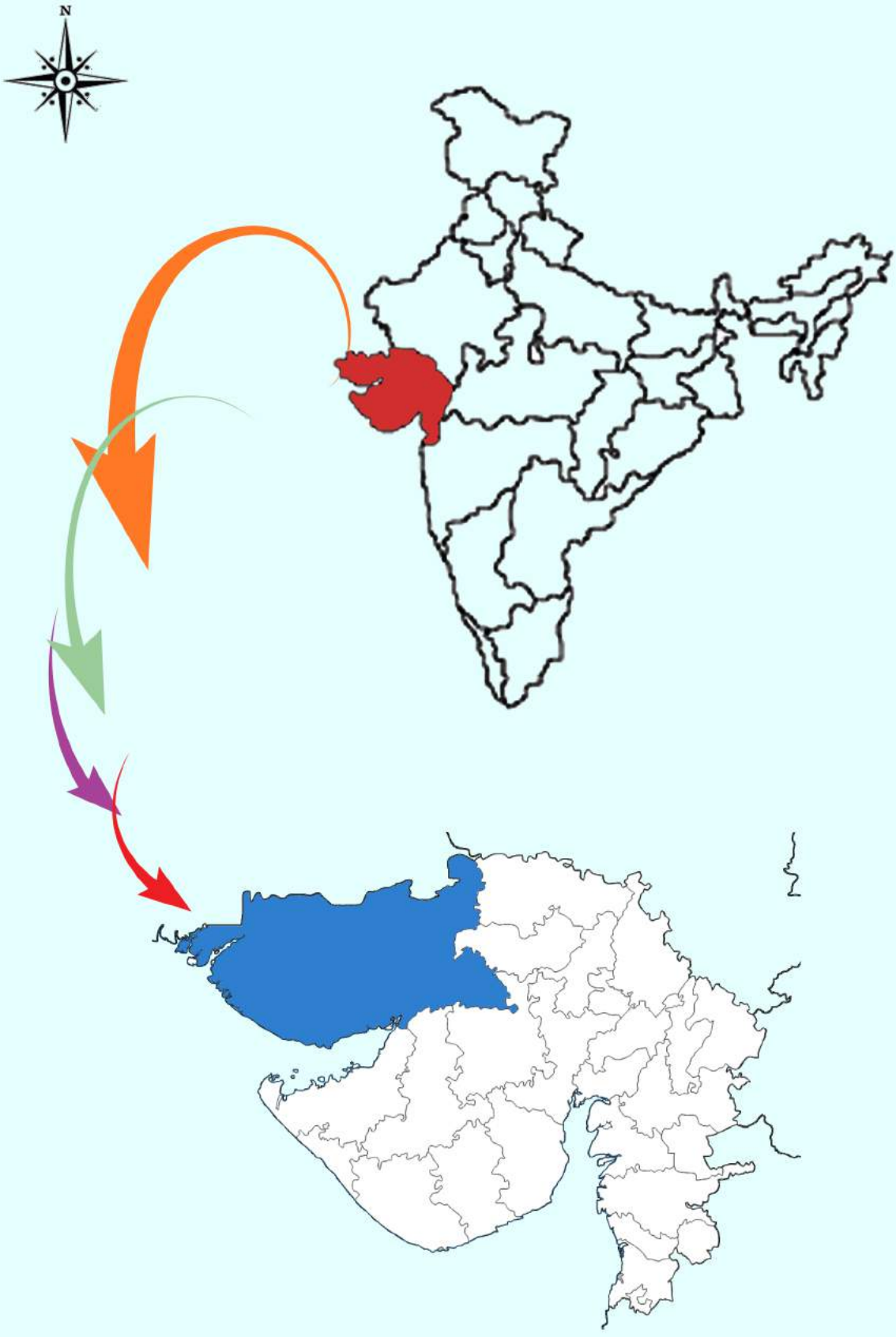
**Economic Livelihood**

- The development experience of district Kachchh shows that more than 71 percent of the population has been residing in rural areas and thus deriving their livelihood mainly from agriculture related economic activities. Following are the recommendations in this regard.
- There is a dire need to alter the occupational structure of the district from agriculture to other remunerative non-farm economic activities such as manufacturing, repair, trade and service sector.
- Even the agriculture is highly biased towards food grain production, i.e., wheat and paddy. Diversified and remunerative (other than food related production) agriculture activities need to be promoted for ensuring regular flow of income to the owners of cultivable land and rural labour. Scientific research related agriculture sector needs to be strengthened for ensuring reduction in productivity gaps, both across crops and blocks.
- The existing cropping pattern of agriculture is water intensive, such as paddy. This has led to the depletion of groundwater in the district across the blocks. Therefore, it is suggested that the recharging of groundwater be done on the war footing along with reducing area under water intensive crops. Works under NREGA can be directed in this direction.
- The major problem faced by the population dependent on the agriculture is declining surpluses generated from this occupation, especially the small and marginal farmers. The rural population with declining income needs to be shifted from agriculture to other non-farm industries and other service sector, i.e. to remunerative economic activities. The self employment among them needs to be promoted by providing them training in the KVCs.
- The existing informal sector, economic activities are not very attractive because of the fact that the wage rate and working conditions are not at all attractive. Therefore, new initiatives, both formal and informal, non-farm economic activities should be started in high value added, as well as, high wage paying sectors. The payment of minimum wages must be ensured in all the activities.
- It needs to be mentioned that the statistics relating to both agriculture and informal sector activities are generally not reliable. Even the database relating to informal non-farm activities is almost nonexistent. Therefore it is suggested that some initiative needs to be taken by the state government to collect detailed information regarding existing non-farm economic activities in which workforce of the district already engaged in. This information base, if generated, will go a long way, to make the planning process at the district level more relevant and effective to uplift the welfare of the rural people while involving them into gainful non-farm economic activities.
- The young rural work force is looking for remunerative and regular employment opportunities. The national rural employment guarantee act (NREGA) should be implemented by Gujarat Government in the district Kachchh for ensuring employment to

the young rural work force at a stipulated minimum wage and minimum conditions of work.

- A comprehensive social security scheme needs to be devised on the pattern as suggested by the National Commission for Enterprises in the Unorganized Sector set up by the Government of India. The unemployment insurance scheme should be introduced so that displaced agriculture labour, distressed farmers and retrenched work force from informal sector needs to be compensated and this compensation should be converted into an insurance based social security benefit.
- A special programme needs to be designed for the regeneration of agriculture especially for the marginal and small farmers. The skill base of the rural work force need to be improved through special initiative for imparting new skills and training programmes should be taken up by the Punjab Government. There is a dire need to initiate skill up gradations and training programmes for the rural poor with a view to provide local jobs for rural women. The KVC and NGOs can be involved in this process.
- The rejuvenation of the rural economy of the district can be done while integrating farmers' income primarily through promoting high value added agriculture operations, processing and marketing activities. The generation of non-farm income sources is the prime need of the rural economy. The training of the farmers in the new activities and processes must be undertaken on priority basis.

To sum up, the human development in district Kachchh has a long way to go. Education, health and livelihood need to be strengthened and made more inclusive. Vulnerable sections of the district need to be provided with a special care at a priority. Good practices and successful individual efforts need to be showcased and promoted.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