

District Human Development Report

PANCH MAHALS

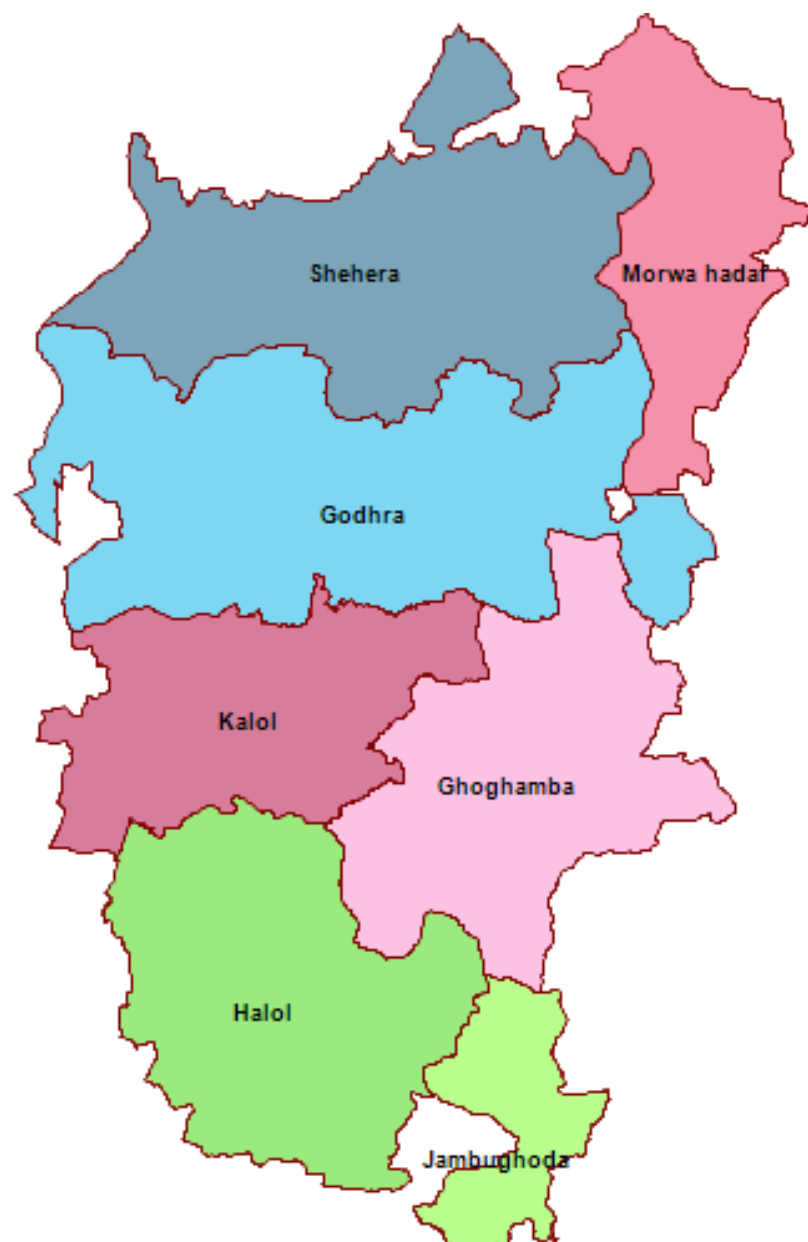


Gujarat Social Infrastructure Development Society
General Administration Department (Planning)
Government of Gujarat



District Human Development Report

Panch Mahals



District Human Development Report: Panch Mahals

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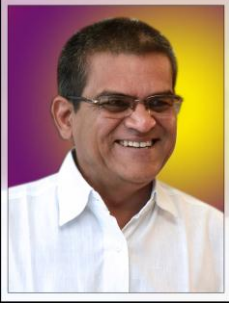
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The report is prepared by Sardar Patel University, Vallabh Vidyanagar
as part of Tripartite MoU among
Member Secretary, Gujarat Social Infrastructure Development Society (GSIDS),
District Collector, Panchmahals and
Vice Chancellor, Sardar Patel University, Vallabh Vidyanagar



Nanubhai Vanani



MOS/W.R.(Ind.Charge)/EDU.(Pri. & Sec.) 15-230
/2016

**Minister of State
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Date: 10 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 Sardar Patel University- Vallabh Vidyanagar for collaborating with the State Government in preparation of the District Human Development Report of Panchmahals 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.

(Nanubhai Vanani)



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

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I.A.S.

Collector & District Magistrate



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PREFACE

It is my pleasure to present the District Human Development Report of the Panchmahals. From Wealth to well-being, the report endeavors to throw the light on the human development of the district. It assesses the contribution of resources in the development of the district and its people. The objective of happy and healthy society can be achieved by the creation of opportunities for advancement through sustainable economic growth, smart innovative ideas, quality services and ensuring fair and equitable distribution of benefits in a safe and secure environment for all citizens. Therefore, the objective of the present exercise is to build up a developmental path, which will help to address the challenges.

The report covers all aspects related to human development- standard of living, health and education, which has been used for measuring the development. While devising development strategy it is advisable to include all those, at formulation stage, who are supposed to deliver it. In other words, the whole exercise has to be participatory in nature to get optimum result. An attempt has been made to include all the line departments in this exercise. At the same time other stakeholders have also been included 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 may be torch bearer for the acceleration of the pace of human development.

The formulation of Human Development Index (HDI) has not been attempted here as the quality of data varies from district to district and is on basis of that data if we measure HDI, the comparisons across districts may become erroneous. But 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 an overall 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 for certain sphere.

Preparation progress began with formation of a district core committee involving all the line departments, other government officials and academicians. A Core committee constituted consisting of government officials, Panchayat functionaries, representatives of non-governmental organisations (NGO) and representatives from academia. Based on the issues highlighted in the district level workshop weaker pockets under each sector in the district were identified followed by identification of barriers in each area for human development.

Reports like these are only as good as the actions that follow. I therefore look forward to the holistic planning and decisions around these issues and that will meet the development aspirations of the citizen in an equitable and sustainable manner.

I would like to put on record my thanks to all who have been participated in this exercise. I appreciate the efforts put in by the officers all departments including Revenue, Forest, Agriculture, Animal Husbandry, Fisheries, Irrigation, GWSSB, District Industries Centre, Department of Education, Department of Health and Department of Social Justice. I would also like to acknowledge assistance of the back office staff and office of District Planning Officer.

I express my gratitude to the representatives from Sardar Patel University- Vallabh Vidyanagar who has helped us in preparing this report. Special mention may be made of Dr. Yogesh Joshi and his team for all the efforts they put in.

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

September, 2016
Godhra


P. Bharathi IAS
Collector
Panchmahals

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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 Panchmahals 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.

(Vijaysinh. A. Vaghela – IAS)

District Development Officer

Acknowledgement

All human endeavours individually and collectively are aimed towards improving living standard and human well-being. Globally governments have been making untiring effort towards improving the lot of its population. The focus of human development is to increase choices and options available to an individual such that her / his decision making power gets enhanced. The UNDP has been putting more and more emphasis on Human Development. The Government of Gujarat has entrusted the task of preparation of district human development report of the Panchmahal district to the Sardar Patel University, Vallabh Vidyanagar, Anand in consultation and support of the Collector and district administration of the Panchmahal district.

In the beginning, I thank the Government of Gujarat for assigning us present task of preparation of DHDR of Panchmahal district. I take this opportunity to express our heartfelt thanks to Ms. S. Aparna, Principal Secretary (Planning), General Administration Department, Government of Gujarat, for her valuable inputs, insights and motivation throughout the study period. Ms. P. Bharti, Collector Panchmahal district has been a continuous help and support throughout the course of this project. I also thank Honourable Vice-Chancellor of the Sardar Patel University Dr. Shirish Kulkarni, and the previous Vice-Chancellor on behalf of all team members involved in preparation of this District Human Development Report for district of Panchmahal for taking keen interest in preparation of the report at each and every stage. I am thankful to Ms. Manisha Chandra, the ex-collector of Panchmahal district for facilitating this study. The Registrar of the University Dr. R. H. Rajput also facilitated working on this project and hence we thank him as well, without whose help and encouragement it would have been extremely difficult to complete the assignment in time. We would like to express gratitude to Mr. K.D. Vashi, Director, Gujarat Social Infrastructure Development Society (GSIDS), for being the Chief motivator and facilitator during the period of the project.

We are thankful to Mr. D. M. Makwana, DPO, Panchmahal for his continuous help. We thank Mr. Sagar Patel, SPAC and Mr. Alap Patel, SPA at the GSIDS, Gandhinagar for their continuous hard work in providing the feedback related to text, data and charts.

They were a continuous help and facilitator for all the team members to undertake this work of great importance for planning. We would also like to thank Mr. Sunilkumar Rana, SPA and Rajubhai Bhuria, SPAC of Panchmahal district for their constant support to the team from Saradar Patel University throughout the study. We are thankful and indebted to them.

I am also thankful to Mr. M. M. Patel, District Statistical Officer for providing all district level publications from his office. Our thanks are also due to all officers and staff of the Line Departments of Panchmahal district.

I express my sincere thanks to Dr. Gurusevak Singh Saggu, I/C Registrar, Sardar Patel University, who always extended his helpful hands to fulfill our task. I appreciate the spirit of my team members for their valuable co-operation. At last, I am thankful to all the team members of DHDR Panchmahal, Sardar Patel University, for taking full interest in this assignment. Shri Vishal Desai, Research Assistant, DHDR Panchmahal, Sardar Patel University, for his active involvement.

I am sure that study will prove useful to policy makers in supporting the various policy decisions relating to the development of Panchmahal district.

(Yogesh C. Joshi)
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Executive Summary

Human development has been the focus of all human endeavors. It involves putting Human (people) at the Centre of development. It revolves around people realizing their potential, widening their choices and enjoying freedom to lead lives they value. There are two dimensions of human development. One is to increase human capabilities – such as improve education and health standards, increase literacy, acquire knowledge and develop skills. The other is the best possible use of acquired capabilities – for leisure or for active participation in cultural, social or political life. 'India Human Development Report 2011' has been prepared with focus on social inclusion in various states in the country by Planning Commission, Government of India. In order to address district level issues in the process of economic planning, such reports on various aspects of human development at district level, are likely to facilitate policy formulation and its implementation for improving human development and related issues at district level.

The present human development report of Panchmahals district of Gujarat, attempts to encapsulate status of various attributes of human development like education accomplishments, health related aspects and gender differentials in the district. Besides, it focuses on natural resource base and the livelihood options available to its inhabitants. It takes stock of three basic dimensions of human development – a long and healthy life, knowledge, as well as a decent standard of living; health status (measured by amenities and incidence of disease affecting longevity), knowledge (measured by literacy and enrolment) and a decent standard of living (measured by livelihood options). The last chapter suggests the future Way Ahead with regard to improvement of human development in the district through the chapter wise Strengths, Weaknesses, Opportunities and Challenges (SWOC) analysis of the district for improving quality of life of people.

The Panch Mahals District – A Profile

The Panch Mahals (*also spelled as Panchmahals*) district is situated in the eastern part of Gujarat state, it lies between latitude 22°17' N and 23°26' N and longitude 73°20' E and 74°2' E. The north to south spread of the district is 128.7 km and east to west is 68.1 km. It is bound on the north by Sabarkantha district, on the east by Dahod district, on the south by Vadodara and on the west by Kheda and Anand district. Its geographical area is 5220 square kilometers according to the population Census 2011 of India and ranks 15th in terms of area among districts of the state. The district is comprised of 11 talukas and 1212 villages before bifurcation. After bifurcation Panchmahals comprised 7 talukas and 595 villages. It has a District Panchayat, 7 Taluka Panchayats, 480 Gram Panchayats and 4 municipalities (Nagarpalikas) in Panchmahal district. The district has its unique identity due to the Champaner, a world heritage site. It is also famous due to pilgrimage place of the temple of Goddess Durga (Kalika Mata) at Pavagadh, near Champaner, which attracts more than two million pilgrims annually. According to the Population Census of 2011, the district has a population of 23,90,776 persons. According to 2011 census, total number of households in the district are 4,46,746. The sex ratio is 932 females per 1000 males as per 2011 Census. The population density of the district is 457 persons per sq. km. in 2011. The decadal growth rate of population has declined to 18.05 per cent during decade ending in 2011 compared to 20.39 per cent for decade ending 2001.

Status of Education

Literacy rate in Panchmahals district has considerably increased during 2001 to 2011. However, the literacy rate among female is lower than male but there is greater improvement in literacy among female compared to male. In urban areas of the district literacy rate is even more than overall literacy rate of Gujarat. Total number of primary schools increased though the number of Secondary and Higher Secondary schools are very less. Enrolment to teachers' ratio is better because there is less number of students enrolled in rural area compared to urban areas. Hence, capacity of rural schools is under-utilized. Similar situation is found in Girls school too. Number of science stream and vocational stream schools are less; however, commerce stream schools are in good number in the district. Dropout rate is minimal in case of Primary education in Panchmahals district. Almost all schools have sanitation facility, drinking

water facilities and electricity. Kaushalya Vardhan Kendras (KVKs) are increasingly catering to skill development of a large population in talukas. A number of government initiatives and programmes are being implemented for promoting education among children in particular girl child, among SC, ST and in tribal region.

Status of Health

The government in Panchmahal has consciously made efforts to achieve good health standards among population in the district. The number of PHCs and CHCs need to be increased and equipped with appropriate medical facilities. Private clinics need to be promoted in rural areas as well. They should be motivated to provide greater presence in rural and semi urban areas to enable setting up of strong network for providing good medical facility to the population living in hinterland as well. Increasingly more women are going for institutional delivery owing to programmes like 'Chiranjivi Yojna' and efforts to improve awareness and educate people. Regular medical check-up in school are important for early detection and treatment of diseases among children, such programmes need to be further strengthened and made more effective to promote overall good health. Increasing awareness and proactive measures will result in further improvement in health of population in the district.

Status of Livelihood

Agriculture and livestock are mainstay of livelihood in majority of talukas of the district. The efforts by government during past years through various taluka level initiatives augur well for realising potential from these sectors. "Krushi Mahotsava" is a step in right direction for enhancing awareness among rural population in the district. Small enterprises and household business need to be developed at taluka level. Large investment in medium and large industries be encouraged in other talukas through setting up of GIDC promoted industrial areas and encouraging fresh investment in the region. There is need for encouraging other vocational business education related to resources available locally, to encourage productive activity in various talukas. Tourism circuit in each taluka of the district needs to be developed to promote domestic tourists which will promote local economy by providing employment to local population. Also this will lead to development of new and other related services in the district. This will

create greater opportunities for earning higher income and lead to greater linkages with outside economy of state and country for inclusive growth.

It is evident that the district is endowed with a variety of natural resources. In the wake of limited irrigation facilities and moderate rainfall along with hilly terrain agriculture sector faces constraints. Mostly the agriculture is practised in a traditional manner and lacks modernisation. Due to tribal region industrialisation is yet to make its impact on the lives of population.

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List of Abbreviations

<i>APL</i>	Above Poverty Line
<i>BPL</i>	Below Poverty Line
<i>CHC</i>	Community Health Centres
<i>DPMCC</i>	District Performance Monitoring and Control Centre
<i>ETDO</i>	Enhancement of Tribal Development Outcome
<i>GCEE</i>	Gujarat Council of Elementary Education
<i>GIDC</i>	Gujarat Industrial Development Corporation
<i>KVK</i>	Kaushlya Vardhan Kendra
<i>MDGs</i>	Millennium Development Goals
<i>NVBDCP</i>	National Vector Borne disease control programme
<i>PHCs</i>	Primary Health Centres
<i>PTR</i>	Pupil Teacher Ratio
<i>RTE</i>	Right to Education
<i>SCR</i>	Student Classroom Ratio
<i>SFT</i>	Shroff Foundation Trust
<i>SSA</i>	Sarva Shiksha Abhiyan
<i>UEE</i>	Universalisation of Elementary Education
<i>UNDP</i>	United Nations Development Programme
<i>WHO</i>	World Health Organization

Chapter - I

INTRODUCTION



CHAPTER- 1

INTRODUCTION

Abstract

Development is a process of qualitative change in a society, leading to improvement in well-being and quality of living standard of people. Human development has been the focus of all human endeavors. It involves putting Human (people) at the centre of development. It revolves around people realizing their potential, widening their choices and enjoying freedom to lead lives they value. Under the leadership of Mahbubul Haq, the United Nations Development Programme (UNDP) introduced the concept of human development through publication of its first Human Development Report of 1990. Since then, the individual (people) has been placed at the centre of the process of development. Amartya Sen, later on stressed on capability building of people for increasing choices and improving well-being of individuals, especially the ones on the margin and periphery of society.

There are two dimensions of human development. One is to increase human capabilities – such as improve education and health standards, increase literacy, acquire knowledge and develop skills. The other is the best possible use of acquired capabilities – for leisure or for active participation in cultural, social or political life. Since 1990, various annual Human Development Reports of the UNDP have delved upon challenges faced by human beings, including issues like poverty, gender, democracy, human rights, cultural liberty, globalization, water scarcity, climate change and others. It has been realized internationally that underdevelopment anywhere in the world is a threat to development. Hence, the United Nations adopted the Millennium Development Goals (MDGs) to be achieved by every nation by the end of year 2015. These goals consist of various objectives and indicators critical for achieving decent level of human development in nations of the world. In India also 'India Human Development Report 2011' has been prepared with focus on social inclusion in various states in the country by Planning Commission, Government of India. In order to address district level issues in the process of economic planning, such reports on various aspects of human development at district level, are likely to facilitate policy formulation and its implementation for improving human development and related issues at district level.

The present human development report of Panchmahal district of Gujarat, attempts to encapsulate status of various attributes of human development like education accomplishments, health related aspects and gender differentials in the district. Besides, it focuses on natural resource base and the livelihood options available to its inhabitants. It takes stock of three basic dimensions of human development – a long and healthy life, knowledge, as well as a decent standard of living; health status (measured by amenities and incidence of disease affecting longevity), knowledge (measured by literacy and enrolment) and a decent standard of living (measured by livelihood options). These three dimensions are captured through life expectancy at birth, educational attainment (adult literacy and combined gross primary, secondary and tertiary enrolment ratio). Livelihood options enter the Human Development as a proxy for level of income and a decent standard of living and as a substitute for all human choices not reflected in other two dimensions. Besides these, surrounding environment and natural resources on which development depends refer to resources like forest, rivers, land, etc. affecting Human Development has been considered in the district of Panchmahals.

Education accomplishments represent skills and capabilities of people. It allows people to choose from a wider range of choices for livelihood. Health is an important attribute of human wellbeing and development. It incorporates capabilities and advancement in diagnosis, treatment and prevention of disease among population. Various indicators related to health provide a reflection of health of population. A healthy population indicates more production and increased income as it saves on medical expenses, adding to number of working days. The education standards and skills along with good health allow people to use available natural resources more productively and judiciously. Thus, natural resource availability and its judicious use directly impact the process of development and hence wellbeing of the population. The issue of Gender equality and empowerment considers choices, capabilities and disparity in achievement between women and men. Greater the gender disparity in fulfilling basic human needs, the lower a country's human development (index) would be. It indicates whether women are able to actively participate in economic and political life or not. It measures gender inequality in key areas of economic and political participation and decision-making. Thus, human development is a direct outcome of composite effect of measures taken by society which affect its capacity to make decision and wellbeing.

A brief historical and socio – economic profile of the district of Panchmahal, Gujarat is presented below.

1.1: The Panch Mahals District – A Profile

The Panch Mahals (*also spelled as Panchmahal*) district is situated in the eastern part of Gujarat state, it lies between latitude 22°17' N and 23°26' N and longitude 73°20'E and 74°2'E. The north to south spread of the district is 128.7 km and east to west is 68.1km. It is bound on the north by Sabarkantha district, on the east by Dahod district, on the south by Vadodara and on the west by Kheda and Anand district. Its geographical area is 5220 square kilometers according to the population Census 2011 of India and ranks 15th in terms of area among districts of the state. The Panchmahal districts a part of eastern hilly region of Gujarat and can be divided in two regions namely, Mahi river plain and forest and shrub zone based on topography, climate, geology, soil and natural vegetation. Panchmahal means "Five Mahals" and refers to the five sub-divisions namely - Godhra, Dahod, Halol, Kalol and Jhalod that were transferred by the Maharaja Sindhia of Gwalior to the British.

The district is comprised of 11 talukas and 1212 villages before bifurcation. After bifurcation Panchmahals comprised 7 talukas and 595 villages. It has a District Panchayat, 7 Taluka Panchayats, 480 Gram Panchayats and 4 municipalities (Nagarpalikas) in Panchmahal district. The district has its unique identity due to the Champaner, a world heritage site. It is also famous due to pilgrimage place of the temple of Goddess Durga (Kalika Mata) at Pavagadh, near Champaner, which attracts more than two million pilgrims annually. Jambughoda is known for its Wildlife Sanctuary. Lunawada is famous for Shivapuri temple and ancient history associated with The Ramayana. Godhra is known for birth place of Shri Rang Avdhoot Maharaj (a famous spiritual advisor). Ghoghamba is famous for dense forest with huge rocks. It is also famous for natural water fall of "Poyali" which is about 60 to 70 ft high and a tree which is 200 years old.

The climate of the district is dry and hot. It is hot in summer and dry during non-rainy seasons. The rains last from middle of June to end of September; winter climate is experienced during October to February, while heat of summer is felt during March to middle of June. The annual rainfall in the district is received during the south-west monsoon season from June to September, July being the month of highest rainfall. The

variation in annual rainfall from year to year is large, minimum rainfall recorded being 259 mm and maximum is 1550 mm. The average rainfall is 1026 mm in Panchmahal district which is highly irregular and erratic in nature with uncertain long dry intervals causing destruction of crop at a very large scale during some years. Humidity varies from 38 to 63 per cent. The average wind velocity recorded is 16.30 km/hour. The average sunshine during the year is 7.7 hours a day.

1.2: Brief History

The history of Panchmahal district revolves around the city of Champaner, a world heritage site, which has remains of ancient city walls and other remains of inhabitations. It was established in the 7th century in the regime of King Vanraj of Solanki dynasty. In 13th century, Chauhans acquired the city from Muslim rulers under Alauddin Khilji. Their rule continued until 1484 A.D., when Sultan Mohammad Begda of Gujarat captured the city. Thereafter, Godhra became centre of the district under the Mughal Empire (1575 to 1727 A.D.). Panchmahal district was conquered from the Mughal Empire by the Maratha General in the eighteenth century. In due course of time Sindhia became Maharaja of Gwalior, and after 1818 A.D. they were forced to recognize British sovereignty.

The Panchmahals were transferred in 1861 A.D. by the Sindhia to the British, and became a district in the Gujarat Division of Bombay Province. The British district consisted of two separate parts, the "Western Mahals" and the "Eastern Mahals" which were divided by the territories of Baria (Devgadh) and Sanjeli States. The Western part mostly constitutes of a level plain of rich soil; while the Eastern portion comprised a few fertile valleys, generally rugged, undulating and barren, with little cultivation.

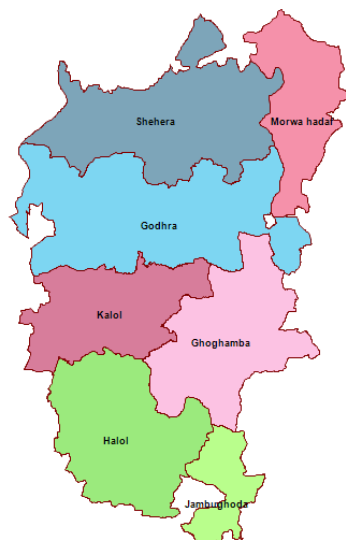
The area of the British district was 1606 sq. kms.while population was 261,020 in 1901. The administrative headquarters was at Godhra, and its population was 20,915 in 1901. The ruins of Champaner, were included in the district. It was the only district of Bombay Presidency that was administered on the non-regulation system, the Collector being agent to the Governor General of India (Political Agent) for Rewa Kantha Agency.

The mineral deposits comprised sandstone, granite and other kinds of building stone. Mining for manganese on a large scale was done by a European firm. The principal crops were maize, millets, rice, pulse and oilseeds; there were manufactures of

lacquered bracelets and lacquered toys; the chief export was timber. Both portions of the district were connected to Vadodara, Mumbai and Central India from Anand, through Godhra and Dahod, to Ratlam; and a chord line was opened in 1904 from Godhra to Vadodara. The district suffered very severely from the famine of 1899-1900, and its population decreased by 17 per cent from 1891 to 1901 owing to the famine.

In the year 1960, Gujarat State was created and Panchmahal became one of the districts in Gujarat State, with district headquarters at Godhra. In the year 1997, Panchmahal District was divided into two districts Panchmahal (with district headquarters at Godhra) and a new district of Dahod was created. Figure 1.1 shows the map of Panchmahal district.

Figure 1.1: Map of Panchmahal District



The district is also known for village Mangarh hill massacre in the year 1907, similar to the in famous Jallianwala Bagh massacre. The Bhil tribals, Dalits and others had raised the banner of freedom under the leadership of Dharmacharya Govind Guru, the founder of the Samp Sabha (Figure 1.2), an organization dedicated to fighting British rule as well as the feudal Indian princes. Govind Guru's followers had gathered at Mangarh for the annual conference of the Samp Sabha. They were surrounded by British-led forces and fired at. Though over 1500 Bhils and others died in the firing, the Samp Sabha continued its campaign, laying a firm foundation of struggle for independence.

1.3: Population

The district has an area of 5220 sq. km, with its headquarters at Godhra. According to the Population Census of 2011, the district has a population of 23,90,776 persons, of which 3,34,827 (14 per cent) lives in urban area. According to 2011 census, total number of households in the district are 4,46,746 as given in table 1.1 below. Out of a total population 12,26,961 are male and 11,63,815 female i.e. 51.32 percent male and 48.68 percent female. Panchmahal district accounts for approximately 3.96 percent of the State population. The sex ratio was 935 females per 1000 males as per 2001 Census to 932 in 2011. The population density was 389 persons per sq. km in 2001 which increased to 457 persons per sq. km. in 2011. The decadal growth rate of population has declined to 18.05 per cent during decade ending in 2011 compared to 20.39 per cent for decade ending 2001. The district is largely inhabited by Bhils, Patel, Bariya and Rathwa population groups. As per population census 2011, 7216041 persons out of total population (30.18 per cent) is Schedule Tribe (ST) and 1,00,446 persons (4.2 per cent) is Scheduled Caste (SC). The table 1.1 gives selected indicators related to population in the Panchmahals district according to 2001 & 2011 census.

Table 1.1: Demographic Details

Demographic Details	2001	2011
% of SC Population to Total Population	4.57	4.20
% of ST Population to Total Population	27.45	30.18
Population Density (per sq. km)	389	457
Decadal Change (%)	20.39	18.05
Sex Ratio	935	932
Child Sex Ratio (0-6)	938	949
Total number of Households	362908	446746
Urbanisation (%)	12.51	14.00

(Source: Registrar General of India)

Table 1.2: Total Population in the Panchmahals: 2011

Panchmahals	Total Population			Total Child Population		
	Person	Male	Female	Person	Male	Female
Total	2390776	1226961 (51.32%)	1163815 (48.68%)	361311	186998 (51.76%)	174313 (48.24%)
Rural	2055949	1053376 (51.24%)	1002573 (48.76%)	318429	164339 (51.61%)	154090 (48.39%)
Urban	334827	173585 (51.84%)	161242 (48.16%)	42882	22659 (52.84%)	20223 (47.16%)

(Source: Registrar General of India)

The table 1.2 shows Population and Child Population (0Y-6Y) in Rural and Urban areas of the district. The table 1.3 shows population in various talukas in rural and urban areas and child population the all the talukas of the district. The data reveals that talukas of Khanpur, Kadana, Ghoghamba, Morwa Hadaf and Jambughoda are rural talukas. The taluka of Godhra has the highest population while that of Jambgodha has the lowest population in the district among all talukas. A similar pattern is observed in Child population as well among all talukas of the district as revealed by table 1.3 below. The sex ratio in all talukas, for total population, in urabn and rural areas and also among children indicates that number of females less than that of males. This indicates that population is distorted in favour of male in all the talukas of the district.

Table 1.3: Taluka wise Population in Panchmahals: 2011

District/ Taluka	T/R/U	Total Population			Child Population		
		Person	Male	Female	Person	Male	Female
Panchmahals	Total	2390776	1226961	1163815	361311	186998	174313
	Rural	2055949	1053376	1002573	318429	164339	154090
	Urban	334827	173585	161242	42882	22659	20223
Khanpur	Total	96041	49023	47018	14563	7472	7091
	Rural	96041	49023	47018	14563	7472	7091
	Urban	0	0	0	0	0	0
Kadana	Total	129545	66399	63146	21360	10985	10375
	Rural	129545	66399	63146	21360	10985	10375
	Urban	0	0	0	0	0	0
Santrampur	Total	265694	135856	129838	43750	22445	21305
	Rural	246229	125790	120439	41239	21084	20155
	Urban	19465	10066	9399	2511	1361	1150
Lunawada	Total	257228	132444	124784	34792	18256	16536
	Rural	220274	113278	106996	30335	15911	14424
	Urban	36954	19166	17788	4457	2345	2112

District/ Taluka	T/R/U	Total Population			Child Population		
		Person	Male	Female	Person	Male	Female
Shehera	Total	277559	142512	135047	45825	23615	22210
	Rural	258384	132572	125812	42292	21761	20531
	Urban	19175	9940	9235	3533	1854	1679
Morwa (Hadaf)	Total	186920	94728	92192	30951	15923	15028
	Rural	186920	94728	92192	30951	15923	15028
	Urban	0	0	0	0	0	0
Godhra	Total	462516	237238	225278	67217	34897	32320
	Rural	300080	153325	146755	46788	24208	22580
	Urban	162436	83913	78523	20429	10689	9740
Kalol	Total	216371	111936	104435	29813	15463	14350
	Rural	183839	95101	88738	25845	13335	12510
	Urban	32532	16835	15697	3968	2128	1840
Ghoghamba	Total	218467	111591	106876	35542	18237	17305
	Rural	218467	111591	106876	35542	18237	17305
	Urban	0	0	0	0	0	0
Halol	Total	237959	123463	114496	31848	16721	15127
	Rural	173694	89798	83896	23864	12439	11425
	Urban	64265	33665	30600	7984	4282	3702
Jambughoda	Total	42476	21771	20705	5650	2984	2666
	Rural	42476	21771	20705	5650	2984	2666
	Urban	0	0	0	0	0	0

(Source: Registrar General of India)

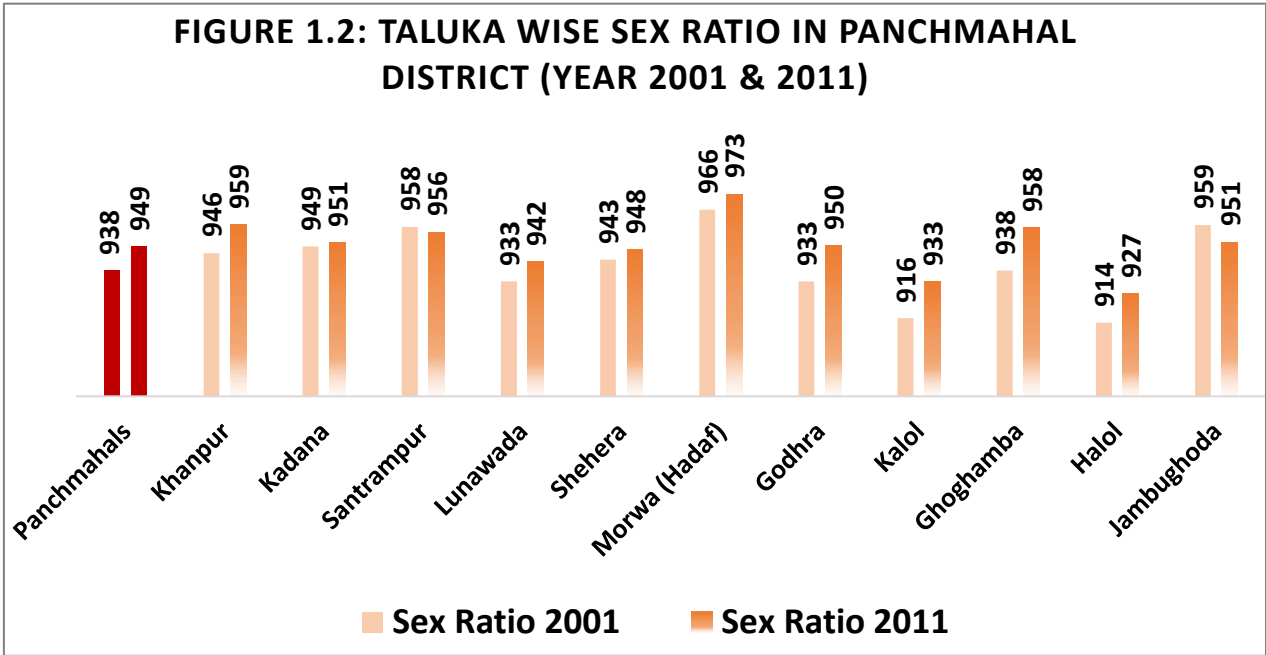
The table 1.4 gives data on rural and urban population changes between last two census according to rural and urban areas in all the talukas of the district. A perusal of table 1.4 indicates that Godhra is the most urbanized taluka followed by Halol taluka. Five talukas are 100 per cent rural talukas. Except for taluka of Lunawada all the urban talukas have seen an increase in urbanisation compared to 2001 in 2011. The talukas of Godhra and Halol have reported highest pace of urbanization in the district.

Table 1.4: Talukawise Rural and Urban Population in Panchmahals: 2001 and 2011

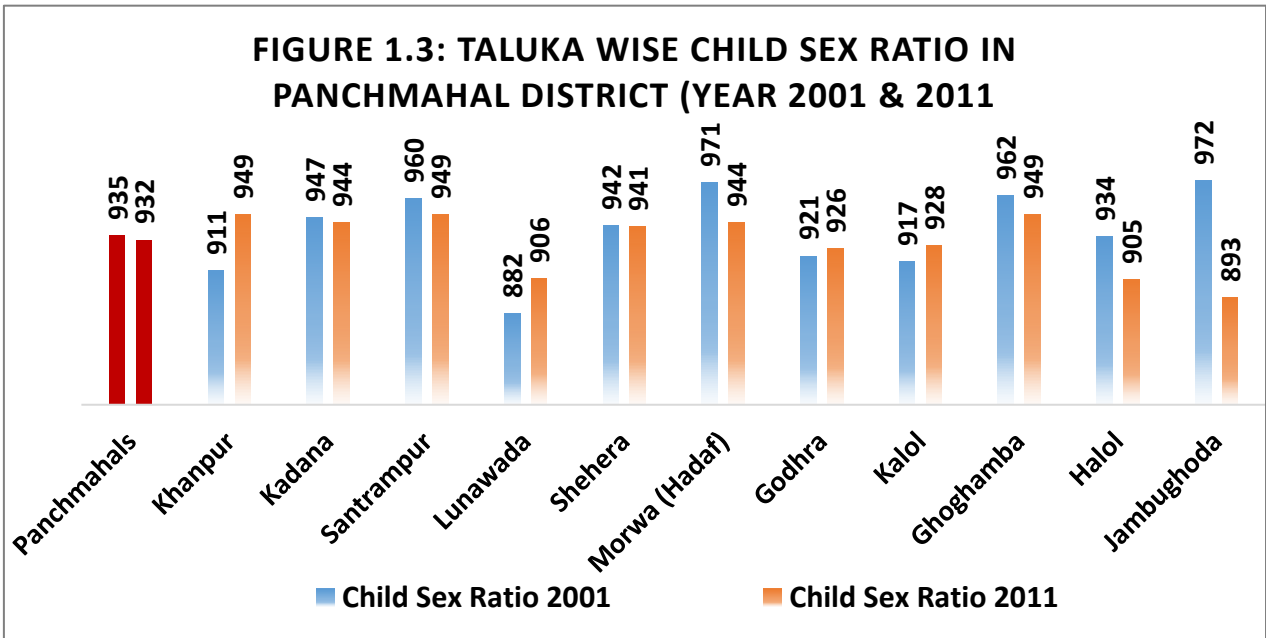
District/Taluka	Rural		Urban	
	2001	2011	2001	2011
Panchmahal	87.49	86.00	12.51	14.00
Ghoghamba	100.00	100.00	0.00	0.00
Godhra	66.68	64.88	33.32	35.12
Halol	77.23	72.99	22.77	27.01
Jambughoda	100.00	100.00	0.00	0.00
Kadana	100.00	100.00	0.00	0.00
Kalol	85.12	84.96	14.88	15.04
Khanpur	100.00	100.00	0.00	0.00
Lunawada	85.48	85.63	14.52	14.37
Morwa	100.00	100.00	0.00	0.00
Santrampur	92.80	92.67	7.20	7.33
Shehera	100.00	93.09	0.00	6.91

(Source: Registrar General of India)

The figure 1.2 reveals data on sex ratio variations among all talukas of the district. The data clearly reveals that except for talukas of Jambughoda and Santrampur all talukas have better sex ratio in 2011 compared to 2001. The figure 1.3 gives data on Taluka wise sex ratio among children in various talukas of the district. The data reveals that Morwa Hadaf, Halol and Jambughoda have experienced a considerable decline in sex ratio among children (under 6 years of age) in 2011 compared to year 2001. All these three talukas are among relatively backward talukas in the district, thus in order to improve sex ratio it is imperative that education, health, awareness and other basic amenities need to be improved specifically in these talukas and in general among all talukas of the district.



(Source: Registrar General of India)



(Source: Registrar General of India)

The table 1.5 provides data on selected population indicators. The table 1.5 reveals that talukas of Ghoghamba, Halol, Morwa hadaf, Santrampur and Shehera have higher than district decadal growth rate of population between 2001 and 2011. Overall the tribal population in the district constitutes more than 30 per cent of total population with taluka of Santrampur having 80 per cent of tribal population while Lunawada has least only 7 per cent of tribal population. The district has approximately 60 per cent literate population. The taluka of Godhra with around 65 per cent literacy has highest literacy while Ghoghamba has minimum literacy of 48 per cent among all talukas in the district according to 2011 census. The district has around 46 per cent of worker population. The taluka of Godhra has the lowest per cent of worker population while taluka of Jambughoda has the highest per cent of worker population among all talukas of the district.

Table 1.5: Selected Population Indicators – Taluka Wise

Population census 2011						SC/ST Population				Literate rates		Workers Population	
No	Taluka	Population		Decadal Increase	Growth rate	Scheduled castes population	% to total population	Scheduled Tribe population	% to total population	Literates	% to total population	Total Workers	% to Total population
		2001	2011										
1	Ghoghamba	178659	218467	39808	12.23	5018	2.30	90694	41.51	106581	48.79	97368	44.57
2	Godhra	393663	462516	68853	11.75	24559	5.31	61851	13.37	300127	64.89	188835	40.83
3	Halol	195300	237959	42659	12.18	5953	2.50	68729	28.88	148047	62.22	102328	43.00
4	Jambughoda	36319	42476	6157	11.70	562	1.32	15112	35.58	23569	55.49	22813	53.71
5	Kadana	110389	129545	19156	11.74	5243	4.05	101299	78.20	73752	56.93	63474	49.00
6	Kalol	191985	216371	24386	11.27	14299	6.61	22771	10.52	139518	64.48	89150	41.20
7	Khanpur	85047	96041	10994	11.29	5247	5.46	13193	13.74	55474	57.76	47709	49.68
8	Lunawada	229698	257228	27530	11.20	16530	6.43	19306	7.51	168162	65.37	122406	47.59
9	Morwa	152751	186920	34169	12.24	4397	2.35	71906	38.47	106220	56.83	96000	51.36
10	Santrampur	219041	265694	46653	12.13	6897	2.60	213393	80.32	155866	58.66	129222	48.64
11	Shehera	230325	277559	47234	12.05	11741	4.23	43350	15.62	163489	58.90	138202	49.79
Panchmahals		2025277	2390776	365499	11.80	100446	4.20	721604	30.18	1440805	60.27	1097507	45.91

(Source: Registrar General of India)

Table 1.6: Taluka wise status of Scheduled Tribe (ST) population in Panchmahals: 2011

District/Taluka	Sex Ratio	Literacy Rate			WPR		
		Person	Male	Female	Person	Male	Female
Panch Mahals	959	59.09	70.30	47.41	47.94	52.99	42.67
Khanpur	947	63.48	77.01	49.08	45.85	50.19	41.27
Kadana	953	65.26	77.99	51.91	49.16	50.82	47.42
Santrampur	961	68.12	79.48	56.29	49.53	52.48	46.46
Lunawada	959	60.36	72.38	47.92	49.89	54.72	44.86
Shehera	970	52.57	63.21	41.61	46.43	51.61	41.08
Morwa (Hadaf)	972	61.55	73.40	49.45	50.08	51.64	48.46
Godhra	970	51.84	63.17	40.14	43.73	52.23	34.96
Kalol	964	45.73	55.77	35.26	40.13	54.38	25.35
Ghoghamba	958	46.65	56.07	36.84	46.08	53.23	38.61
Halol	940	51.26	61.45	40.40	47.21	58.62	35.07
Jambughoda	935	48.94	60.09	37.10	54.10	58.69	49.20

(Source: Registrar General of India)

The table 1.6 above provides data on taluka wise status of ST population in the district. A perusal of table 1.6 reveals that the sex ratio among ST population is the lowest in Jambughoda while the highest in Morwa Hadaf. Overall literacy is highest in Santrampur taluka, it also has highest literacy among male as well female compared to all talukas in the district. Kalol taluka on the other hand has lowest literacy overall, among male and female as well compared to all the talukas of the district.

The work participation rate in the district is less than 50 per cent, with male participation in work around 53 per cent while that of female is around 43 percent in 2011. Kalol Taluka has the minimum work participation rate of approximately 40 per cent with female work participation rate of only about 25 per cent.

The table 1.7 above provides data on taluka wise status of SC population in the district. A perusal of table 1.7 reveals that the sex ratio among SC population is lowest in Godhra while highest in Santrampur and Shehera taluka. Among SC population, overall literacy is highest in Jambhughoda taluka, it also has highest literacy among male as well female compared to all talukas in the district. Kadana taluka on the other hand has

lowest literacy overall, among male and female as well compared to all the talukas of the district.

The work participation rate among SC in the district is less than 50 per cent, with male participation in work around 55 per cent while that of female is around 34 percent in 2011. Kalol taluka has the minimum work participation rate of approximately 38 per cent with female work participation rate of only about 20 per cent.

Table 1.7: Taluka wise status of Scheduled Caste (SC) population in Panchmahals: 2011

District/Taluka	Sex Ratio	Literacy Rate			WPR		
		Person	Male	Female	Person	Male	Female
Panch Mahals	959	77.14	87.95	65.91	44.89	55.00	34.36
Khanpur	958	69.89	81.49	58.10	48.66	56.23	40.75
Kadana	960	68.97	79.68	57.84	47.34	49.94	44.63
Santrampur	976	72.92	82.42	63.13	48.30	53.19	43.28
Lunawada	946	76.44	88.91	63.43	47.40	55.16	39.21
Shehera	976	77.60	89.99	64.93	52.30	57.43	47.05
Morwa (Hadaf)	989	74.52	86.26	62.68	52.60	53.91	51.28
Godhra	942	81.90	91.40	71.86	40.43	53.87	26.18
Kalol	970	79.64	89.87	69.13	38.89	56.81	20.42
Ghoghamba	944	69.09	79.22	58.28	46.03	54.48	37.09
Halol	975	78.38	89.12	67.37	39.80	56.24	22.93
Jambughoda	951	82.25	90.74	73.23	47.69	61.46	33.21

(Source: Registrar General of India)

The table 1.8 provides information on administrative and economic resources according to talukas in the district. It indicates that Godhra and Shehera are larger talukas according to land area while Jambughoda is the smallest in the district. Accordingly, number of villages is highest in Halol and lowest in Morwa (H) in the district. The table also provides number of Gram Panchayat and Nagar Palika indicating administrative units in talukas.

Table 1.8: Administrative Units, Panchmahal District

Sr. No.	Taluka	Geographical Area (Sq.km)	No. of Villages	Gram Panchayats	Nagar Palika
1.	Ghoghamba	433.49	95	90	0
2.	Godhra	765.47	115	108	1
3.	Halol	444.94	121	75	1
4.	Jambughoda	112.14	55	19	0
5.	Kalol	357.94	68	59	1
6.	Morwa (H)	382.82	51	47	0
7.	Shehera	679.91	90	82	1
Panchmahals		3176.71	595	480	4

(Source: Village Profile-2015, Directorate of Economics & Statistics)

1.4: Socio Economic Context

The people in Panchmahal lead a very simple life. Their livelihood is dependent on agriculture and forest, which form the backbone of its economy and provides employment to almost 80 percent of the population of the district. The remaining population is dependent on trade and commerce, cottage and household industry, other industry, services including government and private services.

With agriculture being a predominant activity pursued for livelihood in the district, being dependent on rainfall during monsoon, poverty and underemployment (also disguised unemployment) are serious issues of concern in the district. Due to small land holdings and livestock rearing, the unemployment in the district takes the form of seasonal unemployment. Only in southern part, which is adjacent to Vadodara, industrial base has emerged, providing employment and contributing to the economy. Overall, except for southern industrial region, people in rest of the district depend on agriculture and allied activities for sustenance and livelihood option. Due to this over dependence on agriculture, livelihood remains a challenge for many who are afflicted with lack of means and poverty. The agriculture suffers due to meager irrigation network. The kharif crops grown in the district are maize, groundnut, paddy, mung, bajri and cotton. Wheat and gram are also grown during winter (rabi) season in the district. The farmers are also growing other small crops for self-consumption like vegetables and others.

1.5: Topography and Natural Resources

The whole of northern portion comprising mainly talukas of Lunawada, Khanpur, Kadana, Santrampur and Jambughoda are covered by hills and forests intercepted by plain cultivable land in villages situated in the river valley. The western part mainly comprises parts of Lunawada, Shehera, Godhra, Kalol and Halol talukas. It rises gradually to the east and crossed by rivers and intercepted by hills of low altitude except the south where the altitude of Pavagadh peak rises to 839.36 meters above sea level. The district can be divided into three belts, northern, middle and southern. A major portion of the district in the central and northern parts is covered by metasedimentary rock formations, which represent extension of Arvalli range of mountains in Rajasthan, while in the southern parts are found the formations which have been referred to as the Champaner series. These metasedimentary group of rocks are separated by intrusive granites and gneisses in parts of the district (Panchmahal, District Plan Report, 2010-11).

Panchmahal district has a forest area which comprises of 23.31 per cent of total geographical area. It has a total forest area of 121654 hectares, which is of tropical dry deciduous type. Out of this, a major portion consists of shrub forest land and open forest land. This means that it is difficult to find and preserve rich flora and fauna of forests and conserve ecological habitats. However, Jambughoda is home to large populations of a variety of wildlife. The leopard at the top of the food chain is the primary predator, and its numbers have been increasing recently. Other large wildlife include the wild boar, *nilgai* (blue bull, the largest antelope in Asia), jackal, hyena, barking deer, sloth bear, and chausingha (four-horned antelope) etc. The district has rich deposits of mineral wealth. The minerals found in the district include Beryl, Building material, Quartz, Manganese ore, fire clay and lime stone.

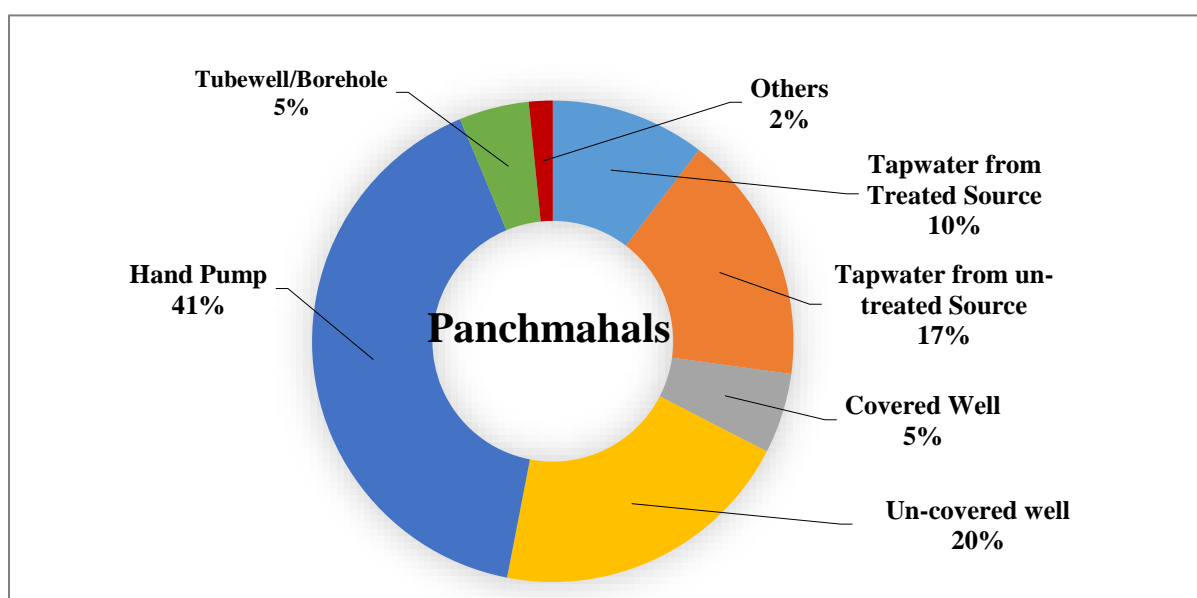
1.6 Civic Amenities

The availability of civic amenities in the district indicates quality of life of people. Indian towns and cities have been provided with at the most, a satisfactory level of amenities by municipalities. The Panchmahal district being an underdeveloped district boasts only of a poor to moderate quality and availability of civic amenities.

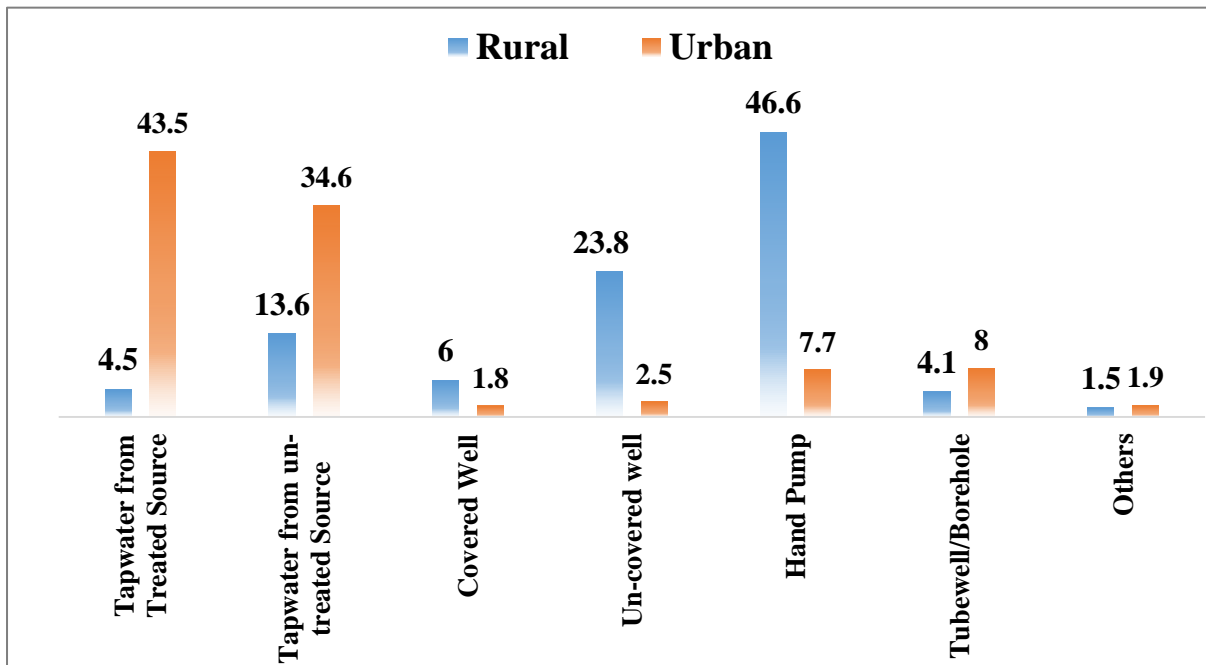
1.6.1 Drinking Water

The most basic necessity for human being is availability of safe drinking water. The figure 1.5 provides data related to main source of drinking water in Panchmahal district. A perusal of figure 1.4 reveals that 27 per cent of population has access to tap water facility in the district. A large proportion of population (more than 40 per cent) depend on hand pumps for meet their need of drinking water. The other sources of drinking water include uncovered well (20 per cent). Thus, safe drinking water is available to small proportion of population in the district. Use of unsafe water by population exposes them to risk of occurrence of variety of diseases leading to compromise of quality of life of population.

Figure1.4: Source of Drinking Water for Population in Panchmahals (Total) 2011



(Source: Registrar General of India)

Figure 1.5: Main Source of drinking water (%): Panchmahals 2011

(Source: Registrar General of India)

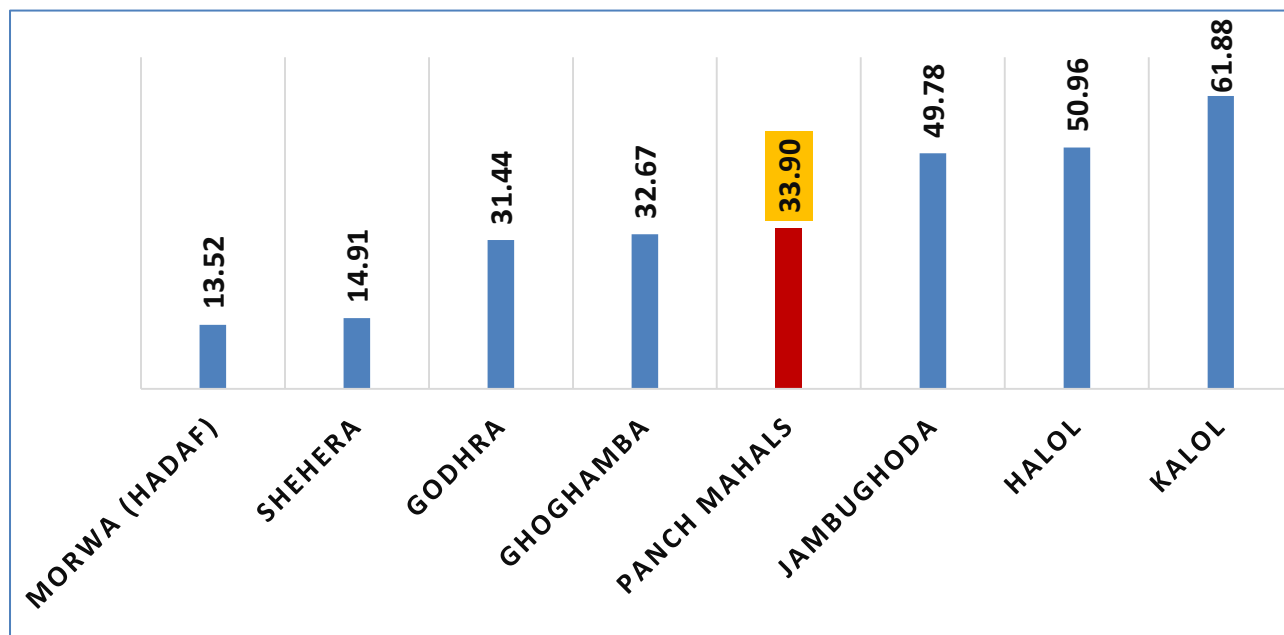
The table 1.9 reveals that out of total 247168 households in Panchmahals, 83786 households had water tap connectivity which is 33.90 % of total households. The highest 61.88 % households were found in Kalol taluka and it was followed by Halol taluka with 50.96 %. Taluka wise drinking tap water connectivity (%) shown in figure 1.6.

Table 1.9 Taluka wise drinking water tap Connectivity (Rural): March, 2015

Sr No.	Talukas	Total no. of households	Household Connectivity
1	Ghoghamba	35555	11616
2	Godhra	54684	17191
3	Halol	33343	16993
4	Jambughoda	7900	3933
5	Kalol	36701	22709
6	Morwa (Hadaf)	31185	4215
7	Shehera	47800	7129
Panch Mahals		247168	83786

(Source: Gujarat Water Supply & Sewerage Board)

**Figure 1.6: Taluka wise drinking water tap Connectivity in % (Rural):
March, 2015**



(Source: Gujarat Water Supply & Sewerage Board)

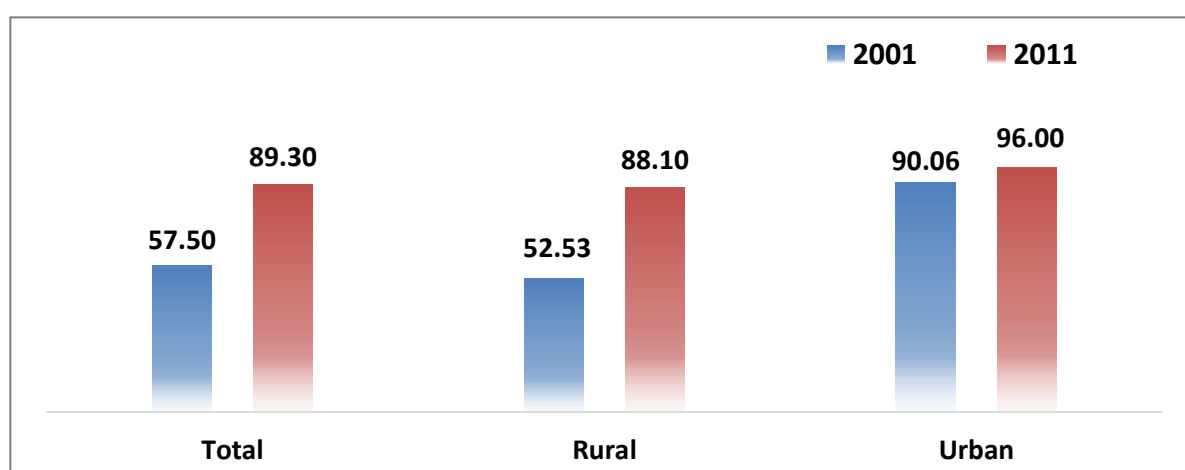
1.6.2 Source of Lighting

The availability of electricity and lighting opens endless opportunities for population. The electricity allows population to improve their efficiency through use of a variety of instruments, equipments and technologies leading to improvement in quality of life. The government has been undertaking efforts to provide for 100 per cent electrification of villages so as to enable all the households to benefit from use of electricity for enhancing improvement in quality of life. The data related to distribution of households by source of lighting in Panchmahal district is presented in table 1.10 and figure 1.8 here below. A perusal of these reveals that electricity is available to around 90 per cent of households for lighting in the district. In urban areas 96 per cent of households while in rural areas 88 per cent households use electricity for lighting purpose. Kerosene is also used by around 10 per cent of households in the district for lighting purpose in the district around 4 per cent households in urban areas use other sources for this purpose. The table 1.10 also indicates that around one per cent households in the district do not have lighting in their houses by use of any means. The use of solar energy for lighting is only 0.1 per cent in the district which is available only in rural areas.

Table 1.10: Distribution of Households by Source of Lighting: Panchmahals

Panch Mahals	Electricity		Kerosene		Solar energy		Other oil		Any other		No Lighting	
	2001	2011	2001	2011	2001	2011	2001	2011	2001	2011	2001	2011
Total	57.5	89.3	41.1	9.5	0.2	0.1	0.0	0.1	0.1	0.1	0.8	0.9
Rural	52.5	88.1	46.1	10.6	0.1	0.2	0.0	0.1	0.1	0.1	0.9	1.0
Urban	90.0	96.0	8.7	3.3	0.3	0.0	0.1	0.1	0.2	0.0	0.5	0.5

(Source: Registrar General of India)

Figure 1.7: Households with Access to Electricity (%): Panchmahals (2001 & 2011)

(Source: Registrar General of India)

The table 1.11 gives data on taluka wise source of lighting among households. A perusal of table 1.10 reveals that Lunawada taluka has the highest proportion (95 per cent) of households using electricity while Ghoghamba with 84.7 per cent has the minimum proportion of households using electricity among all talukas of the district. Ghoghamba taluka has the highest per cent (14) of households using kerosene for lighting purpose. Khanpur taluka has the highest 0.7 per cent households using solar energy as the source of lighting among all talukas in the district. The taluka of Morwa (Hadaf) has the highest per cent of households (almost 2 per cent) with no lighting.

Table 1.11: Taluka wise Distribution of households by source of Lighting: 2011

Talukas	Electricity	Kerosene	Solar energy	Other oil	Any other	No lighting
Khanpur	90.2	7.5	0.7	0.1	0.1	1.5
Kadana	91.7	7.4	0.1	0.2	0.0	0.6
Santrampur	89.6	9.3	0.0	0.1	0.2	0.7
Lunawada	95.0	4.6	0.1	0.0	0.1	0.2
Shehera	90.0	9.2	0.1	0.0	0.1	0.5
Morwa (H)	85.2	12.6	0.0	0.1	0.2	1.9
Godhra	89.0	9.7	0.3	0.1	0.1	0.8
Kalol	89.3	8.8	0.1	0.1	0.2	1.6
Ghoghamba	84.7	14.0	0.0	0.1	0.1	1.1
Halol	86.7	12.2	0.0	0.1	0.1	0.8
Jambughoda	91.6	7.7	0.0	0.1	0.0	0.6

(Source: Registrar General of India)

1.6.3 Latrine Facility

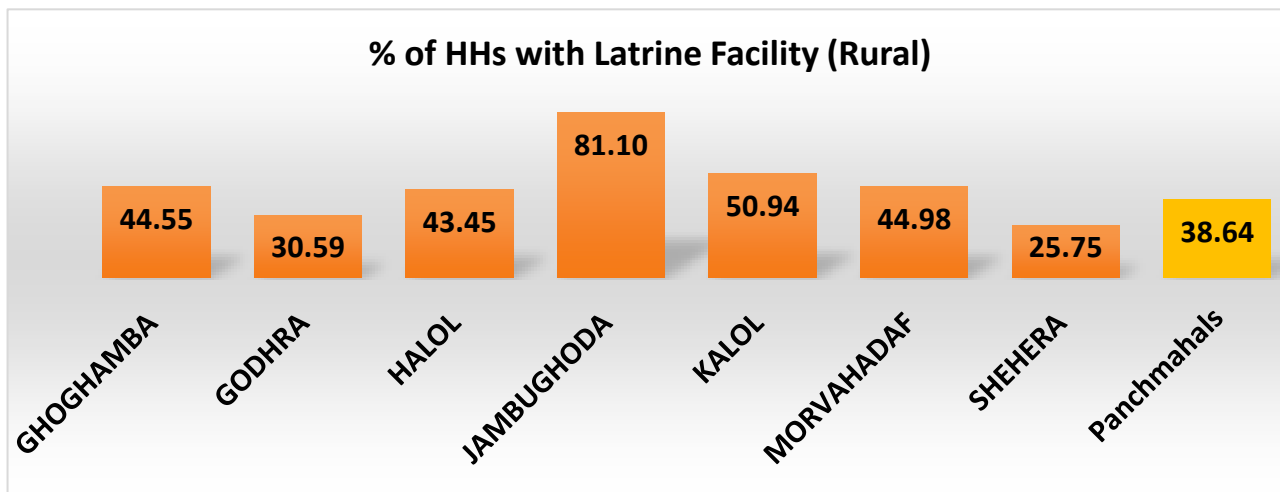
The table 1.12 presents data on taluka wise availability of latrine facility among households in the district of Panchmahals. The table 1.12 also presents data on latrine availability according to rural and urban areas in the district. A perusal of table 1.11 reveals that only 27 per cent of households in the district have latrine facility within premises of house, among rural households per cent of households having latrine within premises is 17 per cent while in urban areas as much as 84 per cent households have latrine facility within premises. Among various talukas Godhra has the highest per cent of households (approximately 42 per cent) having latrine within house premises, with around 14 per cent in rural areas and 89 per cent in urban areas. On the other hand Ghoghamba, which is a 100 per cent rural taluka has only around 10 per cent households having latrine within premises of their house.

Table 1.12: Taluka wise Availability of Latrine Facilities for Households in Panchmahal

Talukas	Total/ Rural/ Urban	% of HHs having latrine facilities within premises	% of HHs not having latrine facilities within premises
Panch Mahals	Total	27.24	72.76
	Rural	17.01	82.99
	Urban	84.09	15.91
Khanpur	Total	27.91	72.09
	Rural	27.91	72.09
	Urban	NA	NA
Kadana	Total	20.24	79.76
	Rural	20.24	79.76
	Urban	NA	NA
Santrampur	Total	18.24	81.76
	Rural	13.06	86.94
	Urban	78.37	21.63
Lunawada	Total	38.58	61.42
	Rural	30.54	69.46
	Urban	85.55	14.45
Shehera	Total	12.43	87.57
	Rural	9.05	90.95
	Urban	60.52	39.48
Morwa (Hadaf)	Total	13.65	86.35
	Rural	13.65	86.35
	Urban	NA	NA
Godhra	Total	42.46	57.54
	Rural	14.72	85.28
	Urban	89.01	10.99
Kalol	Total	31.50	68.50
	Rural	21.81	78.19
	Urban	83.26	16.74
Ghoghamba	Total	10.42	89.58
	Rural	10.42	89.58
	Urban	NA	NA
Halol	Total	33.41	66.59
	Rural	13.95	86.05
	Urban	79.46	20.54
Jambughoda	Total	23.07	76.93
	Rural	23.07	76.93
	Urban	NA	NA

(Source: Registrar General of India)

Figure 1.8: Talukawise % of House Holds having Latrine facilities in Panchmahals: (Rural)



(Source: Base Line Survey, Rural Development, Gandhinagar)

Hence it is clear from data that there is considerable proportion (around 16 per cent) of households in urban areas who do not have latrine facility within house premises. A high majority of households in rural areas do not have facility of latrine in their house premises. Thus, the wide spread practice of defecation in open impacts health of people adversely and has a significant impact on productivity, income and hence standard of living of population.



Chapter - II

EDUCATION

CHAPTER- 2

EDUCATION STATUS

Abstract

Education allows human beings to hone their skills, expand capabilities to improve their wellbeing. This chapter presents an overview of education status among people of Panchmahal district. Education plays an important role in the process of human development. Education allows people to make informed choices and provide an opportunity to plan and implement human developmental activities. It provides an insight on various aspects related to education like enrolment, dropout rate, facilities in schools, and differences among talukas in Panchmahal district. Major aspects covered in this chapter are literacy rate, accessibility of education, availability of basic infrastructure, and other education related activities in Panchmahal district.

2.1: Introduction

Education, knowledge and informed choices are at the centre of the process of Human Development. Acquiring skills enhances a broader range of capabilities, including political freedoms, human rights, empowerment, participation and self-confidence of individuals. Hence, literacy among people remains a primary indicator of Human Development.

Accordingly various Human Development Reports of UNDP have emphasized improving education and literacy levels. The UNDP reports emphasized that education is critical to strengthening people's capabilities and freedoms, overcoming inequality in access to and quality of education is a critical challenge to advancing Human Development. It stated that time to learn (drop out), quality of education and relevance of education are principal measures of evaluating educational status. It has been experienced that modern and complex knowledge societies raise the bar for acquisition of education. Education is critical to strengthening people's capabilities and freedoms, hence, overcoming inequalities in access and quality of education among different set of people is a tremendous challenge for human development. Thus, improving education levels is imperative for expanding horizons of human capabilities and human development.

In 1976 Education department came into existence as separate secretariat department in Government of Gujarat state, which looks after education including primary education, continuous education, secondary education, higher education, technical education and pharmacy education. The objectives of education policy of Gujarat are, firstly, improve continuous education and literacy, secondly, providing universal primary education for children in age group of 6 to 14 years, thirdly, occupationalisation of secondary education and improvement of secondary and higher education, fourthly, concentration of plan and non-plan provisions and best use of investments made in education sector and lastly, improvement in quality of implementation of policies for expanding education in the state.

In this chapter, an attempt has been made to present current status of education in Panchmahal district from the human development perspective. The indicators used to study educational status in Panchmahal district are literacy rate among the different demographic groups, accessibility of education, dropout rate, availability of teachers and classrooms in schools, physical infrastructure in schools, results of student (S.S.C and H.S.C), highlight of education development activities in Panchmahal district, educational developmental activities and initiatives taken by the state government for promoting education in the district.

2.2: Status of Literacy among different Demographic Groups

The development and efforts in improving the literacy in the district has resulted in considerable improvement in literacy in Panchmahal district. The table 2.1 gives data on literacy status in the district. The table indicates that total literacy rate in Panchmahal in 2011 was 70.99 per cent compared to 60.92 per cent in 2001. So along with increasing rate in the state, there was increased in literacy rate in Panchmahal district also.

As per Census 2011, out of total 26 districts of Gujarat state, Panchmahal was ranked 22nd in literacy rate. It is 18th ranked in male literacy and 24th ranked in female literacy. Thus, lower literacy among female contributes to overall lower ranking of Panchmahal compared to other districts in the state. As compared to increase in literacy rate among the male, there was more increased literacy rate among female. But still as compared to literacy rate among the female in the state, literacy rate among the female in Panchmahal district is found to be less. The literacy gap between male and female has

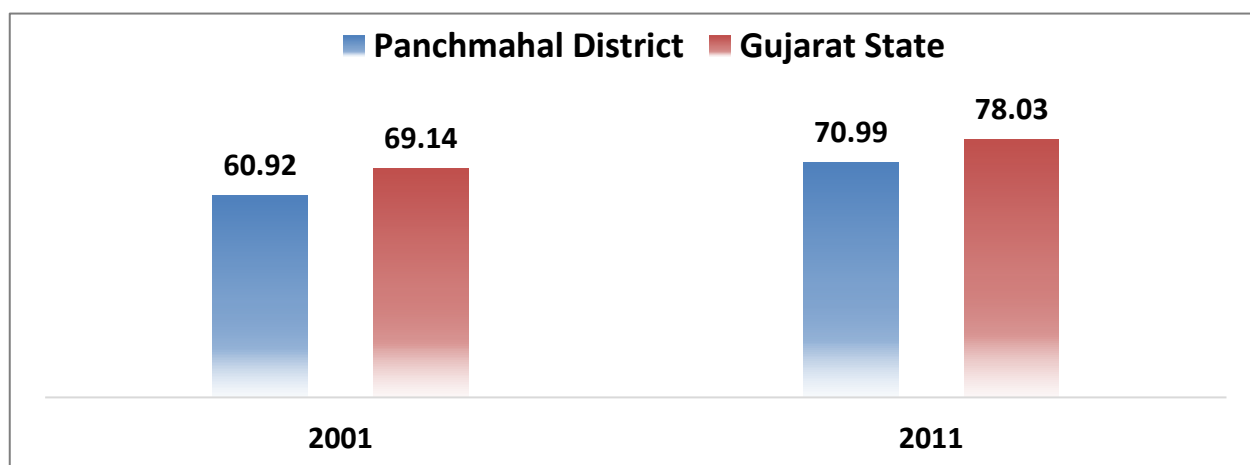
decreased in 2011 compared to 2001 in Panchmahal but still it is considerably higher compared to average gap in state.

Table 2.1: Literacy Status of Panchmahal District

Education Status	Panchmahal District		Gujarat State	
	2001	2011	2001	2011
Literacy Rate (per cent)	60.92	70.99	69.14	78.03
Male Literacy (per cent)	75.91	82.51	79.66	85.75
Female Literacy (per cent)	44.94	58.89	57.80	69.68
Gap (Male & Female)	30.97	23.62	21.86	16.07
Literates in nos.	10,25,835	14,40,805	2,98,27,750	4,10,93,358
Male Literates in nos.	6,59,346	8,58,054	17,833,273	2,34,74,873
Female Literates in nos.	3,66,489	5,85,751	1,19,94,477	1,76,18,485

(Source: Registrar General of India)

Fig.2.1: Literacy Rate Panchmahal V/s Gujarat



(Source: Registrar General of India)

Gender gap in literacy has been quite significant. However, it can be seen that gender gap has been reducing in the district during last decades. The table and graph indicates that females are also becoming more educated in Panchmahal district. Thus, there is need to provide more focus on improving female literacy in the district to increase overall literacy.

Table 2.2: Rural V/s Urban Literacy rate in 2011

Comparison	Literacy Rate (per cent)			
	Rural	Urban	Total	Gap
Gujarat	71.71	86.31	78.03	14.60
Panchmahal	68.36	86.65	70.99	18.29

(Source: Registrar General of India)

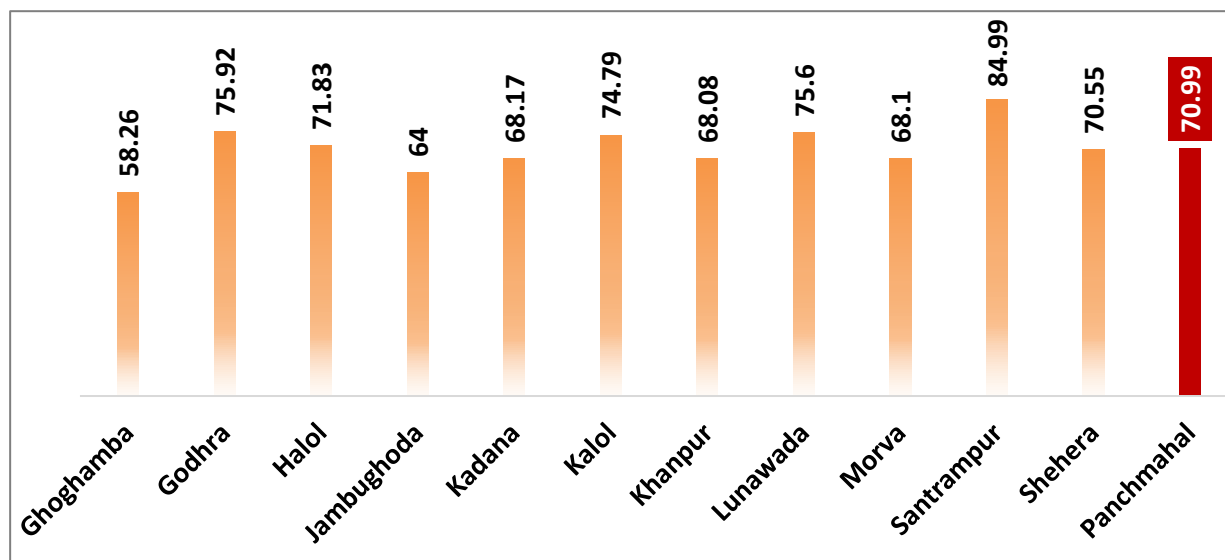
The rural and urban literacy differences are shown in table 2.2. It indicates that in Panchmahal district urban literacy rate is higher than the state average, but in rural areas literacy rate is much lower compared to rural literacy rate in the state. This clearly indicates that in Panchmahal rural areas require greater efforts to improve the literacy levels.

Table 2.3: Taluka wise Literacy Rate in Panchmahal: 2011 (in per cent)

Taluka	Rural			Urban			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Ghoghamba	70.99	45.09	58.26	--	--	--	70.99	45.09	58.26
Godhra	83.03	55.60	69.58	92.15	81.99	87.23	86.33	65.01	75.92
Halol	78.66	53.71	66.60	90.86	80.19	85.76	82.02	60.88	71.83
Jambughoda	76.47	51.02	64.00	--	--	--	76.47	51.02	64.00
Kadana	80.44	55.29	68.17	--	--	--	80.44	55.29	68.17
Kalol	84.45	59.70	72.51	93.21	81.22	87.39	85.78	63.01	74.79
Khanpur	89.59	55.07	68.08	--	--	--	89.59	55.07	68.08
Lunawada	85.02	61.19	73.41	93.19	83.32	88.43	86.23	64.39	75.60
Morva (H)	81.84	54.07	68.10	--	--	--	81.84	54.07	68.10
Santrampur	81.18	58.78	70.23	91.98	78.03	84.99	91.58	78.03	84.99
Shehera	83.05	55.80	69.77	91.43	70.49	81.31	83.62	56.78	70.55
Panchmahal	80.89	55.24	68.36	92.05	80.87	86.65	82.51	58.89	70.99

(Source: Registrar General of India)

Note: Box without data shows no-urban population in those Talukas

Fig.2.2: Taluka wise Literacy Rate in Panchmahal, 2011

(Source: Registrar General of India)

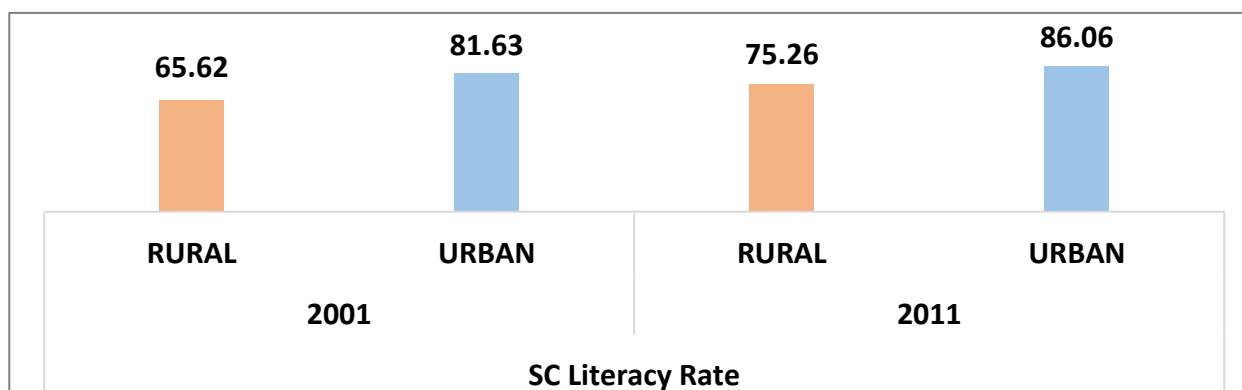
The above table 2.3 and fig. 2.2 presents taluka wise literacy rate among male and female population of rural and urban population in Panchmahal in 2011. It can be seen from the table that rural literacy rate is remarkably less than urban areas. The literacy rate among the female, is almost half as compared to male literacy in rural areas. However, in urban areas literacy gap between male and female is less compared to rural areas. There are six talukas which have only urban population and among them literacy rate is more than 90 per cent for male and among female population literacy rate is 75 to 80 per cent, approximately. There are only three talukas having literacy rate more than 70 per cent, namely Kalol (74.79), Lunawada (75.60) and Santrampur (84.99). Thus, there is a noticeable gap in literacy rate among different talukas as well as between rural and urban areas of the district. Education being a strong determinant of human development and empowerment it is imperative to focus on spread of literacy in rural talukas and especially among female population in the district. Thus, there is need for reducing literacy disparities among rural and urban and male and female in the district by further strengthening important initiatives like mission mode and flagship programmes related to education among population.

Table 2.4: Literacy rate among SC & ST

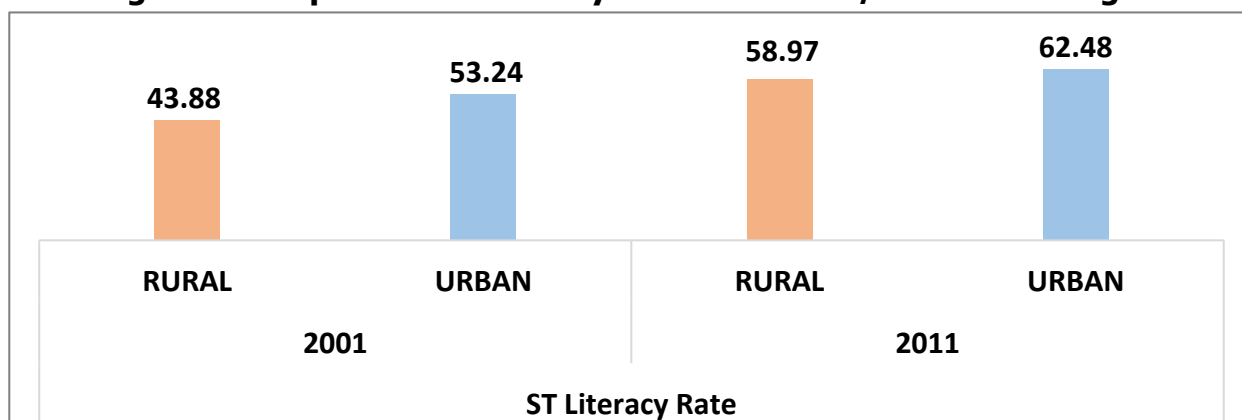
State/District	SC Literacy Rate (Total)		ST Literacy Rate (Total)	
	2001	2011	2001	2011
Gujarat	70.50	79.18	47.74	62.48
Panch Mahals	68.22	77.14	44.13	59.09

(Source: Registrar General of India)

Table no. 2.4 provide data pertaining to literacy rate among SC and ST population in Panchmahal district and it shows that as compared to literacy rate in the state in case of SC and ST, Panchmahal district is not lagging behind as it can be seen that there is no much gap between the data related to state and Panchmahal district. Literacy rate among SC and ST Population has also increased from 68.22 % (2001) to 77.14 % (2011) among SC and 44.13 % (2001) to 59.09 % (2011). Still the literacy rate among ST population is considerably low along with SC population.

Fig. 2.3: Comparison of Literacy Rate in Rural V/s Urban among SC

(Source: Registrar General of India)

Fig. 2.4: Comparison of Literacy Rate in Rural V/s Urban among ST

(Source: Registrar General of India)

It can also be studied from fig. 2.4 that there is a considerable Gap in literacy rate between Rural and Urban SC population. In rural area literacy rate among SC population is remarkable less while in case of ST population though the overall literacy rate is less in both rural and urban area but gap is not much significant.

2.3 Enrolment, Dropout and Important Flow Rates

Free and compulsory education to all children up to an age of fourteen years is our constitutional commitment. The Government of India has initiated a number of programmes to achieve this goal of Universalisation of Elementary Education (UEE), among which the *Sarva Shiksha Abhiyan* (SSA) is one of the most prominent one. It initially aimed at achieving universal primary education and universal elementary education. Government of Gujarat started Praveshotsav (Celebration at the first day of the school) under which on first day of the school, new students get books, slate, toys etc. such that more number of students is motivated to join the schools. Achieving universalisation means achieving universal access, universal enrolment, universal retention and universal quality of education. Government of Gujarat takes many other initiatives to achieve the goal of universal education.

2.3.1 Enrolment

The table 2.5 indicates data on Enrolment in Government and Private Schools in the year 2014-15. Data reveals that a majority of students are enrolled in government schools both in urban and rural areas. Private schools have a relatively small presence and the government schools cater to the needs of providing schools education in the district.

Table 2.5: Enrolment at Government and Private Schools (2014-15)
(numbers)

Sr. No.	School type	Government	Private	Total
1	P. Only	34732	2497	37229
2	P + UP	197928	20623	218551
3	P + UP + Sec + HS	0	10538	10538
4	UP Only	404	1984	2388
5	UP + Sec + HS	397	1069	1466
6	P + UP + Sec	0	4092	4092
7	Up + Sec	353	456	809
Panchmahals		233814	41259	275073

(Source: District Elementary Education Report Card 2014-15)

P : Primary

UP : Upper Primary

Sec : Secondary

HS : Higher Secondary

Table 2.6: SC, ST& OBC Enrolment (2014-15)

Sr. No.	Enrolment Indicators	Primary	Upper Primary
1	% SC Enrolment	3.5	3.9
2	% SC Girls to SC enrolment	49.1	45.8
3	% ST enrolment	27.6	23.5
4	% ST Girls to ST enrolment	47.8	47.8
5	% of OBC enrolment	62.1	65.3
6	% OBC Girls to OBC enrolment	48.4	47.1

(Source: District Elementary Education Report Card 2014-15)

The table 2.6 shows data on enrolment among SC, ST and OBC population in primary and upper primary classes.

2.3.2 Dropout Rate

The table 2.7 and 2.8 gives data on dropout rate of students in primary school for various years. A perusal of the table 2.7 reveal that during 2010-11 to 2014-15, dropout rates in standard 1 to 5 and standard 1 to 8 are continuously decreasing in the district.

Table 2.7: Taluka wise Dropout rate in Standard 1 to 5 (per cent)

Sr. No.	Taluka/District	Drop Out Rate (Std. 1 to 5)					
		2010-11			2014-15		
		Boys	Girls	Total	Boys	Girls	Total
1	Ghoghamba	3.77	4.55	4.16	1.99	2.09	2.04
2	Godhra	2.18	2.23	2.21	0.48	0.04	0.26
3	Halol	3.45	3.60	3.53	4.19	3.25	3.72
4	Jambughoda	3.44	2.70	3.07	0.00	1.37	0.69
5	Kadana	7.45	4.15	5.80	4.13	2.39	3.26
6	Kalol	1.70	1.20	1.45	2.38	0.67	1.52
7	Khanpur	4.09	4.63	4.36	0.74	1.98	1.36
8	Lunawada	3.75	4.10	3.93	0.08	0.00	0.04
9	Morva	2.75	3.18	2.97	3.44	1.25	2.35
10	Santrampur	2.95	3.20	3.08	3.77	2.23	3.00
11	Shehera	2.15	3.25	2.70	1.25	0.69	0.97
	Panchmahal	3.43	3.34	3.39	2.04	1.45	1.75

(Source: Primary Education Department, Panchmahal, Godhra)

The table 2.7 provides data on dropout rate of students among standard 1 to 5 students according to talukas in the district. It can be seen that in case of standard 1 to 5, the highest dropout rate in 2010-11 is found in Kadana taluka compared to other talukas of Panchmahal district, which has decreased by year 2014-15. In Lunawada and Godhra, there is quite low dropout rate compared to all other talukas.

Table 2.8: Taluka wise Dropout rate in Standard 1 to 7 (per cent)

Sr No.	Taluka/District	Drop Out Rate (Std. 1 to 8)					
		2010-11			2014-15		
		Boys	Girls	Total	Boys	Girls	Total
1	Ghoghamba	3.30	4.27	3.79	2.69	2.24	2.46
2	Godhra	2.18	2.23	2.21	1.31	0.85	1.08
3	Halol	3.65	4.40	4.03	4.31	3.65	3.98
4	Jambughoda	4.65	5.63	5.14	0.00	1.80	0.90
5	Kadana	7.10	3.60	5.35	4.27	2.23	3.25
6	Kalol	2.80	1.85	2.33	1.54	1.08	1.31
7	Khanpur	4.95	4.35	4.65	1.38	1.79	1.59
8	Lunawada	2.25	2.65	2.45	0.00	0.60	0.30
9	Morva	3.05	2.84	2.95	3.18	1.69	2.44
10	Santrampur	3.35	4.10	3.73	4.17	3.04	3.88
11	Shehera	3.10	4.95	4.03	1.28	1.27	1.27
Panchmahal		3.67	3.72	3.69	2.24	1.84	2.04

(Source: Primary Education Department, Panchmahal, Godhra)

The table 2.8 gives data on dropout rate among boys and girls for standard 1 to 8 in Panchmahal district according to different talukas. It can be seen from table that Kadana, and Jambughoda have a high dropout rate among all talukas of the district, compared to other talukas which has decreased in the year 2014-15. However, in these talukas decline in dropout rate has also been fastest among all talukas during last few years as is evident from the table. Jambughoda, Godhra and Lunawada have the lowest dropout rate throughout compared to other talukas in the district. Overall, for the district as well, the dropout rate has declined handsomely during last four years as shown in the table.

2.3.3 Flow Rates

The table 2.9 provide data on various important flow rates of Panchmahals district. It shows Gross Enrolment Ratio (102.34 %), Net Enrolment Ratio for standard 1 to 8 in the district. Dropout Rate for standard 1 to 8 was 5.81 % in the district. It indicates that more efforts are required for universalisation of primary and upper primary education in the district.

Table 2.9: Important flow rates of Panchmahals district (%) (2014-15)

Sr. No.	Particulars	Boys	Girls	Total
1	GER (1 to 8)	102.58	102.10	102.34
2	NER (1 to 8)	98.29	97.86	98.07
3	Retention Rate (1 to 8)	94.53	93.86	94.20
4	Repetition Rate (1 to 5)	1.26	1.25	1.25
5	Promotion Rate (1 to 5)	97.76	98.44	98.09
6	Transition Rate	96.61	97.1	96.85
7	Dropout Rate (1 to 5)	2.04	1.45	1.75
8	Dropout Rate (1 to 8)	2.24	1.84	2.04
9	Gender Parity Index			0.92

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

2.4: Availability of Teachers, Students and Classrooms

Quality of education is directly depended on availability of sufficient number of qualified teachers at primary, secondary, higher secondary and for imparting higher education. The availability of teachers is also indicated by Pupil Teacher Ratio (PTR). Another important indicator of qualitative infrastructure facility in education is number of students to classroom ratio.

As per Right to Education (RTE) Act, 2009, every school in India should have a pupil-teacher ratio not more than 30:1 at the primary school. It can be seen from above table that in Panchmahal district, Pupil-teacher ratio was 29.80 in 2009-10 which further improved to 28.41 in 2015-16. During past few years district has maintained the standard 30:1 consistently, although only one taluka is lagging behind for obtaining this standard.

Table: 2.10 Taluka wise Pupil Teacher Ratio

No	Taluka/ District	PTR					
		2009-10	2010-11	2011-12	2012-13	2013-14	2015-16
1	Ghoghamba	35.46	31.45	30.30	29.92	31.76	31.30
2	Godhra	30.60	29.38	30.90	28.61	29.62	27.12
3	Halol	31.55	27.57	30.13	26.03	27.40	25.41
4	Jambughoda	28.72	25.87	29.17	25.24	26.61	24.35
5	Kadana	25.44	24.97	28.45	24.76	26.30	-
6	Kalol	28.48	24.97	30.18	27.82	29.83	27.82
7	Khanpur	25.19	23.97	28.66	23.69	24.59	-
8	Lunawada	25.75	25.38	28.30	26.54	25.15	-
9	Morva	32.22	32.22	31.60	30.25	32.11	30.24
10	Santrampur	29.24	27.46	29.56	24.96	28.28	-
11	Shehera	31.24	30.87	31.09	32.54	31.63	29.79
Panchmahals		29.80	28.52	30.08	27.76	28.91	28.41

(Source: Primary Education Department, Panchmahal, Godhra)

The indicator of Student Classroom Ratio (SCR) provides an idea as to how many students exist on an average in a class room. It can be seen from table below that in Panchmahal, SCR was 31.65 in 2012-13 however it slightly went down considerably in 2015-16 (27.60). Looking to taluka wise data of SCR, except Shehera all the talukas have attained good SCR which will be helpful for providing qualitative education for students.

Table-2.11: Taluka wise Student Class Room Ratio: Panchmahals

Sr. No.	Taluka/District	SCR			
		2012-13	2013-14	2014-15	2015-16
1	Ghoghamba	34.96	33.43	27.74	25.26
2	Godhra	33.09	31.53	28.26	27.26
3	Halol	30.25	29.97	27.15	25.76
4	Jambughoda	27.64	27.97	24.15	21.36
5	Kadana	28.22	29.28	25.46	-
6	Kalol	30.51	29.64	27.51	26.07
7	Khanpur	27.58	27.47	24.06	-
8	Lunawada	26.81	25.93	24.56	-
9	Morva	38.45	41.10	32.24	29.81
10	Santrampur	29.59	29.60	27.62	-
11	Shehera	35.70	36.48	33.66	32.31
Panchmahals		31.65	31.42	29.00	27.60

(Source: Primary Education Department, Panchmahal, Godhra)

Table 2.12: Government Grant In aid & Private schools in Panchmahals (2014-15)

Sr No.	School type	Government	Private	Total
1	P. Only	581	26	607
2	P + UP	859	67	926
3	P + UP + Sec + HS	0	17	17
4	UP Only	6	10	16
5	UP + Sec + HS	2	5	7
6	P + UP + Sec	0	9	9
7	Up + Sec	8	4	12
Panchmahals		1456	138	1594

(Source: District Elementary Education Report Card 2014-15)

The above table shows that there are less numbers of private schools as compared to government grant in aid schools in Panchmahal district in all school categories.

Table: 2.13 Number of Teachers 2014-15

Sr No.	School type	Government	Private	Total
1	P. Only	1562	115	1677
2	P + UP	6305	707	7012
3	P + UP + Sec + HS	Nil	367	367
4	UP Only	52	41	93
5	UP + Sec + HS	49	91	140
6	P + UP + Sec	Nil	125	125
7	Up + Sec	35	22	57
Panchmahals		8003	1468	9471

(Source: District Elementary Education Report Card 2014-15)

The above table 2.13 give data pertaining to total number of teachers in different types of government and private schools in Panchmahal district and it can be observed that in primary schools and Primary & Upper Primary schools there are sufficient number of teachers but in Upper Primary schools and Upper Primary with secondary & Higher Secondary schools number of teachers are less.

Gradually the spread of higher education is going to increase at Panchmahal District. Before ten years back there were only Industrial Training Institutes exist in the district but now there is engineering colleges, polytechnic and science colleges established in district.

Table 2.14: Higher Education Institutes (Government) 2015

Sr. No.	Name of Degree/College	Total
1	ITI (Industrial Training Institute)	12
2	B.Ed. College	1
3	BA (Arts College)	12
4	B.Com. (Commerce College)	6
5	B.Sc. (Science College)	4
6	Polytechnic colleges (Diploma)	1
7	Agro Engineering College	1
8	Engineering College	2
9	Kaushlya Vardhan Talim Kendra	22

(Source: DEO Office, Panchmahal)

It can be seen from the above table 2.14 higher educational institute in the district. In ITI and KVKs which runs vocational based technical courses, there is a considerable increase in number of students registering during last few years. This is likely to enhance self-employment capabilities in various streams and vocations in the district.

The table 2.15 provides data on various performance indicators for different categories of schools in the district of Panchmahal. Panchmahal have a fairly satisfactory performance and there is ample amount of scope for more intensive utilization of existing resources like teachers, class rooms and others for further expansion of primary and upper primary education in the district.

Table 2.15: Key Performance Indicators for different school category: 2014-15 (%)

Sr. No.	Performance Indicators	P only	P + UP	P+UP SEC/H.S	UP only	UP+ SEC+HS	UP+ SEC	All Schools
1	% Girls Enrolment	49.1	47.8	40.0	58.2	43.3	56.1	47.7
2	Pupil-teacher ratio (PTR)	22	31	29	26	10	14	29
3	Student-class room ratio (SCR)	21	30	50	30	44	40	29
4	% schools with Enrolment <= 50 students	41.0	2.6	5.9	31.3	0.0	50.0	17.9
5	% schools approachable by all-weather road	89.3	93.6	100	100	100	91.7	92.1
6	% female teachers	43.2	47.0	68.4	80.6	28.6	38.6	47.4

(Source: District Elementary Education Report Card 2014-15)

2.5: Physical Infrastructure

The table 2.16 provides data on key performance Indicators of Facilities at schools.

Table 2.16: Key Performance Indicators of Facilities at schools: 2014-15 (%)

Performance Indicators	Schools Category						
	P only	P + UP	P+UP SEC/H.S	UP only	UP+ SEC+HS	UP+ SEC	All Schools
% Single Classroom schools	2.3	0.0	0.0	0.0	0.0	66.7	1.4
% Single Teacher Schools	2.0	0.0	0.0	0.0	0.0	0.0	0.8
% Schools with girls toilet	100	100	100	100	100	100	100
% Schools with boys toilet	100	100	100	100	100	100	100
% Schools with boundary wall	87.5	92.0	94.1	87.5	100	83.3	90.2
% Schools drinking water facility	99.5	100	100	100	100	100	99.8
% Schools with ramps	91.2	90.9	25.0	100	100	60.0	89.9
% Schools with electricity	100	100	100	100	100	100	100
% Schools with computer	20.8	93.2	88.2	62.5	100	50	65.0
% of Govt. schools with kitchen shed	97.4	96.9	0.0	66.7	0.0	100	97.0
% of Govt. schools providing mid-day meal	99.3	97.2	0.0	46.2	0.0	36.4	96.4
% of Govt. schools with SMC	100	99.9	25.0	100	57.1	54.5	99.1

(Source: District Elementary Education Report Card 2014-15)

However, the district has done well in providing toilet for girls, electricity, drinking water, etc. in almost all the schools. Hence, considerable improvement needs to be done for further enhancing infrastructure facilities like availability of Computers, Boundary walls etc. in schools in the district.

Taluka wise physical amenities such sanitation, electricity, drinking water, playground are given in table 2.17 primary schools. A perusal of these tables indicate that all the primary schools in all talukas of Panchmahal district have the facility of sanitation, electricity and drinking water at the end of year 2014-15, however, playground facility is not available in some the schools of the district, which is required for overall development of human beings during formative years of their life.

Table 2.17: Talukawise Physical Amenities available in Primary Schools % (2014-15)

Sr. No.	Taluka/District	Sanitation	Electricity	Drinking Water	Playground
1	Ghoghamba	100.00	100.00	100.00	87.77
2	Godhra	100.00	100.00	100.00	69.71
3	Halol	100.00	100.00	100.00	84.79
4	Jambughoda	100.00	100.00	100.00	100.00
5	Kadana	100.00	100.00	100.00	94.27
6	Kalol	100.00	100.00	100.00	74.56
7	Khanpur	100.00	100.00	100.00	83.70
8	Lunawada	100.00	100.00	100.00	78.02
9	Morva	100.00	100.00	100.00	85.33
10	Santrampur	100.00	100.00	100.00	86.24
11	Shehera	100.00	100.00	100.00	71.54
Panchmahal		100.00	100.00	100.00	81.12

(Source: Sarva Shiksha Abhiyan, Gandhinagar)

2.6: Government Initiatives for Promoting Education

State government has taken a number of initiatives to promote girl education, improve quality of education, enhance enrolment and improve retention rate and expand education among all class of people particularly among tribal section and talukas which are less developed in state. The following are major schemes and programmes run by state government in talukas of Panchmahal district.

Vidhyalaxmi Bond Yojna:

The Vidhyalaxmi Bond Yojna is introduced in order to increase education amongst girl child. Under this scheme, villages having a female literacy rate of less than 35 per cent are covered. The main purpose of this scheme is to ensure that girls continue education at least till Standard 7th. The girls amongst the B.P.L families living in urban areas are also provided Vidhyalaxmi Bond.

Vidhyadeep Yojna:

In case of an unfortunate death of a child studying in school, the parents or the guardians of child are offered Rs 25000/- (Rupees twenty five thousand only) as an insurance amount. This is a government's endeavor to help parents or guardians who have lost their school going child. As many as 85 lakh students are insured under this scheme. The premium of the Vidhyadeep Yojna is paid by the state government.

Hon. Chief Minister's the Girl Child Development Program:

Since 2003-04 Honorable Chief Minister has formed Chief Minister Kelavani Nidhi with an aim to increase female education. It ensures that lack of finance should not come in way of a girl child and her education. Hon. Chief Minister gets gifts on various occasions and events; by selling these items money received is used for "Kanya Kelavani Nidhi." Under this scheme approximately Rs.14.5 crore donation is collected in short time charity in Hon. Chief Ministers "Kanya Kelavani Nidhi" by Indian Government's Income Tax department. Donators get exemption under section 80(G) (S) therefore flow of giving donation has increased.

School-Health Check-up Program:

In this programme, for new born to 14 years aged children, health responsibility is fulfilled by state health department. With co-operation of WHO (World Health Organization, UNICEF, UNESCO) and World Bank "Health Developing School-Programme" pilot project has been started in Gujarat.

Computer Training at the Primary Educational level:

For computer education in year 2006-07 Rs. 40 crore and in 2007-08 Rs. 85 crore has been arranged. In year 2007-08 for computer donating scheme Rs. 250 lakh has been arranged. In year 2006-07, computers have been received as donation.

Diploma for the teachers to improve their teaching skills Teacher's Training Program:

Under education quality improvement programme for school development each school is given grant of Rs. 2500. Similarly, English subject teacher get an opportunity to improve their quality in collaboration of Cambridge University (U.K.), wherein teachers are given opportunity to do course without any fee. For this purpose, for every teacher Rs. 40000 is spent by board for Cambridge International Diploma for Teachers (CIDT) course.

Teleconference for the students of Std. 10th and 12th :

With co-operation of BISAG through teleconference, Standard 10/12 students are provided targeted guidance "Studies without any burden". Under this program secondary and higher secondary board, and ISRO Co-operation has resulted in telecast of programmes on DD-I and DD-II for subjects of Mathematics, Science, English.

Centrally Sponsored Scheme Incentives to Girls for Secondary Education:

This programme is started to promote girl child enrolment of 14-18 years age group.

Centrally Sponsored National Means-cum-Merit Scholarship Scheme:

Under this scheme monetary scholarship is given to gifted or meritorious students.

Higher Education:

Scheme of Scholarship for College and University Students:

It is a National Merit Scholarship Scheme introduced by Department of Education in 1961-62. Under this scheme scholarship is provided to meritorious students in the district.

English Training Initiatives – SCOPE:

The Society for Creation of Opportunity through Proficiency in English (SCOPE) has been setup by the Government of Gujarat to build English language proficiency among youth of Gujarat and thereby provide employment opportunities for the youth.

Technical Education:

Self-employment programs for women:

To make rural areas and poor females self-reliant through Technical Examination board various skill development programmes have been started for female population. These include home appliances repair, food processing, Imitation Jewellery, Card board work and book binding, fashion design, Jari craft and Jardoshi work, Raxin bag making, housekeeping, garment making and similar fancy work. Through these 35000 females are aimed to be trained for promoting self-employment. Gujarat Mahila Arthik Vikas Nigam is getting centre sponsored scheme grant for women development.

2.7: Implementation and Achievement of different schemes

Under **Vidya shahayak** (Para teacher) scheme 5067 teachers were appointed till 2010-11. Government undertake female education orientation awareness programme. In order to promote girls education, female students have been given monetary benefit (Rs. 1000 to each girl) under **Vidyalakshmi bond scheme**. During 2002 to 2010 a total of 57640 girls received benefit under this scheme and a total Rs. 8.68 Crore were disbursed.

Every year in the beginning of new term, there is a celebration in primary schools to welcome new students with books, slate, toys etc. to motivate more students to join school. Because of this innovative initiative called **Pravesh mahotsav**, there is considerable fall in dropout rate at primary school which was 49.02 in 1990-91, 20.93 in 2000-01 and decreased to 2.47 in 2010-11.

Insurance Policy has been given to students at secondary and higher secondary school to protect them and motivate them under **Vidyadeep Programme**. It covered Rs. 50,000 insurance of children in secondary and higher secondary school.

Government runs **Sakshardeep Programme** for adult education of age group 15 – 35years under which during 2004 to 2006, there were 46,847 night classes organized at different urban and rural places of Panchmahal.

In order to keep schools **clean**, toilet has been constructed in all primary schools. During 1990-2001, 364 toilets have been constructed while during 2001-2011 2366 new toilets have been constructed.

Computer education has been introduced in standard 6 and 7, to improve standard of education in government schools. Care has been taken to have primary schools at a distance of every 3 kilometers resulting into addition of 804 new schools opened during 2001 to 2011.

A total of 1294 new school class rooms have been constructed during 2001-2011. During 2002-03 to 2010-2011 in 1024 schools, 32029 benches have been provided under **Furniture (Bench) Scheme**.

Under 11th Five Year plan, each school got Rs. 25000 to build **Science Laboratory**. Under this scheme, during 2002-2011 in 1557 primary schools Science Laboratory have been constructed.

With a view to enhancing quality of education in each school **Gunotsav (Quality Improvement Programme)** has been implemented. Special education training programme called 'SCOPE' has been introduced to improve proficiency of English language among students.

BOX 2.1: Training Programme for Unemployed Youngsters

District planning office organize Employment Oriented skill based training programme in several developing talukas for increasing employability of youngsters. The training programme was undertaken for pre police and S.R.P Safety Security Guard course with the help of Gujarat Lokseva Charitable Trust Pre-police (Security) Recruitment Training School in 2010-11. The duration of this programme was 6 months. Course content included Optical Training, Physical Training, Rifle Training, Horse riding, Yoga, Computer CCC Level training, Motor Driving, Swimming and Personality development training. After receiving this training 4 trainee got selected in Police force and most of the trainees got job as security guard with an average salary of Rs. 6000/- per month.

The government makes special efforts to train and provide employment to people male and female both in Developing Talukas (**Vikasshil Taluka**) of the district. The details of the same are provided in table 2.34 and 2.35. The data clearly indicate the positive benefits received by people of Developing taluka of Ghoghamba and Santrampur, respectively. These training programmes impart skills in a variety of vocations creating capacity among participants to secure jobs and self-employment. This in turn leads to providing employment locally and prevent migration to urban areas as well.

Table 2.18: Training Details under Developing Taluka: Ghoghamba

Year	Organization Name	Training Name	Target	Placement	Income Range Per month (Rs.)
2010-11	Pre-Police Rec., Nadisar (through ITI)	Security Guard	100	99	5600-6200
	L & T, Ahmedabad	Bar Bending	2	2	6500-8000
	L & T, Ahmedabad	Form Wok Carpentry	2	2	6500-8000
2011-12	Gujarat. Fire & Safety, Nadisar	Firemen, Sub Fire	50	36	9000-10000
	Pre-Police Rec., Nadisar	Security Guard	80	65	6000-7000
	ITI-Godhra	Garment Making	240	222	5000-6000
	L & T, Ahmedabad	Form Wok Carpentry	11	9	6000-7000
	L & T, Ahmedabad	Bar Bending	1	1	6000-7000
	L & T, Ahmedabad	Scaff Folding	51	51	6000-7000
2012-13	Navchetan Education, Gandhinagar	Computer Training	60	10	4500-7000
	Gujarat Fire & Safety, Nadisar	Fire Safety	20	17	8000-10000
	Pre-Police Rec., Nadisar	Security Guard	40	36	8000-10000
	ITI-Godhra	Two Wheeler Rep	100	40	5000-6000
	ITI-Godhra	Plumbing & Fittings	100	40	5000-6000
	ITI-Godhra	Mobile Repairing	100	40	5000-6000
	ITI-Godhra	House wiring	100	40	5000-6000
	ITI-Godhra	Screen Printing	100	40	5000-6000
Total			1157	750	

(Source: DPO office, Godhra, Panchmahal)

Table 2.19: Training Details under Developing Taluka: Santrampur

Year	Organization Name	Training Name
2011-12	Gujarat Fire & Safety, Nadisar	Firemen, Sub Fire
2012-13	L & T, Ahmedabad	Bar Bending
	L & T, Ahmedabad	Form Wok Carpentry
	Gujarat Fire & Safety, Nadisar	Firemen, Sub Fire
	Pre-Police Rec.	Security Guard
	Jay Education	Software & Networking
	Navchetan	Basic Computer
	NexTech, Godhra	Comp. Hardware & NW
2013-14	Saikrupa Pragati Mandal	CCC
		Sewing
		SSI
		Beauty Parlor
		Handloom
		Data Entry Operator
		Kite Making
		Door mate
	Gujarat Fire & Safety, Nadisar	Firemen, Sub Fire
	Navchetan	Basic Computer
	Navchetan	Basic Computer
	ITI-Godhra	Security Guard
	ITI-Godhra	Two Wheeler Rep
	ITI-Godhra	Plumbing & Fittings
	ITI-Godhra	Mobile Repairing
	ITI-Godhra	House wiring
		Screen Printing
ITI-Godhra	Basic Computer	
ITI-Godhra	Data Entry Operator	
ITI-Godhra	Sewing	
ITI-Godhra	Elec. Motor Rewinding	
L & T, Ahmedabad	Form Wok Carpentry	
Total		

(Source: DPO office, Godhra, Panchmahal)

Table 2.20: Seasonal Hostel Facilities for students: 2015-16

Sr No	Talukas	No of Units	Boys	Girls	Total
1	Ghoghamba	17	255	183	438
2	Godhra	1	12	6	18
3	Kalol	1	26	31	57
4	Morva (H)	2	29	26	55
5	Shehera	1	8	17	25
Panchmahals		22	330	263	593

(Source: District Primary Education Office)

The government has started providing hostel facilities for students to help them continue their education and prevent drop out among them. Detail of the seasonal hostels and number of students utilizing its services is presented in table 2.20. It clear from data that both boys as well as girls are deriving benefits from these seasonal hostels in the district of Panchmahals.

Table 2.21: Status of Tribal Schools in Panchmahals: 2015-16

Sr No.	School Category	No. of Schools	Enrolment	No. of Teachers
1	Primary with Upper Primary	34	4591	629
2	Upper Primary, Secondary & Higher Secondary	1	185	83
3	Upper Primary & Secondary	2	179	53
Total		37	4955	765

(Source: U-DISE, NUEPA-2015-16)

There are total 37 Tribal schools covering all categories viz. primary, upper primary, secondary and higher secondary education. Nearly 5000 students are enrolled who are taught by 765 teachers and providing bright future to the children of tribal population.

Box 2.2: Puspak – School Bus Service by Government

Khanpur is one of the developing Talukas of the Panchmahal district. Dropout rate in school was high in tribal and hilly area, because of insufficient transportation facilities. To cope up with this problem, the grant which was released from the developing Talukas, 5 school buses has been bought to facilitate the school children coming from remote areas. This school bus service is managed by Women Group and S.G.S.Y groups. Earlier due to the transportation difficulties, parents were not sending their children to the school, but gradually the scenario changes and they started sending their children regularly to the school. It helped in increasing the enrollment rate and decrease in the school drop out rate (2008-09 - 6.43 %, 2009-10 – 6.03%). This practice also generated employment for the bus drivers. School bus facility covers 22 villages, providing facility to 253 students (142 boys and 111 girls) in the year 2011-12.



2.8: Conclusions

Education helps individuals in enhancing their skills and capabilities in any society. Education thus is a crucial ingredient for human development. The progress made with the objective of Universalisation of Education in Panchmahal district has been discussed in the present chapter. Brief conclusions are presented here below.

Literacy rate in Panchmahal district has considerably increased during 2001 to 2011. However, the literacy rate among female is lower than male but there is greater improvement in literacy among female compared to male. There is a need of greater efforts to increase literacy in the district especially in rural areas and among the female.

In urban areas of the district, literacy rate is even more than overall literacy rate of Gujarat. In some talukas, literacy rate is quite lower compared to other talukas of district and there is wide Gender and Regional disparities in terms of literacy rate.

The gap between male and female literacy rate is very high in case of SC and ST population especially in rural area. There are larger scope of improvement in literacy among female in SC and ST population.

Technical and Higher education in Panchmahal district required to be promoted more.

There are more number of teachers per school in urban areas as compared to rural areas. There are more number of co-education schools in the district, there are only a few exclusive boys' schools and exclusive girls' schools.

Number of private schools are very less in the district.

Number of science stream and vocational stream schools are less; however, commerce stream schools are in good number in the district.

Dropout rate is minimal in case of Primary education in Panchmahal district. Though, in higher secondary dropout rate shows decreasing trend but still it is high.

In case of standard 1 to 5, highest dropout rate is found in Halol compared to other talukas of Panchmahal district in 2014-15, while in Godhra, Jambughoda and Shehera there is quite low dropout rate.

Schools in rural areas are having less number of teachers per school. In urban areas more number of teachers exist per school with better pupil teacher ratio.

Almost all schools have sanitation facility, drinking water facilities and electricity. While in some of the talukas need facilities like playground, boundary wall, etc.

KVKs are increasingly catering to skill development of a large population in talukas.

A number of government initiatives and programmes are being implemented for promoting education among children in particular girl child, among SC, ST and in tribal region.

2.9: SWOC Analysis: Education Status

<ul style="list-style-type: none"> ▪ In standard 1 to 5 and 1 to 8, there is considerable down trend in dropout rate both in case of Male and Female in Talukas of district ▪ Literacy rate among SC and ST population is increasing along with the state. ▪ In urban areas of the district literacy rate is even more than overall literacy rate of Gujarat. ▪ Total number of primary schools have been increased in last 10 years ▪ Physical amenities such as sanitation, electricity and drinking water are available in Primary Schools. ▪ Dropout rate is minimal in case of Primary education in Panchmahal district. Though, in higher secondary dropout rate is high but it shows decreasing trend. ▪ Introduction of innovative government initiatives to strengthen the education status of the district. ▪ KVT Kendras (Skills Development Centres) are increasingly catering to skill development of a large population in talukas. 	<p style="text-align: center;">STRENGTHS</p>
<ul style="list-style-type: none"> ▪ Literacy rate among female is low as compared to male in Panchmahal District. There is a significant gap in literacy rate between male and female. ▪ The gap between male and female literacy rate is very high in case of SC and ST population especially in rural area. Literacy rate among ST population is considerably low along with overall rate in the state. ▪ Net enrolment is considerably lower in both primary as well as upper primary schools in the district. ▪ There are a very few number of students who get technical education and higher education in Panchmahal district. ▪ The number of Secondary and Higher Secondary schools is very less in the district. 	<p style="text-align: center;">WEAKNESS</p>

SWOC Analysis: Education Status

- Literacy rate is improving among male and female both so there is still opportunity to further increase literacy rate among the people and improve the education status in district.
- There are less number of private schools in Panchmahal district so still there is an opportunity to enhance the education with the help of private schools especially in urban area and science streams.
- Still there is an unexplored opportunity for higher education penetration in the district.
- There is an opportunity for vocational and skill based courses in education system of the district.

OPPORTUNITY

- Among rural area the literacy rate is also less compared to urban area. So there is huge task to provide fruits of education in rural areas of Panchmahal district where most of the rural areas are tribal and geographically scattered.
- Number of private schools are very less in the district. It is also found that numbers of private schools are decreasing. So government schools need to increase especially in rural areas.
- There is no Major University in this district and number of colleges for imparting higher education are also very less. So it is challenging tasks to spread higher education in the district.
- To make a balance between rural and urban status of education.

CHALLENGES

Chapter - III

HEALTH



CHAPTER- 3

STATUS OF HEALTH

Abstract

Health is an important indicator of human development. A sound health allows a person to maximise its productivity and wellbeing. However, despite best efforts diseases are common among all living beings. The common diseases afflicting people in Panchmahal district are fever, skin diseases, TB, chronic anaemia, malaria, etc. Major health risks suffered by population in the district are malnutrition, lack of safe drinking water, poor hygiene and sanitation and above all, poverty. Especially during rainy season, lack of sanitation facilities creates major health hazards.

The present chapter deals with public health, maternal and child health status in Panchmahal district. The available infrastructure and amenities in clinics has been dealt with in present chapter. Besides, a variety of initiatives and programmes for prevention and control of diseases and for overcoming problems of malnutrition and poor health undertaken by the government have also been discussed. The data shows that number of clinics has increased substantially in the district. However, number of doctors and nurses has declined in government hospitals and clinics, due to proliferation of private sector medical services. Focused efforts for prevention and treatment of diseases like Vector borne diseases, Tuberculosis, Leprosy, Malaria and others are effectively implemented. Mother and child health has improved in all talukas of the district. Institutional delivery of child is being preferred increasingly in all talukas. School children health check-ups, Bal Sakha, Chiranjivi yojana and Mamta Abhiyan are contributing to overall improved health status in the district.

3.1: Introduction

Health is a pre-requisite for human development. Good health has a direct relationship with well-being of people. According to UNDP, Human Development comprises of three components i.e. health, education and income generating capacity. Health is a function, not only of medical care, but also of overall integrated development of society - cultural, economic, educational, social and political. The health status of a society is intimately related to its value system, philosophy, cultural traditions and social, economic and political organisations. Each of these aspects has a deep influence on health, which in turn influences all of these aspects. Thus, health status and quality of life are directly related to wider effort to bring about overall transformation of a society. It is essential to integrate health development with programmes of improvement in such a manner that the two become mutually self-supporting. Good health and good society go together. This is possible only when supportive services such as nutrition and improvement in environment and education takes place.

The health problems need special attention in context of tribal and rural communities. Available research studies point out that tribal population has distinctive health problems which are mainly governed by their habitat, difficult terrains and ecologically variable niches. The health, nutrition and medico-genetic problems of diverse tribal groups have been found to be unique. They present a formidable challenge for which appropriate solutions have to be found out by planning and evolving relevant research studies. Primitive tribal groups of India have special health problems and genetic abnormalities like sickle cell anaemia, G-6-PD red cell enzyme deficiency and sexually transmitted diseases (Commissioner Report for Scheduled Tribe and Scheduled Caste, 1986-87). Poor sanitary conditions, ignorance, lack of personal hygiene and health and the lack of education are main factors responsible for their ill health.

The 11th and 12th Five-Year Plan of India emphasised wider coverage of services, such as primary healthcare for majority of population. For this purpose, various healthcare related programmes have aimed at vulnerable sections of society. Health and Socio economic development are so closely intertwined that it is impossible to achieve one without the other. The people lack awareness regarding preventive measures, identifying symptoms, facilities for early diagnosis and treatment are lacking in rural areas, in general.

Early marriage, reluctance to accept family planning and low literacy rates add to the woes of people especially of women. Due to these reasons population is superstitious and false beliefs are quite predominant in society in tribal and rural areas of Panchmahal. These beliefs include *e.g. eating leafy vegetable is not good for pregnant women among other many of such superstitions*¹. At present a majority proportion (more than 90 per cent) of women are going for institutional delivery owing to programmes like 'Chiranjivi Yojna' and efforts to improve awareness and educate people. However, in order to provide quality antenatal check, quality post natal check, overcome malnutrition and achieving immunization, district has a long way to go.

Sound overall health is a desirable attribute of any modern society. The reproductive and child health indicate status of physical, mental and social well-being of an individual. This facilitates capability to reproduce and freedom to decide if and when decision is to be made regarding reproduction process by an individual. The table 3.1 provide data on birth and death registration and CBR and CDR in the district.

Table 3.1: Birth and Death Rates in Panchmahal, 2013-14

Crude Birth Rate (CBR) and Crude Death Rate (CDR): 2013 per 1000 population			
	CBR	CDR	NRGP
Panchmahals	29.5	4.6	24.9
Gujarat	20.8	5.6	15.2

(Source: CRS-2013, District Performance Monitoring and Control Center (DPMCC), District Panchayat, Godhra)

A perusal of table 3.1 indicates favourable changes in the district. Civil registration systems are considered the best source of information on the crude birth rate. However, some countries, especially those in less developed regions, either lack a civil registration system or have a registration system whose coverage is too incomplete to be utilized. Thus, CDR, IMR, CBR and infant death data show a decreasing trend which is very positive. Continued efforts need to be done to further strengthen this registration system in the district. The table 3.1 indicates that CBR in the district is quite high as compared to the state of Gujarat, However, CDR has much lower compared to the state levels.

¹ As per field study

3.2: Access to Health Facilities

Availability of health institutions and their accessibility is a prerequisite for ensuring good health. The extent of spread and number of health related institutions in the district are discussed here. The table 3.2 provides data on availability of health institutions in the district.

Table 3.2: Availability of Health Institutions in Panchmahal District 2015-16

Types of institutions	No.
District Hospital	1
PHCs	48
CHCs	11
Sub Centres	299
Mobile Medical Unit	03
Grant in Aid Hospital	03

(Source: District Performance Monitoring and Control Centre (DPMCC), District Panchayat, Godhra)

It can be observed from table 3.2 that there is no Government medical college in the district. Only one district hospital exist. The healthcare in rural areas consists of a three tier structure based on predetermined population norms. The sub-centre is the most peripheral institution and the first contact point between primary healthcare system and people. Each sub-centre is manned by one Auxiliary Nurse Midwife (ANM) and one male Multi-purpose Worker [MPW (M)]. A Lady Health Worker (LHW) is in charge of six sub-centres each of which are provided with basic drugs for treatment of minor ailments and are expected to provide services in relation to maternal and child health, family welfare, nutrition, immunization, diarrhoea control and control of communicable diseases. Sub-centres are also expected to use various methods of interpersonal communication in order to bring about behavioural change in reproductive and hygiene practices. The sub-centres are needed for taking care of basic health, needs of men, women and children. There are 299 sub centres in the district.

Primary Health Centres (PHCs) comprise of second tier of institutions in rural healthcare structure envisaged to provide integrated curative and preventive healthcare to the rural population. Its emphasis on preventive and promotional aspects (Promotional activities include promotion of better health and hygiene practices, tetanus inoculation

of pregnant women, intake of IFA tablets and institutional deliveries). PHCs are established and maintained by State Governments under the Minimum Needs Programme (MNP)/Basic Minimum Services Programme (BMS). A medical officer is in charge of the PHC supported by fourteen paramedical and other staff. It acts as a referral unit for six sub-centres. It has four to six beds for indoor patients. The activities of PHC involve curative, preventive, and family welfare services. From table 3.2 it can be observed that there were 48 PHCs functioning in the district.

Community Health Centres (CHCs) forms uppermost tier among health related institutions. They are established and maintained by the State Government under the MNP/BMS programme. Four medical specialists including Surgeon, Physician, Gynaecologist, and Paediatrician supported by twenty-one paramedical and other staff are supposed to staff each CHC. Norms require a typical CHC to have thirty indoor beds with OT, X-ray, Labour Room, and Laboratory facilities. A CHC is a referral centre for four PHCs within its jurisdiction, providing facilities for obstetric care and specialist expertise. There are 11 CHCs operating in Panchmahal district.

Table 3.3: Average Population served (APS) by PHC, CHC & SC in Panchmahals District, 2015-16

Sr. No.	Taluka	APS-SC (nos.)	APS-PHC (nos.)	APS-CHC (nos.)
1	Godhra	4447	23126	231258
2	Kalol	2924	18031	108186
3	Halol	6431	39660	237959
4	Jambughoda	5310	21238	42476
5	Ghoghamba	1496	9930	109234
6	Shehera	2891	17347	138780
7	Morva (Hadaf)	2596	15577	93460
PANCHMAHALS (Avg)		5493	34214	149297
Norms		5000	30000	120000

(Source: District Performance Monitoring and Control Centre (DPMCC), District Panchayat, Godhra)

The average population served by health centres is given in table 3.3. According to total population served, there is need to build additional SCs, PHCs and CHCs in Halol taluka. The number of CHCs is favourable in Kalol, Jambughoda and Morva (H) taluka.

Table 3.4: Clinic Facilities in Panchmahal District

Sr No	Talukas	2015-16	
		Government	Private
1	Godhra	12	22
2	Kalol	6	5
3	Halol	7	8
4	Jambughoda	3	0
5	Ghoghamba	9	0
6	Shehera	7	2
7	Morva(Hadaf)	7	3
PANCHMAHALS		51	40

(Source: District Performance Monitoring and Control Centre (DPMCC), District Panchayat, Godhra)

The table 3.4 provides data related to availability of clinic in different talukas of the Panchmahal. The data related to government and private clinics for 2015-16 are given in the table 3.4. A perusal of table 3.4 reveals that private sector is catering to the needs of healthy living of population in a tribal and backward district as well. As shown in the above table in Year 2015-16, the total number of government clinics in the district was 51 and during same period number of private clinics was 40. The highest number of government and private clinics are located in Godhra. Private clinics are more concentrated in talukas of Godhra, and Morva (Hadaf) compared to other talukas. It may be noted that during last few years a number of private clinics with specialist medical practitioners in different areas of specialisation have started functioning in all nagarpalikas of the district. This will facilitate people of the district to get specialised advice at door steps of households and their services are available round the clock.

Table 3.5: Availability of Beds in Government Clinics in Panchmahal (nos.)

Sr. No	Talukas	2007-08	2015-16
1	Ghoghamba	100	110
2	Godhra	220	720
3	Halol	80	170
4	Jambughoda	40	50
5	Kalol	70	130
6	Morva (H)	80	135
7	Shehera	80	190
Panchmahals		670	1505

(Source: District Performance Monitoring and Control Centre (DPMCC), District Panchayat, Godhra)

The data on number of beds available in government sector have increased in the district, as is clear from the data given in table 3.5 above. The table 3.5 shows highest number of beds available in taluka of Godhra, which is administrative seat of the district. During the period 2007-08 (670) to 2015-16 (1505), in all the talukas the number of beds in government sector have increased in the district.

Table 3.6: Indoor & Outdoor Patients in Panchmahal (in Numbers), 2015-16

Unit	Indoor Patients	Outdoor Patients	Total
PHC	7270	408227	415497
CHC	49381	344804	394185
Total	56651	753031	809682

(Source: District Performance Monitoring and Control Centre (DPMCC), District Panchayat, Godhra)

The information regarding outdoor patients in clinics and hospitals is presented in table 3.6. A perusal of table 3.6 clearly reveals that indoor patients constitutes around 7 per cent of Total Patients treated during the year 2015-16. A total number of 809682 patients in the district visits government PHC or CHC during the year as a patient.

3.3: Health Personnel in Panchmahal

Health problems are often most acute in rural and remote areas, especially in developing countries. But it is difficult to get medical professionals to work in rural and backward areas to serve people. Understandably, most physicians prefer to settle in urban areas offering opportunities for professional development, education and other amenities for their families and attractive employment. As a result, there is a mismatch between the geographic distribution of physicians and perceived need for them. India development goals strongly emphasize equity across regions, with particular stress on improving health status in the most remote and poorly served areas.

Table 3.7: Availability of Medical Professionals in Government Clinics, Panchmahal (2015-16)

Talukas	Doctors	Nurses
Panchmahals	25	40
Ghoghamba	6	6
Godhra	6	22
Halol	4	4
Jambughoda	2	2
Kalol	4	0
Morva(Hadaf)	2	6
Shehera	1	0

(Source: District Performance Monitoring and Control Centre (DPMCC), District Panchayat, Godhra)

The data regarding availability of doctors and nurses according to different talukas in the district are presented in table 3.7. A total of 25 doctors and 40 nurses are present during year of 2015-16 in the district. Godhra has maximum number of nurses available compared to other talukas in the district. The number of nurses to support doctors and take care of patients in other talukas is quite less as compared to Godhra taluka.

The profession of nursing and the supply of nurses to workforce are impacted by societal mandates, legislation, policy, changes in the health care delivery system and reimbursement practices. Shortages are likely to become even more critical, associated with an aging population, greater career opportunities for women, along with higher salaries in private sector.

Table 3.8: Human Resource in Health Sector in Panchmahal District, 2015-16

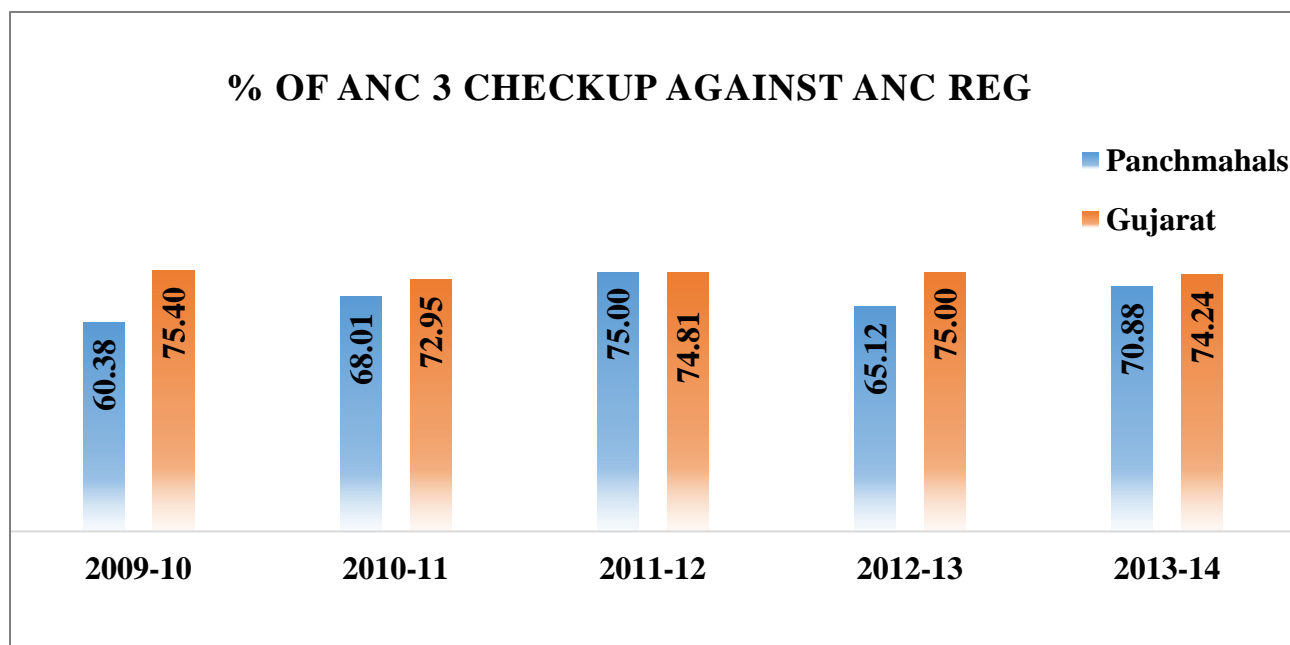
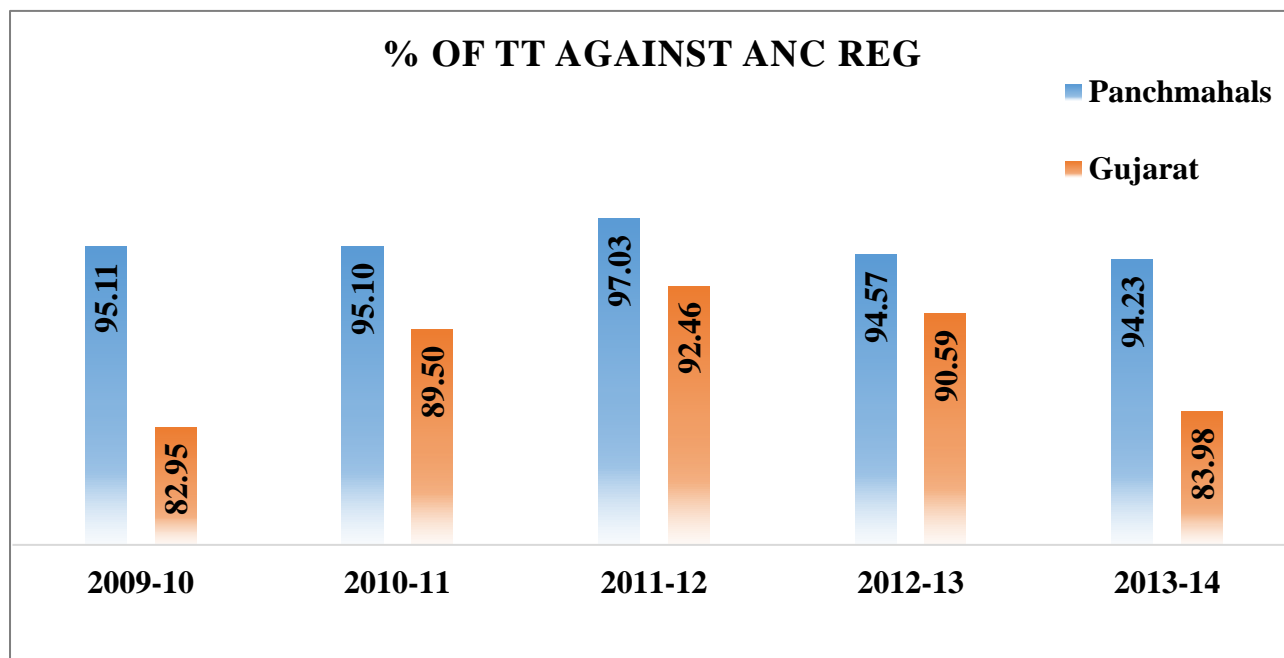
Sr. No.	Post	Sanctioned	Filled up	Vacant
1	C.D.H.O.	1	1	0
2	A.D.H.O.	1	0	1
3	Dist. R.C.H.O.	1	1	0
4	E.M.O.	1	1	0
5	Q.A.M.O.	1	1	0
6	B.H.O.	7	6	1
7	Medical Officer(MBBS)	68	25	43
8	Medical Officer (AYUSH)	34	27	7
9	Laboratory Technician	48	34	14
10	Pharmacist	48	37	11
11	F.H.W.	321	218	81
12	M.P.H.W. (male)	299	242	57
District Program Management Unit (Contractual Staff)				
1	Dist. Program coordinator	1	1	0
2	District Finance Officer	1	1	0
3	M. & E. Assistant {NRHM / RCH-II}	1	1	0
4	M. & E. Assistant {PNDT}	1	1	0
5	Finance Assistant	2	2	0
6	Program Associate (Nutrition)	1	0	1
7	Computer Assistant (RIMS)	1	1	0
Block Program Management Unit				
1	M. & E. Assistant at Block	7	7	0
2	Finance Assistant at Block	7	6	1
3	PHC Accountant cum Data Operator	48	43	5
4	Staff Nurse at PHCs	42	39	3
Urban Health Staff				
1	Urban Health Officer	6	1	5
2	Staff Nurse/PHN	6	1	5
3	M. & E. Assistant	1	1	0
4	ANM/FHW/SN	24	13	11
5	C.B.V.	62	50	12
6	Data Entry Operator	1	1	0
Other Field Staff				
1	ASHA	1433	1314	119

(Source: District Performance Monitoring and Control Centre (DPMCC), District Panchayat, Godhra)

The table 3.8 above shows data regarding human resource availability in health sector in Panchmahal district and vacant positions during 2015-16. A perusal of table 3.8 clearly shows that many positions are vacant in the district. This shortage of staff leads to difficulties in provision of good health among population. This shortage is despite government efforts to train health workers through various training programmes throughout the country for more effective and systematic medical services delivery.

3.4 Maternal and Child Health

Maternal health is the prime indicator of health of a society as the health of a child is directly related to health of mother. In underdeveloped society nutrition in the diet is not adequate to meet the requirement of a healthy individual, in general. The problem of poor nutrition is accentuated further among people suffering from poverty and among female in the society. Therefore a healthy and nutritive diet among female and expectant mother during pregnancy becomes imperative for the health of mother as well as newly born baby. It is widely believed that health of a child needs to monitor right from conception time. The government and various organisations working for improving health among population therefore give special attention to care of pregnant mothers. The figure 3.1 provides data on coverage of providing TT vaccine to registered expectant mothers and the number of check-ups of registered mothers. Figure 3.1 clearly indicates that tetanus vaccine has been injected to only approximately 94 to 97 per cent expectant mothers in the district which is higher than the state average. The figure 3.1 also indicates per cent of registered expectant mothers getting all the three stages of ANC treatment. A perusal of figure 3.1 indicates that the per cent of registered patients getting all stages of treatment are much less in Panchmahal as compared to state percentage. This indicates various talukas and the district as a whole requires a great deal of efforts to improve level and standard of antenatal care among expectant mothers by taking timely and active measures in every aspect of mother and child health care.

Figure 3.1: Tetanus Vaccine (TT) and Antenatal Check-ups, Panchmahal

(Source: Commissionerate of Health, Medical Services, Medical Education & Research, Gandhinagar)

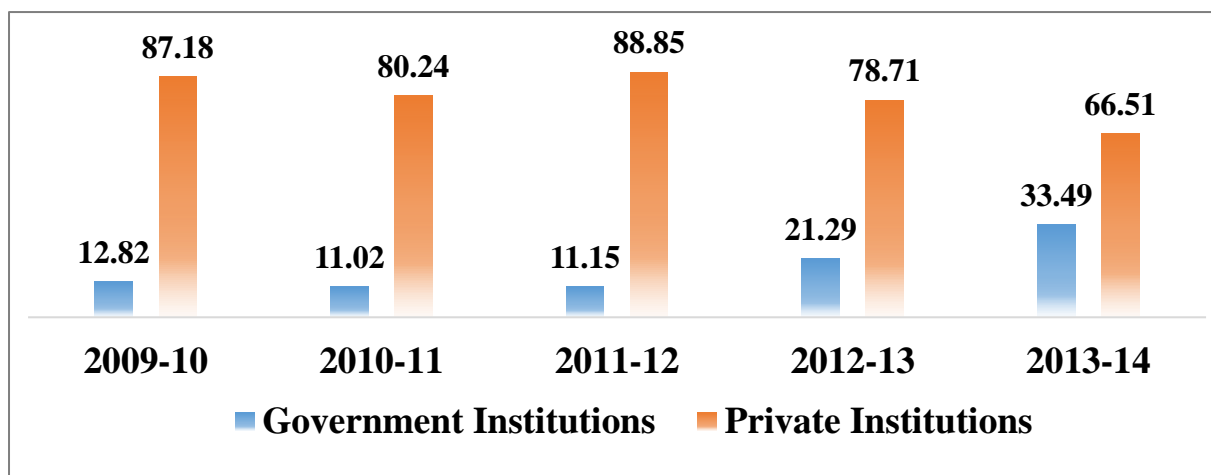
**Table 3.9: Taluka wise Institutional Deliveries in Panchmahal,
(2015-16)**

Taluka	% of Institutional Deliveries
Godhra	99.70
Kalol	99.61
Halol	98.60
Jambughoda	96.90
Ghoghamba	96.60
Shehera	98.80
Morva (Hadaf)	99.90
PANCHMAHALS	98.58

(Source: Commissionerate of Health, Medical Services, Medical Education & Research, Gandhinagar)

The table 3.9 provides data on taluka wise institutional deliveries in Panchmahal district. A perusal of table 3.9 reveals that in the year 2015-16, the per cent of institutional delivery done is 98.58 per cent in the district. It is quite astonishing to note that one of the most backward taluka namely Morva (Hadaf) account for 99.90 per cent (almost 100 per cent) of institutional deliveries among all talukas in the district. Ghoghamba and Jambughoda talukas on the other hand reported minimum per cent of institutional deliveries among all talukas of the district. One of the possible reason for reporting less institutional delivery may be due to the fact that it gets migrant workers to work in industry and they might prefer to go to their native place for delivery purpose.

The figure 3.2 below indicates the per cent of institutional delivery undertaken in Panchmahal district. A perusal of figure 3.2 shows that 2009-10 the private institutions contributed to almost 88 per cent of institutional delivery; however the per cent of institutional delivery in government clinics has been showing an increase from 13 per cent to 34 per cent in 2009-10 to 2013-14.

Figure 3.2: Trends of Institutional Delivery (%) in Panchmahals

(Source: Commissionerate of Health, Medical Services, Medical Education & Research, Gandhinagar)

3.5: Status of Public Health in Panchmahals

In the wake of increasing population and development of technology, personnel managing health services are of great importance in fulfilling objective of good health to people. The status of health is reflected by morbidity and mortality among population.

Poor health and immunity of population is reflected by incidence of various diseases. Sickness not only causes adverse impact on physical health, but it also leads to economic loss, through money spent on treatment and number of days away from work.

Table 3.10: Performance of Immunization, % population Covered (2013-14)

	BCG	DPT-3	Measles	Fully Immunized	Polio-3rd Dose
Panchmahals	98.83	102.92	96.51	89.28	163.77
Gujarat	107.13	107.11	99.86	97.66	90.55

(Source: Commissionerate of Health, Medical Services, Medical Education & Research, Gandhinagar)

The table 3.10 provides data pertaining to performance of various immunization programmes in the district. A perusal of table 3.10 reveals that the immunization performance for various purposes in the district of Panchmahal is only marginally lagging behind compared to performance in whole of Gujarat. In case of polio 3rd dose performance, it much better in Panchmahal district compared to Gujarat.

The table 3.11 provides data on Anganwadi setting arrangement in the district. Anganwadi is a government sponsored child-care and mother-care center in India. It caters to children in the 0-5 year age group. The word Anganwadi means "courtyard shelter". They were started by the Indian government in 1975 as a part of Integrated Child Development Services (ICDS) program to combat child hunger and malnutrition. Anganwadi workers are India's primary tool against the menace of child malnourishment, infant mortality, child education, community health problems and in curbing preventable diseases. They provide services to villagers, poor families and sick people, across the country to help them access healthcare services, immunization, healthy food, hygiene, and provide healthy learning environment for infants, toddlers and children. The data pertaining to anganwadi in Panchmahal district indicates attributes of anganwadi settings in the district.

The table 3.11 provides data related to nutritional status of population in the district in various talukas of the district. The number of Anganwadis operational in each of the talukas is given. A perusal of table 3.11 reveals that taluka of Godhra has the highest number of Anganwadis. In order to gauge the nutritional level of children up to 5 years of age there weight was recorded and the same is presented in table 3.11. The data shows that, Jambughoda and Goghamba-2 having 10 per cent of children underweight. In Panchmahals district, 6.90 per cent children less than 5 years of age are found to be underweight.

The table 3.11 also reveals that around less than 1 per cent to 1.5 per cent children in various talukas/blocks are severely underweight. In Panchmahals district, 0.95 per cent are found to be severely underweight children. Thus it is imperative to focus on health of children in various talukas of the district.

Table 3.11: Nutritional Status, as of March 2015

Talukas & District	No. of AWC Operational	Nutrition Status		
		Total No. of child weighed (0M-5Y)	% of Underweight children	% of severe Underweight children
Jambughoda	65	2940	10.03	1.43
Shehera 1	164	15762	5.89	0.70
Kalol-1	115	8644	5.67	1.13
Halol	256	16524	8.5	1.36
Godhra	468	34914	5.91	0.85
Morva (H)-1	161	9914	9.26	0.64
Goghamba-1	204	10889	10.77	1.35
Kalol-2	111	8285	7.92	1.62
Morva (H)-2	139	10646	6.14	0.63
Shehera- 2	138	13940	3.95	0.62
Ghoghamba-2	179	11142	6.96	0.89
Panch Mahals	2000	143600	6.90	0.95

(Source: MPR, March 2015, Department of Women & Child Development)

The incidence of various vector borne diseases in Panchmahal district is given in table 3.12. National Vector Borne disease control programme (NVBDCP) is a partially centrally sponsored scheme on 50:50 sharing of expenditure between the Central and the State governments incurred for procuring insecticides, anti-malaria drug, vehicles and operational cost for Urban Malaria Scheme, vector control team, etc. The table 3.12 provide data on patients treated for diseases in government institutes during 2013-14 in the district of Panchmahal. The data clearly shows that a variety of diseases are treated in government institutions. There are AIDS patients also which are treated in the district, besides patients of TB, Leprosy Enteric fever, and other diseases.

**Table 3.12: No. of Patients treated for Diseases in Government Institutes
(2013-14)**

District/ State	Gastroenteritis	Infective Hepatitis	Enteric Fever	Malaria	AIDS	Leprosy	TB
Panchmahals	38500	2410	995	3138	575	879	3838
Gujarat	676487	37395	24439	58513	38008	9721	74990

(Source: Commissionerate of Health, Medical Services, Medical Education & Research, Gandhinagar)

During previous years as well incidence of these diseases has been reported. The number of patients suffering from Gastroenteritis and Enteric fever was high during 2011-12. Not a single patient was found suffering from cholera. The number of patients suffering from Gastroenteritis was 11076 in the year 2008-09 whereas it increased to 17439 in the year 2009-10 and to 28180 in 2011-12. The number of patients suffered Enteric fever was 573 in the year 2008-09 which increased to 984 in the year 2009-10 and 1262 in 2011-12. In case of Viral hepatitis it is found that in the year 2008-09 the 229 cases were registered whereas in the year 2009-10 it increased by 265 which declined to 146 in 2011-12 (District Statistical Outline, 2012-13). Although, no deaths were reported but it is clear that incidence of Gastroenteritis and Enteric fever is on the rise and it is imperative that occurrence of these diseases need to be prevented in future to avoid loss of man days in production and distress to population.

3.6: Government Health Schemes and Programmes in Panchmahal

The Government of Gujarat has been responsible for improving health related infrastructure and facilities for people in the state. Special efforts have been made for people living in tribal and backward areas of district. Some of these programmes are detailed below.

Status of Bal Sakha Yojna

In Gujarat each year 12,00,000 children are born and many of mothers die during this process of pregnancy and child birth. Malnutrition and lack of proper required health care for mothers and children are major determinants of maternal and child health. Poor development status of new born, lack of adequate and timely care and poor nutrition lead to thousands of children dying in the State before they even reach their first birthday. These are serious maternal and child health problems and require urgent attention.

Gujarat state has already implemented various schemes like Chiranjeevi Yojana, Bal Bhog Yojana, Nutritious food with Vitamins Yojana (Vitamin Yukta Poshan Ahar), Kanya Kelavani Yatra for saving precious lives of mothers and children, fighting against malnutrition, taking care of primary education and particularly education of girl child. However, there is a need to consolidate efforts and redouble energy to attack the evils of maternal and child mortality. With these aims especially to reduce IMR to 30 from 50 per thousand live births in 2008, Nirogi Balak Yojna was launched in Nirogi Bal Varsh 2008 as an initiative to achieve improved health and education and ensure overall human development in the State. It was considered high time to focus on interventions to reduce mortality in first month of life. It is done through forming strong service delivery mechanism for delivery of neonatal care through Public Private Partnership with practicing private paediatricians on the lines of Chiranjivi Yojna through this innovative Bal Sakha Yojna.

Under this scheme, all children born to BPL mothers in the State (approximately 3,00,000 births per annum) are covered for neonatal care by partnering paediatricians, including care in their Neonatal Intensive Care Unit (level 2) at no cost to the beneficiary. After initialization and stabilization of the Scheme, the Scheme may be extended to cover all infants up to one year age.

Cheeranjivi Yojana: Promoting Institutional Deliveries

The Chiranjeevi Yojana implemented by the Government of Gujarat aims at encouraging the BPL families to improve access to institutional delivery. This is done by providing financial protection to these families and covering their out-of-pocket costs incurred on travel to reach healthcare facility. The scheme also provides for financial support to the accompanying person for loss of wages. The scheme uses several mechanisms to target BPL families. Among them, the main mechanism being used is the BPL card.

The purpose of this programme is to motivate BPL families to choose to undergo institutional deliveries.

- Memorandum of Understanding took place with Private Gynaecologists.
- BPL beneficiaries identified during their ANC registration on first visit and details of the scheme are explained to them.
- Birth Micro Plan is prepared so that activities, responsibilities and proposed timeline could be worked out.
- Health officials make it a point to get at least one ANC check up from the doctor to get acquainted with him.
- On a continuous basis data is collected from Taluka subsequently taluka-wise performance against expected beneficiaries is measured to identify “Left out” cases.
- Regular feedback to the BHO on performance and field visits to beneficiaries to ascertain quality of service provided.

Table 3.13: Beneficiaries under BSY & CY: 2015-16

Panchmahals	Total Institutional Delivery	Beneficiaries	% beneficiaries to Total Institutional Delivery	Enrolled Doctor
BSY	63158	3432	10.86	5
CY		5834	18.47	15

(Source: Commissionerate of Health, Medical Services, Medical Education & Research, Gandhinagar)

The table 3.13 above gives data related to beneficiaries under Bal Sakha Yojana and Chiranjivi Yojana during 2015-16. Under the schemes a total of 20 doctors are enrolled for treatment of needy patients. Under BSY almost 11 per cent of beneficiaries undergoing institutional delivery are covered. On the other hand more than 18 per cent of beneficiaries undergoing institutional delivery have benefited from Chiranjivi Yojana during 2015-16. Thus it is evident from the data in table 3.13 that BSY and CY are being promoted by government to improve health of mother and child both. The success of these programmes will most certainly make the population in the district more healthy leading to overall positive impact of income and standard of living of population.

Box 3. 6: Pushti Project

With a view to address problem of malnutrition among children 'Pushti Project' has been initiated under 'Vikassheel taluka' initiative. Pushti project has been started under this initiative in the most backward taluka of the district namely, Ghoghamba on a Pilot basis. It has been realized that health of a child depends on the nutrition a pregnant female take when the child is still in the womb. Under this project 2288 malnourished and 400 highly malnourished pregnant women are offered protein rich diet, as it is estimated that their diet must contain at least 500 to 600 calorie and 25 grams of protein every day. The food provided was duly tested by government approved laboratory for its nutrients. With these objective expectant mothers are provided 'Sukhadi' containing requisite nutrients. Besides Sukhadi, Upama and Shira also constitute nutritive diet offered to such mothers. This project is likely to reduce MMR and CMR and also improve health of children and problem of malnutrition in the society.

This pilot project has shown very encouraging results. Almost 95 per cent of the new born have normal weight and there is reduction in MMR and CMR under the project. The mothers covered under project had greater per cent of folic acid in their milk compared to mothers not covered under the project, while mothers covered under the project gained in weight and had higher hemoglobin. Thus the project successfully led to improvement in health of mother as well as child covered under the project.

In the second phase of the project (2015-16), it is started in Morwa Hadaf and Jambughoda Blocks. Under the scheme 7 months old pregnant women got "Laddu" (100.gm/laddu) till her delivery. Laddu is made up of highly nutritious 13 ingredients which helps mother to deliver complication free infants and has reduced the rate of complications during delivery. It is observed that average weight of 85% of women had been increased up to 3 to 4 Kgs. The positive effect can be seen that in 80% of women 1 to 2 ml.gm of Hemoglobin has been increased. It has enhanced the birth ratio of healthy babies and reduced discomforts during pregnancy and delivery. The 90% of the borne children carried weight in the green zone according to the WHO Growth Chart.

3.7: Conclusions:

The general health of population is an important prerequisite for human development. Good health allows people to increase their productivity and income levels, this in turn increases their well-being. The government in Panchmahal has consciously made efforts to achieve good health standards among population in the district.

The number of PHCs and CHCs need to be increased and equipped with appropriate medical facilities and also the number of beds in clinics needs to be increased further.

Private clinics need to be promoted in rural areas as well. They should be motivated to provide greater presence in rural and semi urban areas to enable setting up of strong network for providing good medical facility to the population living in hinterland as well.

Increasingly more women are going for institutional delivery owing to programmes like 'Chiranjivi Yojna' and efforts to improve awareness and educate people. However, in order to provide quality antenatal check, quality post natal check, overcome malnutrition and achieving immunization, district needs to make more efforts.

There has been an overall improvement in institutional infrastructure and availability of skilled doctors and other staff in the district. Various proactive measures like Janani Suraksha Yojana, Pushti project, Chiranjivi Yojana and other programmes to improve health of mother and children have been initiated in the district by government.

Regular medical checkup in school are important for early detection and treatment of diseases among children, such programmes need to be further strengthened and made more effective to promote overall good health. These measures and initiatives have started showing positive results in prevention, diagnosis and treatment of diseases allowing appropriate treatment and good health for the population.

Increasing awareness and proactive measures will result in further improvement in health of population in the district.

3.8: SWOC Analysis: Status of Health

- There is a widespread network of PHCs and CHCs across talukas. Private sector clinics are also showing an increase, though in selected regions of the district.
- Preventive vaccination and awareness regarding various diseases is being undertaken among people in rural as well as urban areas of all the talukas of the districts.
- Mother and child health have been in focus, improvement in education is also helping in better health.
- Emphasis on improved nutrition among malnourished, poor, expectant women and children has been focused to improve overall health among population.

STRENGTHS

- The PHCs and CHCs across talukas are short of adequate number of doctors and nurses.
- Though there is an increase in educational infrastructure to train doctors and nursing staff in the state, there is only a limited presence of them in backward and rural areas of the district.
- The Panchayats and Municipalities lack resources and trained manpower to take enough preventive steps for spread of a variety of diseases among population.

WEAKNESS

SWOC Analysis: Status of Health

- There is a growth of overall medical care infrastructure in the district, hence PHCs and CHCs across talukas can be staffed appropriately for providing descent health facilities among population.
- There is a tremendous advancement in medical science pertaining to testing, diagnosis and treatment of diseases, which needs to be used for ensuring good health of population in the district.
- Education and awareness levels are on the rise among population hence increasing efforts for prevention of occurrence of diseases will improve good health.
- Programmes and schemes for improvement of health for women and Children needs to be implemented efficiently and expanded further.
- Women power, through improved education, better health and encouragement, motivation and empowerment in society is going to contribute significantly to human development in future.

OPPORTUNITY

- There is a general lack of interest among medical professionals to work in rural and tribal areas, thus motivating them is a challenge.
- Coordination and synergy among medical professionals in government agencies from PHCs to government civil hospital and Health department of government is another challenge for ensuring better health among population.
- Improving practices of preventive medicine among government administration and medical care staff is a challenge.
- Improvement in cleanliness and hygienic conditions through better functioning of municipalities and local government institutions for improving health standards among population is a challenge.

CHALLENGES

Chapter - IV

LIVELIHOOD



CHAPTER- 4

LIVELIHOOD PATTERN

Abstract

Since ages mankind use its experience and acquired knowledge for satisfying a variety of wants to make a living and improve its standard of living. The nature of pursuits undertaken for this purpose by human beings is largely conditioned by natural resource endowment and level of development. In Panchmahal district, like elsewhere, people are engaged in diverse pursuits for enhancing their wellbeing. However, due to lack of industrialisation, people are predominantly dependent on agriculture and other primary activities. The district is spread over rocky and forest land, leaving less proportion of land, suitable for agriculture operations. Insufficient investment in agriculture infrastructure, adoption of traditional agriculture practices, lack of education and skill development among other factors constrain and restrict livelihood choices of people in the district. Environmental threats such as climate change, unseasonal rains, deforestation, air and water pollution and natural disasters affect everyone. But they hurt poor countries and poor communities most. Climate change is already exacerbating chronic environmental threats, and ecosystem losses are constraining livelihood opportunities, especially for poor people (UNDP, 2013).

A variety of initiatives for empowerment of poor people, use of advancement in science and technology and responsible governance by the state government is diversifying livelihood choices for people in the district. However, a lot needs to be done to provide sustainable livelihood to people at the bottom of the pyramid. The government has launched many programmes and schemes for people to derive maximum benefits from such new initiatives in the district. Strengthening skills of people and improving infrastructure for increased production in agriculture and livestock sector are prime focus of strategy for improving human development and expanding livelihood choices in the district. Since the year 2005 "***Kaushalaya Vardhan Kendras***" have been started for imparting vocational training to rural population, especially to youth and women in the district. The training is provided based on **WISH** concept, i.e. Women oriented, Industry related, Soft skill and Hard core traditional courses, enabling people to adopt diverse livelihood options in the district. Improved public private partnership and

involving other stakeholders is being promoted for improving skills of people and improving livelihood choices for them. Population engaged in agriculture sector, artisans and other craftsmen are encouraged through various flagship and mission mode programmes of the state government to encourage employment generation through development of skills and self-employment. This chapter discusses various livelihood opportunities available to people in the district.

4.1: The Economy

The Panchmahal district is located in the east of Gujarat, constituting hilly and rocky terrain. The geographical encompass is divided into 11 talukas (before bifurcation of Mahisagar District), to facilitate smooth administrative management of the district. Out of these eleven talukas, seven talukas are among “Vikashsheel Talukas” in the state which are named as “**Developing talukas**” for special treatment and their faster economic development by state government. There is a predominance of tribal population in majority of talukas of the district. The Panchmahal district offers diversified livelihood possibilities to its people, as it is endowed with bountiful natural resources. However, livelihood pursuits and economic activity undertaken by people largely depends on level of economic development. This includes capability of human beings to utilise resources, which in turn is determined by social and economic institutions and quality of infrastructure.

Due to hilly terrain, agriculture is practiced with a great deal of constraints and at a subsistence level. Less opportunities in industrialisation further limits livelihood choices for the people. The government has taken new initiatives to improve education and health standards in the district. Further, a variety of programmes and initiatives are underway to enhance skills for self-employment, improve and modernise agricultural practices in the district and boost industrialisation through improvement in infrastructure.

The spread of district is considerably larger from north to south compared to west to east, these results in possibilities of diversified livelihood opportunities for its inhabitants in different talukas. Eastern talukas are traditionally home to tribal population. The mainstay of economy of northern talukas is predominantly agriculture and primary activities with almost negligible industrial base, while western and southern districts are blessed with some industrialisation as well. On the other hand, south eastern districts have more forests and terrain is hilly, adding to greater challenges for its people in livelihood pursuits, as agriculture operations become difficult to undertake. The considerable backwardness in "Developong Talukas", has led to special efforts for their development through additional financial grant and taluka specific programmes.

Despite availability of diverse and rich mix of natural resources and factors of production, the district is relatively less developed. This is owing to the fact that a majority of resources are not fully utilised and their potential for development is yet to be completely harnessed in the district. The economic activity and vocations undertaken by people is dependent on factors like education, health, skills of population besides geographic location, natural resource availability, technological advancement and other such economic and non-economic factors. In talukas located in south of the district, employment in industrial sector is available as an option for livelihood due to presence of manufacturing firms. With spread of benefits of economic liberalisation and higher growth in the state of Gujarat, new vocations for living are accessed by people of Panchmahal district as well.

Thus, overall, people in the district depend on agriculture and other primary activities for their livelihood; however, choice of livelihood options is much wider in the south – west talukas due to some industrialisation and vicinity to major urban centre namely Vadodara. Some of the talukas, located in the eastern part of the district are tribal dominated, and are extremely backward with regard to utilization of resources and livelihood options available locally to people. The people living in these areas are mostly Bhils, Rathava, Nayak, Tadvi, Vasava and Patelia. The district is inhabited by Hindus, Muslims, Voras, Parsis and people of other religion. The district receives an average annual rainfall of 823.50 mm during last 10 years. It received an average annual rainfall of 937 mm during 2007 – 2014. In all, nine rivers flow through the district, it also has four principal dams, besides other smaller dams and village ponds. The principal crops

grown in the district are maize, bajri, tuar, moath, groundnut and other vegetables. The tribal people also depend on forest based products and other primitive occupations to supplement their incomes. The district thus provides a unique setting of tribal and poor regions together with regions of extensive agriculture and other regions in which modern industrial activities are practiced for livelihood by people.

The district is primarily a rural district, with low levels of urbanisation (14 per cent). Out of 11 talukas, 100 per cent population in five talukas, live in rural areas, while Godhra taluka has highest urbanisation (35.12 percent). This clearly indicates that it has a rural economy, dependent primarily on agrarian economy. The Godhra taluka is also largest according to land area, while Jambughoda in south is smallest taluka area wise according to the 2011 population Census. The taluka of Godhra has the highest population density while Kadana taluka is most sparsely populated, among all talukas in Panchmahal district.

4.2: Economic Resource Base

The agriculture in the district is mainly dependent on rainfall, which is erratic and uncertain. There is good possibility of increasing produce by using scientific advancement in agriculture research and technological progress. Agriculture and forest in the district supports rearing of livestock as a supplementary economic activity and contributes to additional income for households. The district is also endowed with high quality of minerals. The principal minerals found are quartz and manganese. The other mineral found in the district include apatite, lime stone, feldspar, calcite, fire clay, china clay, bauxite, dolomite, etc. The minor minerals found in the district include brick earth, gravels, black trap, silica, road metal and others. The hilly terrain, rivers and forests also provide for some breath-taking scenic places and religious shrines in the district. The temple of Goddess Kalika at Pavagadh, ancient remains at Champaner (a world heritage site), hot water well at Tuva, Kaleshwari memorial, mardeshwar mahadev, gupteshwar mahadev temples, Jambughoda Century Park and others provide for huge possibilities of religious cum historical tourism combined with eco-tourism. A large employment can be generated if such tourism circles can be developed in the district.

Tourism activities have significantly large linkages with other services like hotels and restaurants which provide employment to poor people as well. It has linkages with other local services and hence can be a source of employment and income for local people. However, tourism sector in the district has not been given attention for creating potential employment in the district owing to less facilities for tourists. Thus, tourism has been ignored in terms of economic activity in the district, which has the potential to be an engine of growth for the district.

Despite such a bountiful, diverse and rich mix of natural resources people of district are underdeveloped, based on most of the economic indicators, e.g. majority of population live in rural areas and are dependent on agriculture and primary activities, industrialisation is limited to a few talukas only, people suffer from poor education and health standards in the district. This is owing to the fact that full potential for employment and income generation is yet to be harnessed. Huge diversified efforts with implementation of programmes like **"Kaushlya Vardhan Scheme"** has been launched for skill development and capacity enhancement by the government have started showing positive results. Improvement in education and health related indicators allowing people to acquire better skills for self-employment and practice diversified livelihood choices, for benefit of population in the district is taking place.

4.3: The Livelihood Choices

The access to livelihood opportunities is governed by social relations, institutions and organisations, and it includes power as an important explanatory variable (Haan Leo de and Zoomers Annelies, 2005). The Panchmahal district is predominantly a rural agrarian district with industrial growth largely restricted to talukas adjoining Vadodara district. Given the fact that tertiary services are at initial level of development, the majority of livelihood choices therefore are largely available in primary activities of agriculture and related activities like livestock, fishing and poultry and mining. Industrial activity is limited to only a few talukas in the district as indicated by presence of industrial shades in talukas of Halol, Kalol, Godhra and Jambughoda. In all other talukas industrial activity is minimum and is restricted to artisans and small time vendors, while commerce and trade also provide opportunities for employment to a limited extent. The population of talukas of Godhra, Kalol and Halol have advantage of getting livelihood through employment in industry. Some of large firms with huge investments located in adjoining Vadodara district have led to emergence of ancillaries in the region, creating employment for people of neighbouring talukas of Panchmahal district too.

The economic activity is likely to increase due to state government efforts of providing electricity to all villages in the district. Besides, the livelihood choices will be diversified due to ever improving road connectivity in the district as amplified by existence of 49 kilometres of national highways, 764 kilometres of state highways, 799 kilometres of district main roads, 427 kilometres other district roads and 2297 kilometres of village roads (Socio Economic Review, 2014-15, Panchmahals District). The availability of electricity and improved road length will aid in opening of more diversified livelihood opportunities and bring about further efficiency advantages for economy of the district.

The livelihood pattern of population in the district is presented in following paragraphs.

1) Agriculture:

The agriculture and allied activities is mainstay of sustenance for people in majority of talukas in Panchmahal. Agriculture activity in the district is of subsistence level generally, as productivity is low due to lower irrigation facility and traditional and unscientific practices employed for cultivation. Thus, agriculture cultivation is primarily dependent on monsoon rainfall. It is obvious that most of the cultivation is done for self-consumption, on limited cultivable land. The land allocated for cultivation of cash

crops and fruits are negligible. The commercial cultivation of agriculture is undertaken on a very small area in the district, labour intensive methods are employed with little mechanisation. This explains low levels of income of people engaged in agriculture. Moreover, uncertain rainfall, overall poor infrastructure, imperfections of market, lack of extension services and traditional practices in agriculture are a hindrance in increasing productivity.

The land allocation and agricultural production in various crops during 2010 - 11, 2011 - 12 and 2012 - 13 in Panchmahal district is presented in table 4.1 below. In Panchmahal district highest acreage is allocated to maize among food grains, followed by rice, wheat, bajara, tur, urad and other minor crops during these years on an average. Among other crops castor, black gram, groundnut, cotton, sesame, tobacco and others are also grown in the district. The area, production and productivity of these crops are as shown in the table 4.1. It is clear from table 4.1 that land allocated for cultivation of maize and wheat has shown an increase during the three years as shown in table while area allocated for rice cultivation has declined marginally during these three years. The area allocated for oilseeds cultivation though small but has doubled during the three year period. The area under other crops has only changed marginally as shown in the table 4.1. A total of 12156 hectare is also devoted for forage cultivation during 2011 – 12 which helps in livestock rearing.

Table 4.1: Estimated Area, Production and Productivity of Major Food crops in Panchmahals District

(Area in 00 ha. Production in 00 M.T., Yield in kg. /ha.)

No	Food Crops	2010-11			2011-12			2012-13		
		Area	Prod	Yield	Area	Prod	Yield	Area	Prod	Yield
1	Rice	709	610	860	791	1008	1274	675	1197	1773
2	Jowar	21	23	1095	7	8	1143	6	6	1000
3	Maize	1165	1635	1403	1452	1922	1324	1414	2297	1625
4	Wheat	181	380	2099	295	717	2431	391	1233	3153
5	Urad	37	49	1324	22	12	545	29	24	826
6	Groundnut	36	64	1778	62	117	1887	47	103	2210
7	Oilseeds	102	155	1518	229	389	1699	211	469	2217
8	Onion	4	108	27000	3	92	30667	2	44	22000

(Source: Directorate of Agriculture, GoG, Gandhinagar)

The irrigation network is being expanded in the district to facilitate sustainability of agricultural production in the district. During 2011-12, a total of 51465 hectares of land was irrigated. Almost 70 per cent (35084 ha.) was irrigated through well while approximately 19 per cent was irrigation through canals, 10 per cent through check dams while the remaining irrigation was done through village ponds and tube wells in the district (District socio-economic review, 2011-12).

The table 4.2 provides data related to Vegetable cultivation in the district. The data related to area allocated, production and yield during three years 2011-12 to 2013-14 under various vegetables is given in the table. It is clear from the data that during the three years there is an increasing trend of cultivation of vegetable crops in the district. The highest land is allocated to Okra among all the vegetables in 2013-14 followed by cucurbit and brinjal. Other vegetables like cabbage, tomato, cauliflower etc. are also cultivated in the district.

Table 4.2: Estimated Area, Production and Productivity of Vegetable crops in Panchmahals District

(Area in ha. Production in M.T., Productivity in M.T. /ha.)

No	Vegetables	2011-12			2012-13			2013-14		
		Area	Prod	Yield	Area	Prod	Yield	Area	Prod	Yield
1	Brinjal	650	7150	11.00	675	9517	14.10	750	13260	17.68
2	Cabbage	350	4235	12.10	375	4950	13.20	400	6000	15.00
3	Okra	700	3535	5.05	1000	8500	8.50	1300	11440	8.80
4	Tomato	280	5880	21.00	300	6630	22.10	530	10600	20.00
5	Cauliflower	300	3750	12.50	325	4907	15.10	370	5920	16.00
6	Cluster bean	550	3291	5.98	620	5208	8.40	700	6510	9.30
7	Cowpea	200	1240	6.20	210	1995	9.50	350	3430	9.80
8	Cucurbits	710	6816	9.60	840	9850	11.73	1000	12750	12.75

(Source: Director of Horticulture, GoG, Gandhinagar)

The people in the district of Panchmahals are also adopting fruit production. Although the cultivation of fruits is done only on limited area but during the three years shown in table 4.3 it is clear that gradually land allocated to horticulture is increasing indicating a greater adoption of such crops by people of Panchmahals. It is also observed that people are increasingly adopting fruit cultivation in the district.

Table 4.3: Estimated Area, Production and Productivity of Major Fruit Crops in Panchmahals District

(Area in ha. Production in M.T., Productivity in M.T./ha.)

No	Major Fruits	2011-12			2012-13			2013-14		
		Area	Prod	Yield	Area	Prod	Yield	Area	Prod	Yield
1	Mango	2510	14558	5.80	2600	15340	5.90	2710	14228	5.25
2	Chiku	215	1535	7.14	220	1642	7.46	230	1702	7.40
3	Citrus	670	6365	9.50	700	6720	9.60	800	7600	9.50
4	Ber	140	1001	7.15	150	1480	9.87	155	1535	9.90
5	Banana	400	12400	31.00	450	17950	39.89	500	18600	37.20
6	Guava	120	1476	12.30	125	1525	12.20	130	1573	12.10
7	Pomegranate	125	525	4.20	100	1125	11.25	102	1152	11.29
8	Papaya	280	10080	36.00	380	11082	29.16	400	18000	45.00
9	Custard apple	200	1230	6.15	230	1426	6.20	240	1920	8.00
10	Aonla	510	4105	8.05	530	4240	8.00	510	4080	8.00

(Source: Director of Horticulture, GoG, Gandhinagar)

The table 4.4 provides data pertaining to size of landholding among households belonging to various social groups. A perusal of table 4.4 reveals that other social groups constitute highest proportion of landholding among all size groups of farmers followed by ST and SC respectively. Overall, among all households owning land.

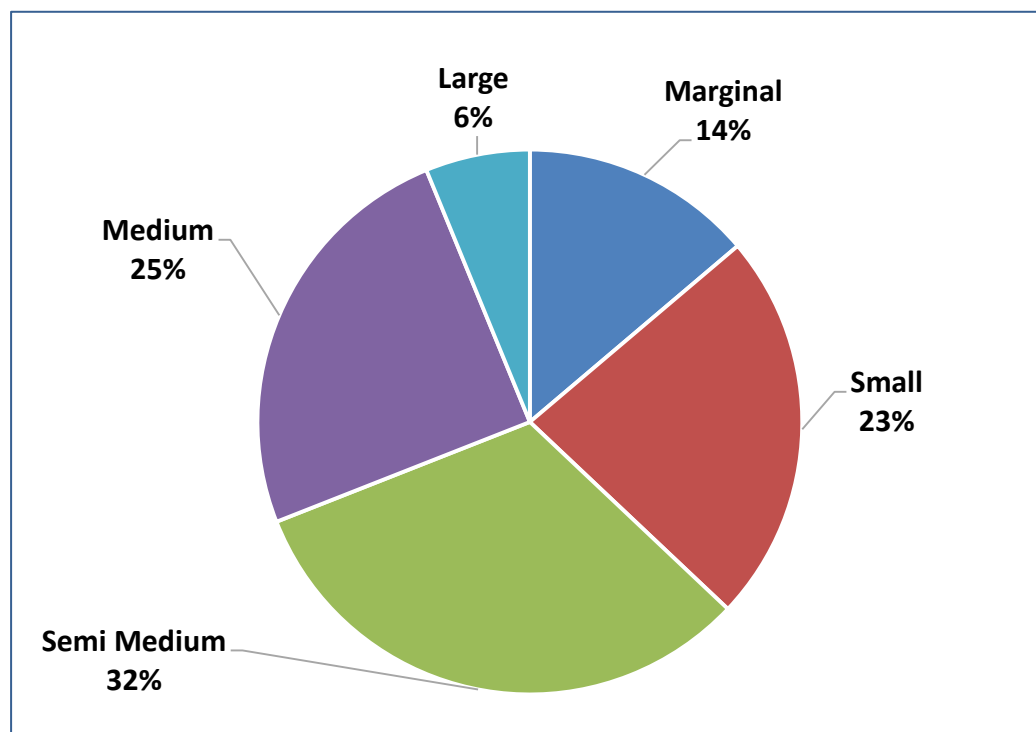
Table 4.4: Distribution of Size of Landholding and Social Groups: 2010-11

(Area in hectares)

Size Class	Institutional		SC		ST		Others		All Social Group		Avg. Land Holding per person (all Social Groups)
	No	Area	No	Area	No	Area	No	Area	No	Area	
Marginal	3	2.21	4143	1666.69	15717	7361.41	87097	34279.44	106960	43309.75	0.40
Small	1	1.97	1545	2207.48	11317	16467.61	37772	54151.57	50635	72828.63	1.44
Semi Medium	0	0	932	2494.98	8306	23010.58	27126	74775.04	36364	100280.6	2.76
Medium	0	0	180	951.33	3343	18551.85	10486	58137.17	14009	77640.35	5.54
Large	0	0	3	160.56	175	2359.08	781	16932.29	959	19451.93	20.28
All Classes	4	4.18	6803	7481.04	38858	67750.53	163262	238275.5	208927	313511.3	1.50

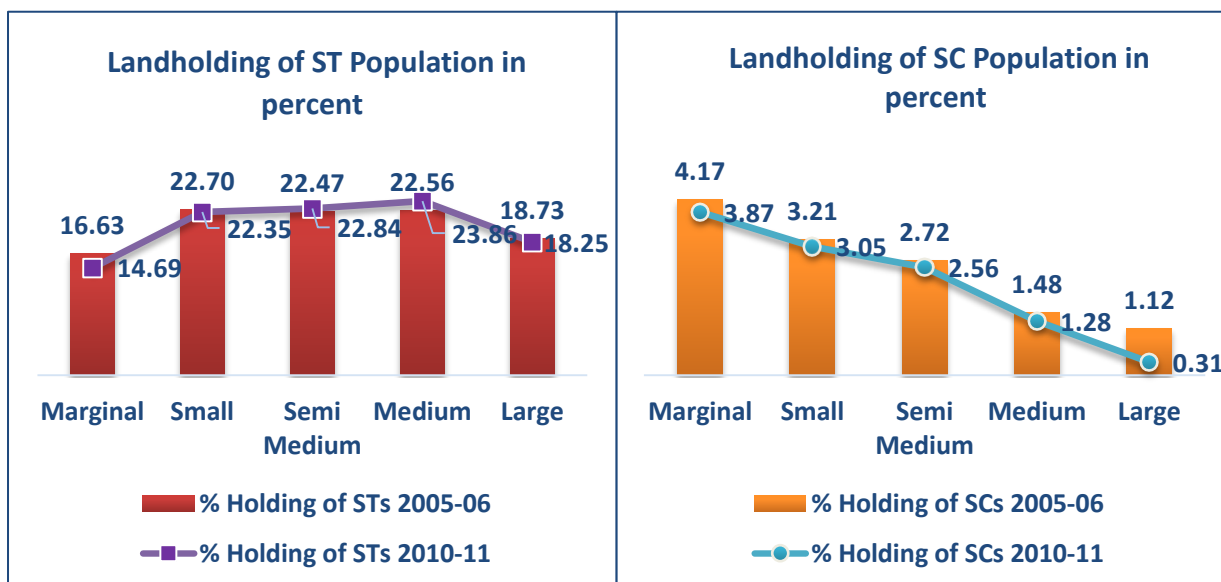
(Source: Agriculture Census, 2010-11)

Figure 4.1: % of size of landholdings against total area (2010-11), Panchmahals



(Source: Agriculture Census, 2010-11)

The above figure 4.1 also reveals that highest proportion of landholding belongs to semi medium categories of farmers, followed by small and medium landholding farmers. The proportion of large landholding farmers is smallest compared households with different landholdings in the district.

Figure 4.2: Landholdings among SCs and STs Households

(Source: Agriculture Census, 2010-11)

The above figure 4.2 provides land holding among SCs and STs Population of farmers in Panchmahal district. The figure clearly indicates that among SCs the highest proportion of land is owned by Marginal farmers followed by small farmers, Semi marginal farmers, medium farmers and then by large farmers respectively. Similarly, among farmers belonging to ST social group of population, highest proportion of land is owned by Small farmers followed by medium sized landholding farmers, then by Semi medium, Large and Marginal landholding farmers, respectively. Thus it clearly indicates that larger proportion farmers belong to medium landholding in ST in comparison to SC population.

Among all social groups in panchmahal district, semi medium size of farmers owns highest proportion of landholding followed by medium, small and marginal farmers. On the other hand, large farmers own the lowest per cent of land among all size of farmers in the district. Thus, semi medium and medium size of farmers constitute majority of farmers in the district. While importantly, the marginal farmers constitute a relatively small proportion of farmers in the district.

New Initiatives in Agriculture:

The state has initiated many new programmes for improvement of agriculture practices and increasing agriculture production growth in the district. The government launched a special initiative in the form of "**CHALO TALUKE**" which means 'let us go to taluka' for bringing grassroots changes in the way of policies are implemented. Under this initiative in agriculture sector important programmes include special programme for BPL families, horticulture improvement to increase cash in the hands of farmers, improved technology use and post harvest facility up gradation, education of women in agriculture, flowers and medicinal plants production programmes, distribution of fertilisers, and other such programmes are likely to give a fillip to the agriculture sector production in the district. Awareness is being promoted through organising programmes like "*Krusha Mahotsava*" the agricultural festival, aimed at increasing output and productivity through focusing on technology, improved water management, rural infrastructure, agriculture diversification and private sector investment in rural areas.

2) Animal Husbandry, Dairying and Fishery:

Livestock rearing and animal husbandry traditionally go hand in hand with agriculture and are complimentary activities. Along with poultry and fishing, it is a source of additional income and adds to uncertain agriculture, dependent on erratic rainfall. According to 19th Livestock census held in 2012 there are a total of 673509 number of cows, 733489 buffalo in Panchmahal district. Santrampur taluka has the maximum number of cows while highest number of the buffalo's population is in Lunawada taluka. Among all talukas in the district, population of livestock is considerably more in northern talukas of the district namely, Lunawada, Shehera, Santrampur and Kadana compared to the southern talukas, indicating greater dependence of population on primary activities and absence of other means of livelihood for population.

The other animals include horses, donkeys, rabbit, camel and others. Despite recent government efforts to increase productivity in livestock production, there is a general lack of scientific management of livestock wealth in the district. The people are ignorant of ways of modern and scientific practices of rearing livestock, to improve income levels and living standard through efficient management of livestock wealth. Likewise fishing has not been given adequate attention despite its potential in various talukas and villages to supplement crucial income and nutrition among population. Government has

initiated many programmes for population for improving incomes from livestock and other primary activities in the district. In the district, a total of 7475 artificial insemination were performed, while 126041 cases of attending to livestock were recorded during 2014-15. Besides, during 2014-15 a total of 12427 khasikaran, 633290 vaccinations were performed and 1730 cases of infertility were treated (Socio Economic Review, 2014-15, Panchmahals District).

The “*CHALO TALUKE*” initiative is likely to bring about a sea change in attitude of district officials as well as rural people for bringing about grassroots changes regarding various government programmes and building trust among each other. For effectively increasing productivity and livelihood opportunities, government has initiated programmes like free distribution of seeds of grass, organic fertilisers, distribution of better instruments for cutting of grass, cattle shed construction, help small farmers in adopting better livestock practices, no profit basis distribution of green fodder in tribal and non- tribal areas, camps for genetic improvement of livestock and spread of hybrid livestock and other such schemes are likely to improve benefits and yields from livestock sector in the district.

The practice of dairying is picking up among population of the district. It is a common knowledge that dairying goes very well with agriculture and is a complimentary vocation of agricultural activity.

Table 4.5: Talukawise Milk Co-operative Societies (nos.) and Milk Collection (2014-15)

Sr. No.	Taluka	No. of Milk Co-operatives	Members	Total Milk Collection (Liters)
1	Khanpur	117	17394	18742598
2	Kadana	169	23162	14069306
3	Santrampur	149	22734	12340267
4	Lunawada	296	51262	41875230
5	Shehera	149	28001	18612812
6	Morva (Hadaf)	54	8349	2919460
7	Godhra	149	21886	16549297
8	Kalol	96	23813	16943431
9	Ghoghamba	106	16220	9889555
10	Halol	109	12426	8639144
11	Jambughoda	40	2962	3721539
Total		1434	228209	164302639

(Source: District Statistics Office, Godhra)

The table 4.5 provides information on the number of milk cooperatives in different talukas and milk collection in each of the talukas of Panchmahal district. The data clearly indicates that Lunawada taluka has the highest number of milk cooperatives as well as the milk collection is maximum compared to all talukas of the district. Talukas of Khanpur, Shehera and Kalol occupies the distinction for being the second, third and fourth highest milk collectors among all talukas. While, Jambughoda has the least number of milk cooperatives, as well as milk collection among all talukas. However, in terms of number of milk cooperatives in talukas, talukas of kadana has the second largest number of milk cooperatives, while Santrampur, Shehera and Godhra all have the third highest number of milk cooperatives among all talukas of the district.

Fishery:

For fishery sector development, boat and net are being distributed; improved fishery seed distribution, marketing schemes, housing schemes, life jacket and other welfare schemes for fishermen have been implemented. Efforts are made for greater acceptance of these schemes among population near existing water bodies in the district. As per 2007 livestock census there are 15330 fishermen in the district. In the year 2011-12, a total of 2146 boats including one mechanised boat for catching fish in the district are reported. A total of 2915 active fishermen are present in the district. There are 21 cooperatives of fishermen having 3523 members are reported to exist in the district. A production of 3125 metric tonnes of fish was done in the district during 2011-12 (Socio-economic review, Panchmahal, 2012-13). The implementation of various programmes has led to large benefits for people; however, continuation and meaningful adoption for successful implementation of these efforts are going to be a huge challenge. However, once effectively used and institutionalised, it will be a great boost to the incomes of the population in the district.

3) Industry:

In order to develop industry and help rapid industrialisation in district, Industrial estates have been established in various talukas through the aegis of Gujarat Industrial Development Corporation (GIDC), Gandhinagar, since beginning of economic planning. The industrial estates in talukas of Godhra, Kalol and Halol are very well established. In Jambughoda taluka also there are a functional industrial estate. A new industrial estate is being setup in Shehera taluka for promoting industrialisation of northern region of the

district. This is likely to further enhance employment and livelihood opportunities for the people of Panchmahal district. The following table 4.6 provides status of important industrial estates developed by GIDC. It is clearly evident from the table 4.6 that industry in the district provides employment opportunities mainly in talukas of Halol, Godhra, Kalol, Jambughoda and all other talukas depend on other economic activities for employment generation and virtually no industrial unit exist in other talukas.

Table 4.6: Status of GIDC Industrial Areas in Panchmahal, 2013-14

Sr. No	Industrial Area	Land acquired (In ha.)	Land developed (In ha.)	Prevailing Rate Per Sq.m. (Rs.)	No. of Plots	No. of allotted Plots	No. of Vacant Plots	No. of Units in Production
1	Asayadi	06.07	06.07	100/-	38	38	Nil	Nil
2	Godhra	19.62	19.62	395/-	165	165	Nil	165
3	Halol	461.00	461.00	525/-	715	715	Nil	715
4	Jambughoda	01.14	01.14	55/-	14	14	Nil	14
5	Kalol	71.07	71.07	335/-	181	181	Nil	181
6	Shehera	04.07	04.07	-	28	Un Allotted	28	Nil

(Source: - DIC data, DIC, 2013-14, Halol)

The GIDC provides for basic infrastructure and other facilities for facilitating industrialisation leading to reduced dependence of population on agriculture and other primary activities for livelihood. Provision of electricity in all villages of the district will further promote self-employment and increased industrial activity and facilitate improvement in incomes and livelihood options for people.

In all, as per District Statistical Outline 2013-14, there are 136 registered small enterprises providing employment to 1752 persons. The maximum number of 31 units of Repairing & Services related work providing employment to 237 persons exist in the district, followed by machinery other than electricity and automobile related providing employment to 582 persons, 28 Rubber and Plastic units providing employment to 275 persons, 12 Iron metal related units providing employment to 145 persons, Food industry has 8 units providing employment to 66 persons, 12 units of Chemical industry provided employment to 115 persons, while other units provided remaining employment during 2013-14.

Further, during 2013-14 number of industrial sheds in the district are 308, with maximum 169 sheds in taluka of Halol, 69 sheds in Godhra, 64 in Kalol and only 6 sheds in taluka of Jambughoda. This clearly indicates dependence of population for livelihood on non-industrial activities. Among medium and large industry there exist a total of 19 units with investment of Rs. 645 core providing employment to 6356 persons according to district socio-economic review 2011-12. Thus, industry provides employment possibilities and livelihood options in selected talukas of the district. Thus, large investments are concentrated in few talukas. Owing to this, government is focusing on encouraging small enterprises and business in the district, which is likely to harness and encourage enterprise of people in all the talukas.

The table 4.7 below provides data on growth of industrial activity in the district during recent eight years according to District Industry Centre, Godhra.

Table 4.7: Taluka wise Details of Investment and Employment Generated in Panchmahals District (During Year 2006 to 2014)

Sr. No.	Taluka	Units (nos. as on end 2014)	Investments (Rs. In Lakhs, 2006 to 2014)	Employment (in nos. of persons, as on end 2014)
1	Ghoghamba	8	49.32	40
2	Godhra	297	18238.81	3277
3	Halol	550	33310.68	9538
4	Jambughoda	24	135.31	69
5	Kadana	14	34.55	48
6	Kalol	115	7388.82	1518
7	Khanpur	9	264.95	76
8	Lunawada	51	1017.3	298
9	Morwa (Hadaf)	43	525.74	166
10	Santrampur	54	413.45	203
11	Shehera	42	214.15	113
Total		1207	61593.08	15346

(Source: DIC, Godhra, 2014)

A perusal of table 4.7 indicates that the number of industrial units existing in the district at the end of 2014 is 1207. A majority of industrial units are located in Halol, followed by Godhra and Kalol talukas. In other talukas, a small number of industrial units exist.

It is clear from the table 4.7 that majority of investment occurs in these three talukas only and therefore in these three talukas people have an alternate source employment in industrial sector. However, in whole of district 15 thousand odd persons only get employment in this sector. This further implies that people are dependent on agriculture and other primary activities for their livelihood. As it is well known that industrial sector suffers from cyclical nature of business and therefore the employment generated as well as investment in industrial sector is prone to be affected by business cycle movements, in a district like Panchmahal. During boom periods more units are being registered in the district, providing larger employment opportunities in sectors other than agriculture. Hence there is increased need to strengthen agriculture and allied sector as well as further push industrialisation for ensuring inclusive growth of population of the district.

In the wake of absence of large scale industry, the government is promoting various programmes for development of manufacturing skills and industrial activity among rural population. The table 4.8 below provide details of MSMEs registered, investment done and employment generated in various talukas of the district during 2010-11 to 2012-13 for three years. It is clear from table 4.8 that in talukas of Jambughoda, Shehera and Kadana no unit was registered during 2010-2011, while Halol accounted for highest number of units, investment in plant and machinery and employment generated during 2012-13, followed by Godhra taluka and Kalol taluka. In all other talukas only a few units were registered accounting for quite low level of investment and generating less employment as evident from the table 4.8. Although it is clear that talukas like Morva, Khanpur, Ghoghamba, Santrampur and Lunawada have also registered some units in manufacturing, and is likely to further boost investment in these talukas.

The table shows that in Kadana, Khanpur and Jambughoda no units were setup while highest number of units were setup in talukas of Halol followed by Godhra and Kalol, similar situation prevailed in the following year of 2012-13 as well. Thus, industrial activity in the district is mainly concentrated in talukas of Halol, Godhra and Kalol. In case of investment in plant and machinery and employment generated during three years, Halol account for maximum investment and employment among talukas. This is followed by investment in Godhra and Halol for all the three years.

Table 4.8: Taluka wise MSME Registered, Investment undertaken and Employment Generated (No.) in Manufacturing Sector

No	Taluka	Units (No)			Investment in Plant and machinery (Rs. Lakh)			Employment Generated (No.)		
		2010-11	2011-12	2012-13	2010-11	2011-12	2012-13	2010-11	2011-12	2012-13
1	Ghoghamba	2	1	0	20.25	1.00	0.00	20	3	0
2	Godhra	37	28	27	2523.70	1659.5	1845.2	436	297	164
3	Halol	62	104	80	2041.17	2695.0	2461.5	806	1315	883
4	Jambughoda	0	0	13	0.00	0.00	8.27	0	0	30
5	Kadana	0	0	2	0.00	0.00	1.50	0	0	3
6	Kalol	13	9	18	193.33	410.00	1539.0	117	150	283
7	Khanpur	2	0	1	47.00	0.00	24.00	22	0	11
8	Lunawada	2	3	15	20.20	106.00	114.40	27	43	66
9	Morva	3	5	8	151.00	2.50	141.10	28	14	54
10	Santrampur	6	2	11	26.50	50.00	7.45	43	33	29
11	Shehera	0	6	9	0.00	6.55	3.55	0	19	14
Total		127	158	184	5023.15	4930.7	6145.97	1499	1874	1537

(Source: DIC, Godhra, 2014)

Thus, the table 4.8 shows that the number of units registered, investment and employment generated has been increasing in the district. Some investment is also being undertaken now in talukas where no or minimum industrialisation exist.

4) Services:

With faster growth rate of production in the state, spread of services is taking place in Panchmahal district as well. According to Life Insurance Corporation of India, Panchmahal regional office, it has more than 1200 agents in the district during the year 2012-13. The number of such agents in private insurance firms is also increasing by the day. There is need to promote insurance products for people dependent on agriculture and livestock activities so that rural folk benefit from it. A total of 173 public sector banks including rural bank branches and 19 cooperative bank branches are present in the district in (Socio Economic Review, 2014-15, Panchmahals District). All the major Indian private sector banks have their presence at the district headquarters.

Thus, population at the district headquarters has fairly good access to financial institutions, whereas in rural areas a lot of efforts are required for increasing financial inclusion among population.

The table 4.9 provides data on number of units registered, investment and employment generated in services during 2010-11 to 2012-13 according to different talukas in the district.

Table 4.9: Taluka wise MSME Registered, Investment undertaken and Employment Generated (No.) in Services Sector

Sr. No	Taluka	Units (No)			Investment in Plant and machinery (Rs. Lakh)			Employment Generated (No.)		
		2010-11	2011-12	2012-13	2010-11	2011-12	2012-13	2010-11	2011-12	2012-13
1	Ghoghamba	0	0	2	0.00	0.00	3.50	0	0	8
2	Godhra	13	33	22	136.40	122.04	27.55	70	98	74
3	Halol	8	17	0	15.50	20.30	0.00	41	50	0
4	Jambughoda	0	0	8	0.00	0.00	2.60	0	0	10
5	Kadana	0	0	12	0.00	0.00	11.05	0	0	45
6	Kalol	1	19	4	4.00	17.85	7.50	9	30	11
7	Khanpur	0	0	0	0.00	0.00	0.00	0	0	0
8	Lunawada	0	7	12	0.00	11.55	14.55	0	22	28
9	Morva	1	5	17	1.00	4.20	19.07	2	10	97
10	Santrampur	3	0	22	8.00	0.00	14.50	6	0	33
11	Shehera	0	3	17	0.00	3.10	7.75	0	8	23
Total		26	84	116	164.90	179.04	108.07	128	218	329

(Source: DIC, Godhra, 2014)

A perusal of table 4.9 reveals that in case of availability of various services, Godhra taluka is the leading taluka among all the talukas. It is clear from table 4.9 that Godhra taluka account for most number of service units in the district; however in 2012-13 there have been an encouraging number of units being registered in other talukas also.

In only one taluka namely Khanpur, no service unit has been registered during three years period. The table also reveals that in Godhra taluka highest investment has been done among all the talukas in services units. During all the three years, highest number

of employment has been generated in Godhra taluka, however, in 2012-13 Morva has seen highest employment generated among talukas in the district. Overall, the taluka of Godhra received more investment and highest employment is generated compared to other talukas of the district.

The government is running employment office in the district as well. A total of 17483 people were registered, out of which during the year 2014-15, 14552 people were provided employment. At the end of the year 2014-15, 2931 people were registered for seeking employment (Socio Economic Review, 2014-15, Panchmahals District).

5) Employment generation in other activities

The economy of Panchmahal district is dependent on agriculture and allied activities to a large extent. Agriculture operations are traditionally undertaken by male in the household in which female members provide an important supporting role. The table 4.10 below provide data on work participation according to sex in the district. A perusal of table 4.10 reveals that out of total workers 51.32 per cent workers are male while female worker constitute 48.68 per cent of all the workers. Male constitute almost 82 per cent of main workers while female constitute a majority of marginal workers (72.78 per cent) in the district. However, 45.10 per cent of male and 63.57 per cent of female are accounted as non-workers.

Table 4.10: Work Participation according to Gender (nos.) 2011

Sr. No.	Item	Total	Percent to Total	Absolute		Percentage	
				Male	Female	Male	Female
1.	Total Population	2390776	100	1226961	1163815	51.32	48.68
2	Total Workers (WPR)	1097507	45.91	673565	423942	54.89	36.43
2.a	Main workers	685141	28.66	561301	123840	81.92	18.08
2.b	Marginal workers	412366	17.25	112264	300102	27.22	72.78
3.	Non-workers	1293269	54.09	553396	739873	45.10	63.57

(Source: Registrar General of India)

It further reveals that male account for a considerably higher proportion of total workers. The disparity among male and female workers further increases in case of main workers in the district. Female constitute a majority of marginal workers indicating status of female workers in the district. This is mainly due to the fact that female are mainly responsible for household and provide support in general to the male members in agrarian sector. It further indicates the preference male gets in being the main worker in the district. Also, a large proportion of female are non-workers in the district. Thus promoting livestock and household manufacturing will create employment in favour of women thereby strengthening economic muscle of families in rural areas.

The table 4.11 provides taluka wise occupational pattern in Panchmahal. It is evident from table 4.11 that Jambughoda taluka has highest number in total workers. The number of cultivators is highest in Shehera taluka followed by Khanpur, Morva (H), Lunawada and other talukas. The taluka of Godhra has minimum number of total workers. Halol, Kalol, Godhra and Jambughoda have highest per cent of main workers as ratio of total workers, while Morva has the minimum per cent of main workers. Thus marginal workers are highest in Morva, followed by Santrampur and Shehera taluka.

In contrast, per cent of total cultivators to total workers is highest in Shehera, followed by Khanpur, Morva (H), Lunawada and Jambughoda talukas, while it is less in taluka of Halol, Kalol and Godhra, indicating presence of other alternatives of livelihood for people. Santrampur has highest per cent of total workers as the agricultural labourer, indicating their dependence on agriculture and dependence on marginal work which is seasonal. The table clearly indicates that very small per cent of total workers engage themselves in household industry as is evident from a negligible per cent of total worker to household industry workers. Thus, it can be inferred that almost all talukas are heavily dependent on agriculture for their livelihood as indicated by per cent of total cultivators and agricultural workers to total workers in all the talukas. The dependence on agriculture is little less though in talukas of Halol, Godhra and Kalol due to presence of some industrial units.

Table 4.11: Occupational Pattern, Taluka Wise 2011

No	Talukas	Population	Total Workers	Main Workers	Marginal Workers	Total Cultivators	Total Agricultural Labourers	Total House hold Industry Workers	Total Other Workers
1	Ghoghamba	218467	97368 (44.57)	59485	37883	44983	35874	714	15797
				(61.09)	(38.91)	(46.20)	(36.84)	(0.73)	(16.22)
2	Godhra	462516	188835 (40.83)	129051	59784	64729	55599	1502	67005
				(68.34)	(31.66)	(34.28)	(29.44)	(0.80)	(35.48)
3	Halol	237959	102328 (43.00)	76062	26266	29318	40222	642	32146
				(74.33)	(25.67)	(28.65)	(39.31)	(0.63)	(31.41)
4	Jambughoda	42476	22813 (53.71)	16976	5837	10592	9640	235	2346
				(74.41)	(25.59)	(46.43)	(42.26)	(1.03)	(10.28)
5	Kadana	129545	63474 (49.00)	38477	24997	27656	22584	1262	11972
				(60.62)	(39.38)	(43.57)	(35.58)	(1.99)	(18.86)
6	Kalol	216371	89150 (41.20)	65912	23238	26994	36258	643	25255
				(73.93)	(26.07)	(30.28)	(40.67)	(0.72)	(28.33)
7	Khanpur	96041	47709 (49.68)	31962	15747	24248	12046	1133	10282
				(66.99)	(33.01)	(50.82)	(25.25)	(2.37)	(21.55)
8	Lunawada	257228	122406 (47.59)	77192	45214	57267	25002	1385	38752
				(63.06)	(36.94)	(46.78)	(20.43)	(1.13)	(31.66)
9	Morva	186920	96000 (51.36)	45636	50364	47009	37861	560	10570
				(47.54)	(52.46)	(48.97)	(39.44)	(0.58)	(11.01)
10	Santrampur	265694	129222 (48.64)	67939	61283	50328	58345	1578	18971
				(52.58)	(47.42)	(38.95)	(45.15)	(1.22)	(14.68)
11	Shehera	277559	138202 (49.79)	76449	61753	73644	42607	1117	20834
				(55.32)	(44.68)	(53.29)	(30.83)	(0.81)	(15.08)
Panchmahals		2390776	1097507 (45.91)	685141	412366	456768	376038	10771	253930
				(62.43)	(37.57)	(41.62)	(34.26)	(0.98)	(23.14)

(Source: Registrar General of India)

Table 4.12: No. of Establishments and No. of Persons Employed, 2013

Sr. No.	Talukas	Total Number of Establishments	No. of Persons employed on last working day
1	Jambughoda	2610	5451
2	Ghoghamba	5877	10407
3	Halol	16846	46086
4	Kalol	8720	19077
5	Godhra	22376	44117
6	Shehera	15747	34070
7	Morva (H)	5456	11338
Panchmahals		77632	170546

(Source: 6th Economic census-2012-P)

The latest economic survey shows there are more than 77 thousand economic establishments in the Panchmahals district which are providing employment to 1,70,546 people of the district. Considering Panchmahals is a more rural dominated area and agriculture allied activities as the primary source of income for the people, Godhra being the district headquarter and Halol having prosperous industrial estates having the higher number of industrial establishments than other talukas of the district.

BOX: 4.1: ROLE OF OTHER INSTITUTIONS

There is a plethora of non-government institutions working for social uplift of population. DISHA, SEWA, Shroffs Foundation and many others operate in various regions of Gujarat. In panchmahal district the Shroffs foundation predominantly operates in southern part of district. It focuses on improving productivity, efficiency, creativity through promotion of services and goodwill, with support of industry, academic institutions, voluntary and government agencies. It draws on the guidance of competent and committed experts by knowledge inputs and effective management of available resources viz., land, water, energy, livestock and people. It also helps to upgrade the qualities of the lives of everyone in villages, children, the youth, women, men and aged, mainly through their own involvement, interest and initiative. Enhancement of Tribal Development Outcome (ETDO) project, also known as Samrath aims to build capacities of communities, for their own development and better management. It is helping hundreds of families to benefit from various government schemes. Its purpose is to create enabling environment for tribal who are illiterate and ignorant about the institutional delivery mechanism as well as the process involved in coming together in building their own society which benefits all.

Shroff Foundation Trust (SFT) takes various steps like dialogue with community, funding pattern- available Government schemes and SFT's own funds, and local employment generation along with various training and development programs to the villagers, transfer technology for development of their traditional occupations etc. for the human development in the rural and tribal areas. Today at the end of 6 years more than 400 women are earning their supplementary livelihood through embroidery SFT worked in Banni area of Kutch region post 2001 earthquake. Major areas of work are Livelihood security-1800 were supported and trained to start small scale enterprises, Water storage capacity grew from 12560 cm to 54870 cm and dairy has become major livelihood activity. Under RCH-II Program, Mother NGO (MNGO) scheme is being implemented in Vadodara district since 2007. Shroffs Foundation Trust is working as an MNGO to Field NGOs (FNGO) Anand Niketan Ashram Trust in 10 villages and Lakshya Trust in 11 villages of Chhotaudepur taluka. The target was to achieve 100% immunization and substantially increase ANC through trained FNGOs. The project also aimed for 80% institutional deliveries and 100% home deliveries by trained Traditional Birth Attendants (TBA). SFT worked in close partnership with GO- NGOs to achieve its aim. Networking during various schemes like Mamta day helped in mobilizing women for complete ANC checkups and children for total immunization. As a result of increased awareness about NRHM, people started utilizing various services offered through programs like Chiranjivi, Janani Suraksha Yojana and 108 ambulance services for institutional deliveries. Intervention of these institutions has led to supplement direct government efforts to increase complete ANC check-up, increase immunization and substantial increase in institutional deliveries in the district.

The trained Traditional Birth Attendants are encouraged to establish links for pregnant and lactating mothers for maximum utilization of these services. As a result of networking with other organizations, the rate of immunization and institutional deliveries has increased. Complete ANC check-up has increased from 20 to 58 per cent, institutional deliveries has increased from 28 to 63per cent; in turn use of ambulance services too has increased by end of 2011. BCG vaccination to infants went up from 70 to 95 per cent. Overall immunization increased from 28 to 74per cent. People of all communities are opting for family planning methods.

BOX: 4.2: Taluka-centric Decentralization: Apno Taluko Vibrant Taluko (ATVT)

In order to strengthen local government and involve them in identifying and implementing various programmes and projects needed locally, Government of Gujarat has taken a variety of initiatives. One of the initiatives in implementation of bottom up planning is the "Apno Taluko Vibrant Taluko (ATVT)" programme. This programme aims at identifying taluka level development projects and deliver good governance by decentralization in governance. In its endeavor to expand and make the role of "Prant Offices" more effective in deciding and implementing projects addressing basic needs of the Taluka people and monitor the progress of these projects Gujarat government has launched ATVT. Under ATVT scheme Prant officer will head an ATVT working committee at taluka level. This committee meets once every month. In each of these meetings, improvement of 'village profile' is the subject matter, and taluka committee constantly strive to make improvements.

Under 12th Five year plan, Gujarat Government is committed to allocate Rs. 1500.00 Crore under Taluka Centric Decentralized ATVT approach for 223 Taluka of Gujarat. ATVT provide scope for Taluka government to prepare plan up to an estimated Rs.1.5 crore. ATVT encourages utilisation of funds for four areas such as solid waste management, building internal roads, safe drinking water facilities and sewage system at the village level. The table below shows details of work and amount sanctioned for different Prant Offices under ATVT scheme in Panchmahals district. Such basic development projects are likely to promote better living conditions for the population and improve their overall productivity.

Box 4.3: Ummid Talim Kendra

The government of Gujarat has initiated Ummid Talim Kendra programme under the fifty point programme on occasion of Golden Jubilee of the State. This programme is focused on providing training for self-employment to urban youth. Under this short duration vocational courses are offered to youth in urban areas.

The short duration courses in MS office, tally, electrical wiring, computer operation and hardware, mobile repairing, draftsman, fabrication, beauty parlour, fashion designing, etc. are offered for training of youth. Up to December 2012 a total of 1096 individuals took training out of which 523 secured jobs or were self-employed.

In Godhra 292, Kalol 74, Halol 344, Shehera 153, Lunawada 143 and Santrampur 99 beneficiaries availed of this scheme, out of these 523 started earning and became self dependent in the district.

4.4: Conclusion:

The above data and discussion indicate diverse nature of livelihood options available to the population in the Panchmahal district. However, it may be observed that:

Agriculture and livestock which are mainstay of livelihood in majority of talukas lack modernisation and scientific practices, for maximising its potential. The efforts by government during past years through various taluka level initiatives augur well for realising potential from these sectors. "Krusha Mahotsava" is a step in right direction for enhancing awareness among rural population in the district.

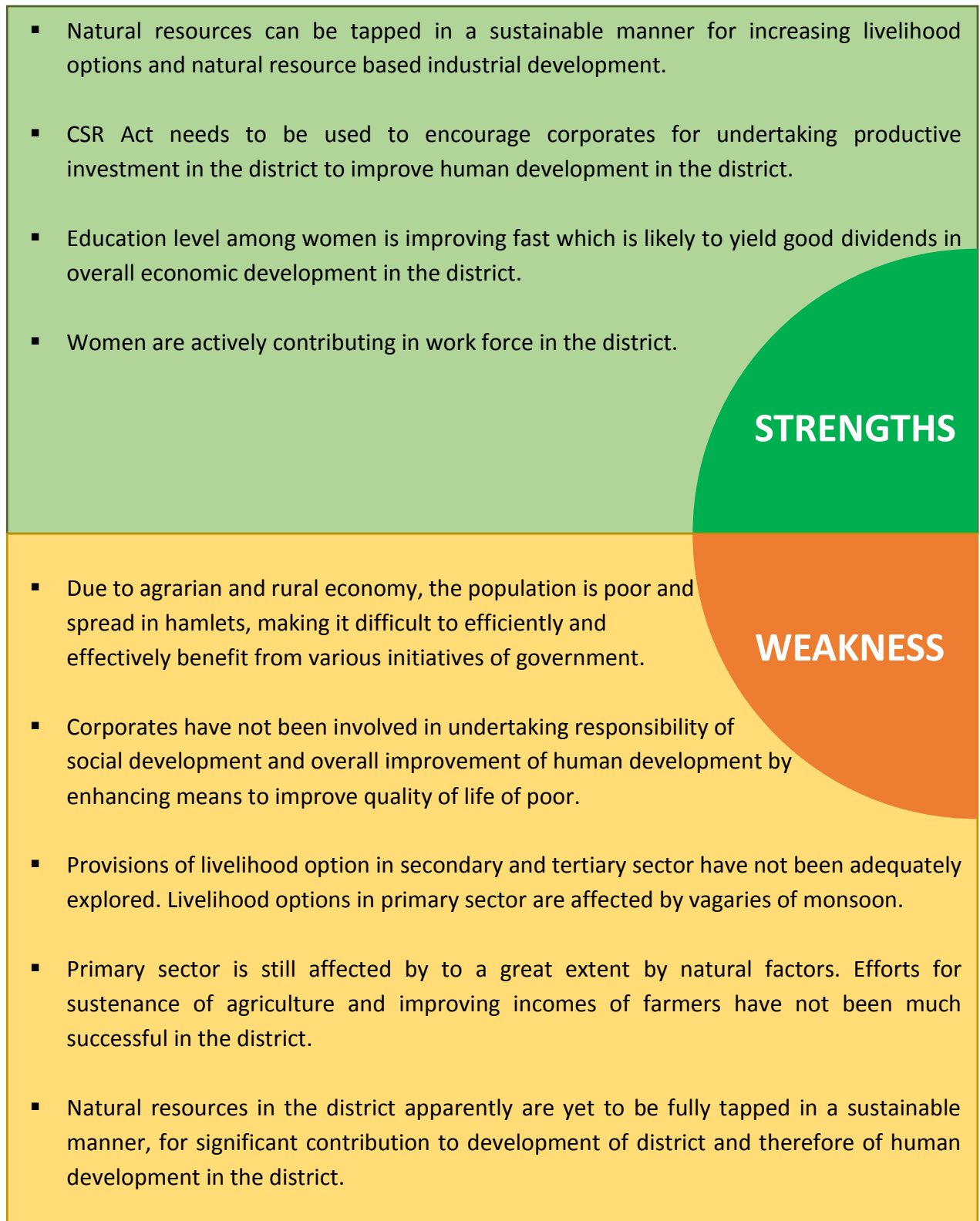
Small enterprises and household business need to be developed at taluka level. "Kaushalya Vardhan Kendras" and "CHALO TALUKE" campaign needs to be sustained for improving conditions of rural population. More information on government schemes be provided in rural areas and people be motivated to benefit from government initiatives.

Large investment in medium and large industries be encouraged in other talukas through setting up of GIDC promoted industrial areas and encouraging fresh investment in the region. There is need for encouraging other vocational business education related to resources available locally, to encourage productive activity in various talukas.

Role of other stakeholders in society like corporate houses and non-government organisations, educational trusts and others in the state need to be effectively regulated and used for improving skills and capabilities in the backward areas for creating greater livelihood options and improving the lot of population in rural areas of the district.

Tourism circuit in each taluka of the district needs to be developed to promote domestic tourists which will promote local economy by providing employment to local population. Also this will lead to development of new and other related services in the district. This will create greater opportunities for earning higher income and lead to greater linkages with outside economy of state and country for inclusive growth.

4.5: SWOC Analysis: Livelihood Pattern



SWOC Analysis: Livelihood Pattern

-
- Agriculture has a scope to increase productivity by training farmers in use of modern techniques and scientific method of agriculture in district.
 - Industrial development in district can be pursued to create jobs and enhance diversified livelihood choices for population in the district.
 - Services sector is energizing Indian economy, however, its contribution to development of district is negligible. Thus services sector can be promoted through systematic promotion and growth of tertiary sector.
 - The employment opportunities in services sector can be harnessed Efficiently to enhance human development in the district.
 - Tourism sector has not been tapped at in the district. Development of tourist destinations and tourism sector in the district has a significant potential to impact human development positively.
- OPPORTUNITY**
- Setting up and creating infrastructure for sustenance of sustainable agriculture in the district is a challenge.
 - Training implementation machinery and creating institutions for faster human development is a challenge.
 - Accounting and recording of success stories, learning from them and replicating them in other areas of economy is a challenge.
 - Thus data collection pertaining to evolving economic activities in private sector is a herculean task.
- CHALLENGES**

Chapter - V

NATURAL RESOURCES



CHAPTER- 5

NATURAL RESOURCES

Abstract

The resource endowment of a nation determine pace and extent of its development. In this chapter an overview of natural resource base available in Panchmahal district has been presented in detail. An attempt has been made to assess availability of natural resources and understand their impact on the state of human development in the district. Natural resources available in the district can be grouped into land resources, water resources, mineral resources and livestock resources. Panchmahal district has a scarcity of common property land resources, which can serve as an important resource base for landless households. The natural resources are mostly unutilised or underutilised in the district. An efficient use of resource base leads to widening of livelihood options and improvement in welfare of the population.

5.1: Introduction

The natural resource endowment of a region largely determines its economic development possibilities. The Panchmahal district is at present at low level of development although, the district has quite a variety of natural resources available, and however, their potential is yet to be fully tapped. The district of Panchmahal is mostly hilly, except parts of Kalol, Halol, Godhra and Lunawada. The whole of northern region of the district, comprising of Lunawada, Khanpur, Kadana, Santrampur and taluka in south east of Jambughoda are covered with hills and forest, intercepted by plain cultivated lands in villages situated in the river valley. It rise gradually from west to east and is cut into by rivers and intercepted by hills of low altitude except the south where the altitude of Pavagadh peak rises to 839.36 metres above sea level. The district can be divided into three belts, northern, middle and southern. A major portion of the district in the central and northern parts is covered by meta-sediments which represent an extension of the main Arvalli hills of Rajasthan, while in the southern parts are found the formations which have been referred to as the Champaner series. The meta-sedimentary group of rocks are separated by intrusive granites and gneisses in some part of the district. (District Plan Report 2010-11)

5.2: Land Resources

Land is a basic natural and economic resource available to mankind. It is not only the mainstay of agriculture, but also supports animal husbandry, dairying and fisheries and all other economic activities. Besides, land is required for housing, developing infrastructure and transport facilities, and setting up industries as well. The table 5.1 below gives the total land use pattern of Panchmahal district. It shows that forest area constitutes around less than 25 per cent of the land of the district.

Table 5.1: Land Use Pattern: Panchmahals (2011-12)

Total area	522000 ha
Forest area	121654 ha (23.31%)
Total Irrigated area	178549
Gross cropped area	309116

(Source: Directorate of Agriculture)

It can be seen from table 5.2 that out of a total geographical area, the highest proportion of forest land is in Shehera and Khanpur taluka, whereas Kalol taluka has least proportion of forest land. Further, it can be seen that Jambughoda taluka has very little forest land, which is contrary to the commonly held notion that Jambughoda is abundant in forest land. Cultivable land is in abundance in Godhra and Lunawada talukas, whereas Ghoghamba taluka has the least of cultivable land, necessary for agricultural development. Thus, the prospects of agricultural development are most favorable in Godhra and Lunawada talukas. Permanent pastures and other grazing lands occupy less than 10 per cent of the total area of Panchmahal district. The highest proportion of pasture land is situated in Godhra, Ghoghamba and Kadana talukas, whereas the least area under pasture land falls in Jambughoda taluka. Since pastures consist of common property resources crucial for landless agricultural laborers who keep livestock and augment their livelihood through dairy, the low proportion of pasture land in Panchmahal is a cause for concern due to its increasing exploitation. Since common property land resources are the mainstay available to the poor landless households to support their livelihoods, they are a fledgling crucial part of the natural resource base in Panchmahal, which need to be enriched, in order to create a positive impact on human development in the district.

Table 5.2: Land Utilisation 2011 (ha)

Talukas	Total geographic area	Forest area	Land Under Non-Agri. Use	Cultivable waste	Current fallows	Permanent pasture and other grazing land	Net area sown Area	Gross Cropped Area	Cropping Intensity (%)
Ghoghamba	49744	9669	4960	1791	286	1143	27694	27694	106.68
Godhra	69586	15981	7195	769	845	1014	45228	46428	109.17
Halol	51942	6335	3670	1641	7349	1947	25907	25907	108.30
Jambughoda	14630	6202	437	158	247	1008	6100	7149	117.20
Kadana	42436	16483	3130	537	1164	2005	16379	18154	110.84
Kalol	39798	3595	3785	970	3006	2008	25458	25458	109.96
Khanpur	36169	9329	854	1282	685	497	18060	20526	113.65
Lunawada	69952	10448	3535	2309	576	1490	41300	45304	109.69
Morva	32331	5059	3052	610	2647	1050	19138	23205	121.25
Santrampur	60803	16221	3452	608	4933	1440	28674	32077	121.25
Shehera	57979	17171	2952	1407	2492	1615	29744	30679	103.14
Panchmahal	513820	16793	37022	12082	24230	15217	280982	309116	110.01

(Source: District Panchayat, Agriculture Department-2011)

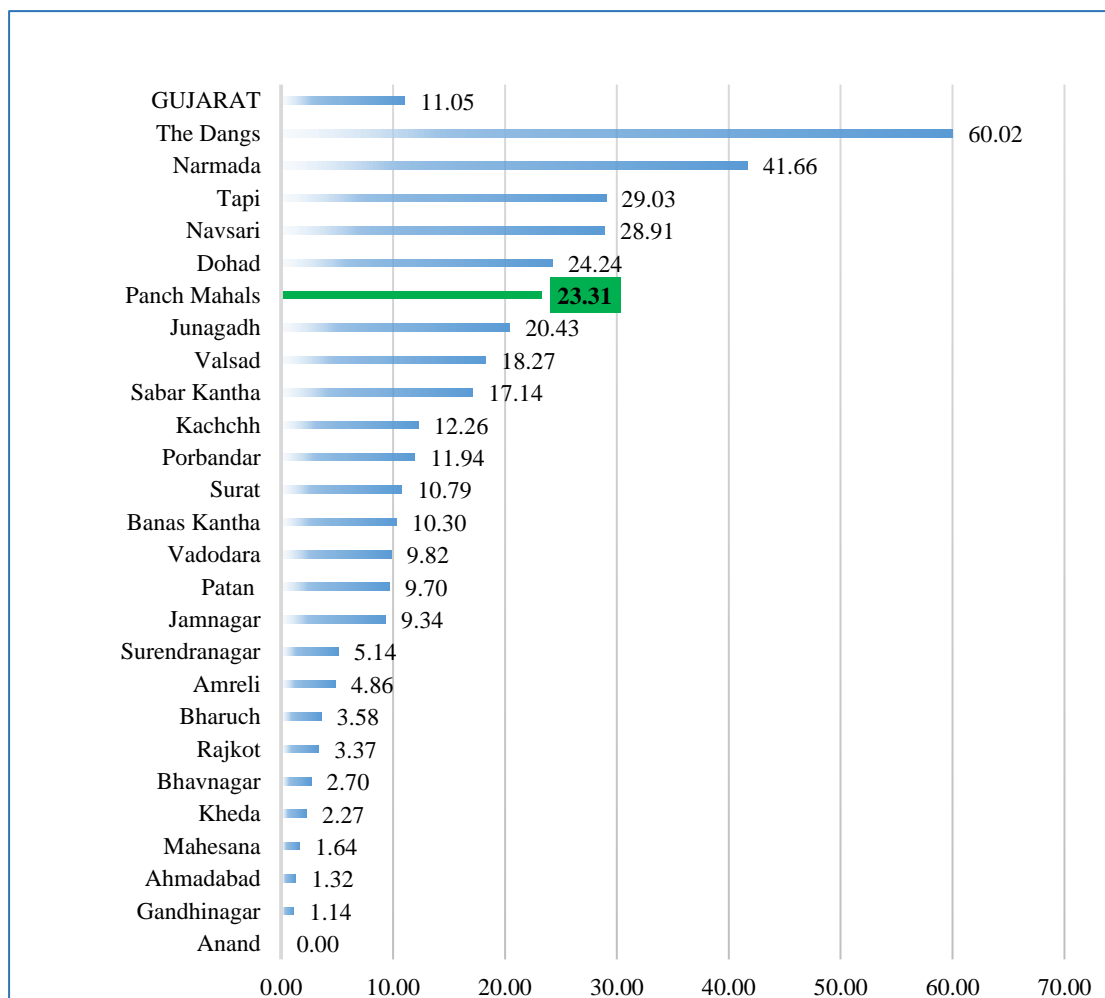
5.3: Forest Resources

Panchmahal district has a forest area which comprises of 23.31 per cent of total land area of the district. As seen from table 5.3, Panchmahal has a total forest area of 121654 hectares, which is of tropical dry deciduous type. The proportion of dense forests which are rich in flora and fauna is very low. This means that it is difficult to find and preserve the rich flora and fauna of forests and conserve ecological habitats. However, Jambughoda is home to large population of many kinds of wildlife. The leopard at the top of the food chain is the primary predator, and its numbers have been increasing recently. Other large wildlife include the wild boar, nilgai (blue bull, the largest antelope in Asia), jackal, hyena, barking deer, sloth bear, and chausingha (four-horned antelope), etc.

Table 5.3: Status of Forest in Panchmahals (Sq. Km.) 2012-13

Distribution of forest land in Panchmahal	
Reserved Forest	1189.62
Protected Forest	7.17
Unclassified Forest	19.75
Total Forest	1216.54
Forest Cover	
Dense Forest	176
Open Forest	394
Scrub (Lands not included in the above classes)	35

(Source: Gujarat Forest Statistics 2012-13)

Figure 5.1: District wise Percent of forest area to total geographical area (2012-13)

(Source: Gujarat Forest Statistics 2012-13)

Out of total forest area in Panchamal district, a major proportion – more than 90 per cent - consists of reserve forests, where it is possible to exploit forest resources for livelihood purposes to a certain extent. The forest in the district can be mainly classified into three categories namely; protected forest (PF), reserve forest (RF) and unclassified forest. The total areas of forest is divided into protected forest (about 0.39 per cent), reserved forest (about 92.86 per cent) and unclassified forest (about 6.75 per cent). In the protected forest, people have been granted the rights of cultivation. In RF area neither forest lopping nor timber cutting is allowed. The RF in the Panchmahal is amongst the richest forest in whole of Gujarat having most of teak trees of high quality as well as timber, mahuda trees, bamboo, and other lush vegetation. The economic productivity of these forests is low, hence fewer livelihood options are available to people from these forests.

Besides, there is a sizeable proportion of unclassified forest land as well, which could also be available for further development and enrichment in order to support not only the ecology, but the livelihoods of local population. Hence, forest resource form an important part of the natural resource base in Panchmahal district, which have a bearing on income earning possibilities and nature of livelihood and hence, human development of population.

BOX 6.1: Vanbandhu Kalyan Yojana

Vanbandhu Kalyan Yojana is being implemented for development of tribal talukas under Integrated Tribal Development programme in 43 tribal talukas of the state since 2007. It aims at ensuring high quality social and civil infrastructure and sustainable employment in tribal areas. This envisages reengineering processes of existing interventions through public private partnership, which focus on livelihood development, quality of education and development of infrastructure.

Under these programme rupees 170.96 lakhs spent on advancement of forest villages of Panchmahal district and bringing them to mainstream.

Rupees 203.80 lakhs spent in border villages falling in tribal areas of the district to bring them to mainstream, and

Rupees 329.71 lakhs spent to provide milk to school children for improving nutrition and health in tribal areas.

Irrigation:

The irrigation facilities exist in more than 38 per cent of cultivable area. In order to improve irrigation in the district a number of irrigation projects have been undertaken. The important irrigation projects in the district are Kadana, Panam, Hadaf, Badar, Sukhi, and Deo, which contribute to irrigation facilities in additional area of 41734ha. in the district. Thus, scarcity of water acts as a limiting factor for overall development of the district. Hence increasing efforts are required to satiate requirement of a majority of farmers' population of the district. However, these projects are providing irrigating facilities to adjoining Kheda district mainly, along with only a small proportion of land in Lunawada taluka of Panchmahals district. As the district is not having irrigation facilities in majority of cultivable land, only one monsoon crop is taken by the farmers. Second crop is taken only by the 18 percent farmers in winter and summer crop is taken in only 5 percent of cultivable land (District Socio-economic Review, Panchmahal, 2011-12).

Soil Type:

Panchmahal is economically the most backward district of Gujarat state. It is also endowed with less superior quality of natural resources like soil and lack of rainfall. The district has an undulating topography and hard rocky terrain (with altitude varying from 75m to 300m above sea level) with shallow medium black soil having low fertility.

5.4: Livestock

The livestock rearing is practiced as a complimentary vocation by rural population, due to its strong linkages with agriculture practices. The livestock holding in various talukas is shown in table 5.4. The table 5.4 provide data of Livestock population in the district of Panchmahal during last three livestock census. The data clearly shows efforts made by government to improve livestock population, through a variety of measures, resulting in almost 20 per cent jump in livestock population in the district, this was stagnating during 2003 to 2007. During the same period the population of poultry has also increased by 12 per cent compared to a 17 per cent increase during 2003 and 2007 census. The increase in livestock population augurs well for farmers and income of rural economy as it supplements agriculture income and provide sustenance to rural economy during years of poor rainfall.

Table 5.4: Livestock and Poultry Population (nos.)

Panchmahals	Year			% Change (2003 -2007)	% Change (2007-2012)
	2003	2007	2012		
Total Livestock	1687302	1684730	2009039	-0.15	19.25
Total Poultry	410532	481557	539059	17.30	11.94

(Source: Livestock Census 2003, 2007 & 2012)

The table 5.4 shows that livestock population in the district has reached to more than 20 lakh in number in 2012. The number of poultry has also reached to around 5.4 lakh in the district.

The taluka wise livestock population data as per livestock census is given in table 5.5 below. A perusal of table 5.5 clearly shows that the taluka of Godhra has the highest number of households keeping livestock followed by talukas of Shehera, Santrampur and Halol. The number of cow is highest in Santrampur followed by talukas of Godhra, Shehera, and others. The Buffalo population is highest in Lunawada followed by Shehera, Godhra, Kadana, Santrampur and other talukas. All talukas have a fairly high population of Goat. Poultry rearing is also popular among people of all talukas, specially Ghoghamba, Shehera and Halol have high poultry population compared to other talukas. Thus as shown in the table various talukas have presence of considerable population of livestock in the district which contributes crucial additional income for the households.

A variety of efforts have been made for strengthening livestock rearing practices to provide as a supplementary source of income for population in rural areas in the wake of uncertain agriculture. Efforts to improve livestock quality and productivity to strengthen supplementary sources of income generation for the people in the district have been made in the district. Livestock and poultry are viewed as complimentary sources of livelihood along with agriculture as the two economic activities have strong linkages with each other. Livestock rearing if undertaken scientifically is considered a proven method of increasing income of rural households.

Table 5.5: Livestock Population -Panchmahal District- Livestock Census 2012

No.	Taluka Name	Cow	Buffalo	Sheep	Goat	Horses & Ponies	Donkey	Camel	Total Livestock	Dog	Rabbit	Back yard Poultry	Farm Poultry	Total Poultry
1	Ghoghamba	72498	54542	2	77868	9	235	4	205158	1864	11	68058	0	68058
2	Godhra	87548	92170	1105	78094	45	549	7	259518	3490	25	29108	11201	40309
3	Halol	78893	63805	0	94394	1	0	1	237094	55	0	134257	0	134257
4	Jambughoda	15516	12467	0	5583	0	6	0	33572	301	3	3573	0	3573
5	Kadana	58142	87007	0	49793	2	1	1	194946	1433	14	36079	0	36079
6	Kalol	29422	54261	846	18462	36	579	17	103633	663	22	14175	0	14175
7	Khanpur	40997	39924	0	18593	19	39	36	99608	2027	0	15582	0	15582
8	Lunawada	59590	105923	181	24620	11	275	8	190608	125	2	19686	200	19886
9	Morwa (Hadaf)	56716	49827	0	72558	0	149	0	179250	1754	28	50987	0	50987
10	Santrampur	90088	78426	35	80598	22	89	6	249264	3175	7	74812	14500	89312
11	Shehera	84099	95137	26	76985	17	120	4	256388	350	0	66841	0	66841
Total		673509	733489	2195	597548	162	2042	84	2009039	15237	112	513158	25901	539059

(Source: Livestock Census 2012)

The table 5.6 below provides data on infrastructure and logistics support available for development of animal husbandry in the district of Panchmahal. The table 5.6 indicates that for every 3 to 3.5 villages one veterinary doctor is available. On an average little more than one veterinary centre and dispensary exist for almost 3.5 villages approximately. Besides drinking water, fodder shop and other facilities are made available to population in rural area of the district which is helpful in rearing of livestock. In comparison to other talukas, Jambughoda taluka has the best infrastructure facilities among all talukas of the district. Other talukas therefore are required to strengthen relevant infrastructure for livestock rearing. . It is therefore clear that overall there is need for providing more facilities which help in promoting livestock rearing among people in rural and tribal areas of the district. Milk collection vehicles are available in almost every village in the district. Enhancement of livestock rearing practices goes along very well with agricultural operations, being complimentary, and hence likely to supplement income levels of people. Thus, further efforts are required to create conditions conducive for livestock rearing and lure more and more people to adopt livestock rearing in the district. Institutional and logistic support help in sustaining rural and tribal economy during distress conditions of draught and scarcity. Private dairies have emerged in the district, and now for two village almost one private such dairy exist in the district. A strong livestock sector will also prevent migration of rural population to urban areas in search of employment during distress and lean agricultural season, thus helping urban economy to do well, as well.

Table 5.6: Animal husbandry, April 2015

Sr. No	Name of Taluka	Total no. of Villages	No of villages having Facility of							
			First Aid Veterinary Centre	Veterinary Dispensary	Veterinary Doctor's Service	Live stock Inspector/ Stock man's Service	Drinking Water Facilities for Cattle	Fodder Shop	Private Dairy	Milk Collection Vehicle
1	Ghoghamba	95	11	7	21	10	91	39	24	95
2	Godhra	115	9	7	20	8	52	22	36	114
3	Halol	121	5	6	11	4	63	22	18	120
4	Jambughoda	55	28	28	31	28	38	40	43	48
5	Kadana	132	11	10	22	6	46	39	30	132
6	Kalol	68	21	8	18	11	59	25	14	67
7	Khanpur	85	3	2	2	2	38	9	1	85
8	Lunawada	237	7	8	29	14	102	71	66	237
9	Morva (H)	51	2	6	51	50	51	50	4	51
10	Santrampur	151	9	6	3	2	128	62	47	151
11	Shehera	90	15	14	10	13	75	74	70	90
Panchmahals		595	91	76	162	124	429	272	209	585

(Source: Village profile-2015)

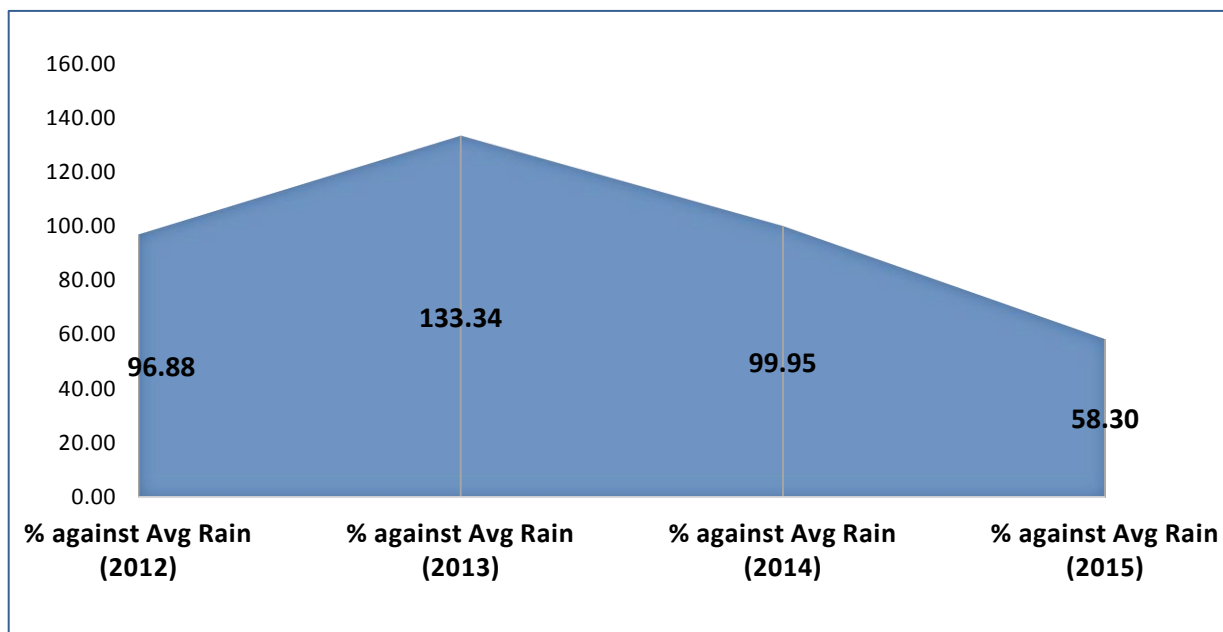
5.5: Water Resources

In a predominantly agrarian economy, availability of water resources for irrigation is of immense importance. The average rainfall received by various talukas in the district of Panchmahal is shown in table 5.7 since 1985 to 2014-15. A perusal of table 5.7 reveals that Jambughoda and Halol consistently received more rainfall than average rainfall of the district. All talukas have been receiving fluctuating precipitation compared to the average district rainfall. Out of last three years rainfall, for two years has been below normal or average rainfall while for one year rainfall has been higher than the average rainfall. The figure 5.2 shows per cent of average rainfall during last three years. The inconsistent and erratic rainfall in different talukas has affected agriculture yield and productivity. Hence, in order to sustain agriculture production growth it is imperative to focus on increasing irrigation facility to reduce dependence of agriculture on uncertain monsoon in the district. The rocky and hilly terrain contributes to difficulty in water conservation efforts in the district, in particular eastern talukas of the district.

Table 5.7: Taluka wise Annual Rainfall (in mm) in Year 2015

Sr. No.	Taluka	Avg Rain. (1985-2014) mm	% of Av. Rain (2012)	% of Av. Rain (2013)	% of Av. Rain (2014)	% of Av. Rain (2015)
1	Ghoghamba	886	94.81	161.40	100.56	32.73
2	Godhra	829	97.83	122.68	100.00	89.63
3	Halol	1024	93.95	157.23	98.63	32.13
4	Jambughoda	1063	83.91	139.32	99.62	52.68
5	Kadana	837	152.33	146.95	100.00	58.54
6	Kalol	726	72.18	121.49	97.93	45.04
7	Khanpur	527	93.55	121.82	100.95	94.69
8	Lunawada	710	84.08	129.86	100.28	62.82
9	Morwa (Hadaf)	895	134.19	119.78	101.01	61.45
10	Santrampur	765	88.24	113.99	100.52	51.76
11	Shehera	742	87.87	114.29	100.40	83.42
Panchmahals		818.54	96.88	133.34	99.95	58.30

(Source: State Emergency Operation Centre, Gandhinagar.)

Figure 5.2: Rainfall in Panchmahals (% of avg.)

(Source: State Emergency Operation Centre, Gandhinagar)

5.6: Irrigation Facilities

Table 5.8 shows per cent of irrigated area in the Panchmahals district. Irrigation area to Gross Cropped area for Panchmahal district is 38 per cent, however, the area sown more than twice to net crop sown area is much less, approximately, 28 per cent in the district, compared to the gross cropped area. The per cent irrigated area to gross cropped area is maximum, i.e. around 56 per cent in Kalol taluka, followed by Godhra and Shehera taluka. Efforts are needed to increase irrigation intensity in Panchmahal district, such that incomes of farmer could improve, which could have a bearing on their income and hence, the status of human development.

All the talukas devote more than 80 per cent of cropped area under food crops except, Jambughoda and Kalol taluka. Horticulture crops account for less than 5 per cent of cropped area in most of the talukas of the district. Thus horticulture is done only on limited land in all talukas of the district. In order to further improve agriculture in talukas of the district it imperative to increase the extent of irrigation possibilities, thus, it indicates limited potential of multiple cropping and constrain farmers to take up second crop during the year in the district.

Table 5.8: Irrigated Area in the Panchmahals (%) 2015-16

Sr. No.	Talukas	Irrigated Area To Gross Cropped Area	Area Sown more than twice to Net Crop Sown	Area under Food Crops to Gross Cropped Area	Area to Horticulture Crops to Gross Cropped Area
1	Ghoghamba	31.48	10.00	88.04	3.15
2	Godhra	53.24	27.15	88.03	3.51
3	Halol	12.53	12.47	85.78	2.57
4	Jambughoda	37.08	36.57	78.04	3.10
6	Kalol	55.59	40.50	74.71	6.38
9	Morva(h)	27.21	22.14	86.58	2.46
11	Shehera	50.48	45.26	83.78	3.56
PANCHMAHALS		38.23	27.73	83.57	3.53

(Source: Directorate of Agriculture, Gandhinagar)

Hence, it is essential to take urgent measures to increase area under irrigation to make agriculture more remunerative and an attractive livelihood option. This is imperative for adopting more scientific methods in agriculture and increasing productivity. This will further provide employment opportunities all the year round in rural and tribal areas of Panchmahal and hence, contribute to improved human development.

5.7: Mineral Resources

The availability of mineral resource provides a base for feasible industrial and other economic activity. The known mineral wealth of Panchmahal district is substantial though less diversified. A variety of minerals are found in the district although they are yet to be exploited to its potential. Various types of major and minor minerals like gravel, granite, building stone, lime stone, brick clay, ordinary sand, ordinary clay, road metal and marble are available in the district. The minerals found are as below.

Beryl: Small crystals of beryl are found associated with pegmatite veins occurring at about 800 meters S. S. E. of Shivrajpur.

Building Material: The district is well endowed with a variety of rocks suitable for building construction and also for road metal, railway ballast, etc. Granite is the most commonly used building stone and is quarried in the district.

Clay: Extensive deposits of fire-clay occur in Kalol taluka. The clay withstands very high temperatures and does not shrink.

Lime Stone: Though there are no rich deposits of high grade limestone in the district, a few deposits of low grade and magnesia limestone occur mainly in the Lunawada and Jambughoda talukas.

Manganese Ore: Manganese-ore is the chief mineral of economic importance found in the district. The occurrence of this ore in Shivrajpuri and Bamankuva areas was known as far back as year 1869. The workable deposits of the area have been exploited up to early sixties. Increase in the cost of production at depth is the cause for closure of the mines.

Quartz: Veins of milky quartz suitable for manufacture of glass occur at many places in the district. The reserves of such quartz in the district may be of the order of four million tons. It is quarried for glass manufacture, near Natapur.

Table 5.9: Mineral Production 2011-12

Sr. No.	Item	Production MT
1	Black Trappe	2216493
2	Quartzite	53217
3	Gravel	47186
4	Granite	3982
5	Brick Soil	316143
6	Sand	1659926
7	Fluorite concentrate	160050
8	Manganese Ore	30430
9	Murrahm	3630
10	Quartz	227805
11	H. Murrahm	1000

(Source: DIC, Godhra)

Table 5.9 shows production of minerals in Panchmahal district during 2011-12. Black Trappe, silica and quartz are the major minerals produced in Panchmahal. It indicates that extensive mining of Black Trappe, Quartzite, and Fluorite concentrate sand Gravel is undertaken in the district. This mining activity accounts for creation of a good economic value and employment in the district.

The table 5.10 provides data on employment generated in mining of major minerals in the district of Panchmahal. It shows that the highest employment is generated through production of Sand, followed by Gravel, Quartzite, Black Trappe and others in Panchmahal during 2013-14. The other minerals also contribute to employment generation in the district.

Table 5.10: Employment Generated through Mining of Major Minerals

Sr. No.	Items	2013-14
1	Quartzes	595
2	Silica	0
3	Magnetize	0
4	Black Trappe	640
5	Quartzite	1179
6	Sand	5647
7	Granite	80
8	Gravel	1421
9	Morrum	0
10	Mud	301
11	Hard morrum	12
12	B. Stone	0
Total		9875

(Source: DIC, Godhra)

5.8: Rivers and Reservoirs

The district has seven important rivers, viz., the Mahi, the Goma, the Kun, the Panam, the Karad, the Kali and the Meshri. The district is having many small and large rivers. The topography is suitable for construction of check dams at low cost owing to gentle slope particularly at foot hills, making many ravines which can be tapped with lesser resources. By tapping this water agricultural growth can be accelerated. Development of forest shall uplift the tribal people who are dependent on minor forest produces. Many medicinal plants are available in this area and climatic conditions are favourable for commercial plantation /cropping.

The Kadana reservoir in the district is a large reservoir having 16600 ha area at FRL. Deo is a medium scale reservoir having an area of 1668 ha at FRL. While small reservoirs are nine in number having an area of 4915 hectare in the district which serve as a source of water for agriculture and livestock rearing.

5.9: Conclusions:

It is evident that the district is endowed with a variety of natural resources. These resources have not been harnessed to the fullest possible extent, due to lack of human skills and technical knowhow including capital. In the wake of limited irrigation facilities and moderate rainfall along with hilly terrain agriculture sector faces constraints. Mostly the agriculture is practised in a traditional manner.

Due to tribal region industrialisation is yet to make its impact on the lives of population. Mineral wealth has been exploited to a limited extent only. Attempts are being made to modernise Livestock and Fishery sector to improve supplementary sources of improving incomes and wellbeing of the population in the district.

Chapter - VI

**THE
WAY
AHEAD**



CHAPTER- 6

The Way Ahead

Human Development Reports of UNDP have emphasized improving education and literacy levels. Education, as such, is critical to strengthening people's capabilities and freedoms, overcoming inequality in access to health and quality of education is a critical challenge to advancing Human Development. Time to learn (drop out), quality of education and relevance of education are principal measures of evaluating educational status. However, the development of any nation or region does not necessarily follow a uniform path. Moreover, the direction, pace or intensity of growth do not exhibit unique patterns (Kelley 1991; Krishnaji1997; Rustagi, 2000).

Good Health and education improves human functioning. This alleviates poverty; improve employability and further economic growth. Thus intervention in human capital and expansion of human functioning is key to improvement in human wellbeing. In order that development is inclusive of all social groups like SC, ST, religious minorities and regions, intervention programmes e.g. intervention programme, of government are likely to play an important role. These programmes focusing on education, family planning, health, nutrition and welfare can be key inputs which form core of the government interventions. The interventions focusing on equity, empowerment, cooperation, sustainability, security and productivity are key to overall success of interventions for human development. The output of these inputs will be realised in the form of knowledge, family size, health status, nutritional status, healthy living conditions, etc. These outputs will lead to economic attainment of population and a higher income will contribute to employment and assets accumulation.

The objectives of education policy of Gujarat are, firstly, improve continuous education and literacy, secondly, providing universal primary education for children in age group of 6 to 14 years, thirdly, Job orientation of Secondary education and improvement of secondary and higher education, fourthly, concentration of plan and non-plan provisions and best use of investments made in education sector and lastly, improvement in quality of implementation of policies for expanding education in the state.

EDUCATION

As per Census 2011, out of total 26 districts of Gujarat state, Panchmahal was ranked 22nd in literacy rate. It is 18th ranked in male literacy and 24th ranked in female literacy. Thus, low literacy among female contributes to overall lower ranking of Panchmahal compared to other districts in the state. During recent past as compared to increased literacy rate among male, there is a greater increase in literacy rate among female.

Due to low literacy among females compared to overall state, in the district the gender gap in literacy has been quite significant. However, it can be seen that gender gap has been reducing in the district during last decade. In Panchmahal district urban literacy rate is higher than the state average, but in rural areas literacy rate is much lower. This clearly indicates that in Panchmahal rural areas require greater and urgent efforts to improve literacy levels. There is a noticeable gap in literacy rate among different talukas as well as between rural and urban areas of the district.

Similarly, reasons for backwardness of Ghoghamba and Jambughoda with respect to its female literacy rate and gender literacy gap can be studied and strategies can be framed towards improving special educational needs of women. All over, educational level of Panchmahal district is far below within the state and henceforth a total special package addressing educational needs including higher education of both genders should be planned and implemented immediately.

Education being a strong determinant of human development and empowerment it is imperative to focus on spread of literacy in rural talukas and especially among female population in the district. Thus, there is need for reducing literacy disparities among rural and urban and male and female in the district by further strengthening important initiatives like mission mode and flagship programmes related to education among population.

Technical institutions offer courses in subjects like desktop publishing, electric motor rewinding, servicing, scooter mechanics, refrigeration, secretarial assistance, IT, electronic installation and wiring. There is need to provide education and training avenues which lead to skill enhancement for improving self-employment possibilities among people, such that employment is also generated. Facility in the form of class rooms and schools need to be augmented further in various talukas in Panchmahal

district. There is further need for more accessibility of schools and class rooms in rural areas.

The number of teachers per school is found to be greater in urban areas as compared to rural areas. However, in rural areas enrolment to teachers' ratio is better. Thus, there is an opportunity to utilize full capacity of rural schools. There is need for further improving the number of science and vocational stream higher secondary schools in the district in all talukas, in particular in more backward regions of the district.

The Government of India has initiated a number of programmes to achieve the goal of Universalisation of Elementary Education (UEE) among which the *Sarva Shiksha Abhiyan* (SSA) is the most recent one. It initially aimed at achieving universal primary education by 2007 and universal elementary education by 2010. Government of Gujarat started 'Pravesh Utsav' (Celebration at the first day of the school) under which on first day of admission in school, new students get books, slate, toys, etc. such that more number of students are motivated to join schools. Achieving universalisation means achieving universal access, universal enrolment, universal retention and universal quality of education.

Overall the drop-out rate in school at all levels have declined, however, there is need for further strengthening efforts to decrease dropout rate in schools to enable people to be better equipped to make decent livelihood choices. With regard to higher education greater emphasis need to put on providing vocational education so as to encourage people to take up self-employment.

More initiatives to promote education among girls, improve quality of education, enhance enrolment and retention rate and spread education among all class of people, particularly among developing talukas and among female need to be adopted. The focus should be on promoting equity, improving quality and expansion of school as well as higher education in the district. Provision of all-weather roads, electricity, making available books and teachers, good physical infrastructure is likely to allow education to benefit all sections of society.

HEALTH

Health is a pre-requisite for human development. Good health has a direct relationship with well-being of people. Health is a function, not only of medical care, but also of overall integrated development of society - cultural, economic, educational, social and political. The health status of a society is intimately related to its value system, philosophical, cultural traditions, and social, economic and political organisation. Each of these aspects has a deep influence on health, which in turn influences all of these aspects. Thus, health status and quality of life are directly related to wider effort to bring about overall transformation of a society. It is essential to integrate health development with programmes of development in such a manner that the two become mutually self-supporting. Good health and good society go together. This is possible only when supportive services such as nutrition and improvement in environment and education takes place.

The district being a tribal district has a relatively high female male ratio in general population and a very high juvenile sex ratio in comparison with state and national average. But a matter of concern is that Panchmahal, albeit being a tribal district showed a declining trend in juvenile sex ratio. It is important to understand specific reasons of better and low performances by certain talukas within a district, for example, decline in overall and juvenile sex ratio registered by Jambughoda block in last decade and better performance by Lunawada, Khanpur and Godhra where overall as well as juvenile sex ratios showed sharp advancement.

Health problems are often the most acute in rural and remote areas. But it is difficult to get medical professionals to serve in these areas. Understandably, most physicians prefer to settle in urban areas offering opportunities for professional development, education and other amenities for their families, and attractive employment opportunities. As a result, there is a mismatch between the geographic distribution of physicians and the perceived need for them. Development objectives strongly emphasize equity across regions, with particular stress on improving health status in most remote and poorly served areas.

There is need to enhance number of health institutions, clinic facilities, trained nurses and compounders in interior areas of the district.

Anganwadi is a government sponsored child-care and mother-care center. It caters to children in the 0-6 year age group. Anganwadi workers are India's primary tool against the menace of child malnourishment, infant mortality, child education, community health problems and in curbing preventable diseases. They provide services to villagers, poor families and sick people, across the country to help them access healthcare services, immunization, healthy food, hygiene, and provide healthy learning environment for infants, toddlers and children. Anganwadi institutions need to be professionalised and strengthened further to improve health status in rural tribal areas of the district.

About delivery management it is found that proportion more in private institutional delivery compared to government and home delivery. The delivery of postnatal care services is aimed at preventing the occurrence of maternal and infant morbidity and mortality in the country. Maternal care includes care during pregnancy and should begin from early stage of pregnancy. Women can access antenatal care services either by visiting a health center, where such services are available or from health workers during their visits to households in village. It is found that child immunization program penetration is increasing in tribal and rural areas. Private sector services should be increasingly undertaken to improve standards of maternal and child care system in rural areas as well.

Improvement in cleanliness and hygienic conditions through better functioning of municipalities and local government institutions should be emphasized. Prevention and dissemination of other such services in rural and remote areas will go a long way in improving health standards among population. Government flagship programmes to safeguard maternal health, safe delivery, and school children health should be strengthened to improve awareness and efficient delivery system through increased institutional efficiency.

An overall improvement in the institutional infrastructure and availability of skilled doctors and other staff in the district are crucial. Various proactive measures to improve health of mother and children have to be started in various talukas.

LIVELIHOOD

Due to hilly terrain, agriculture is practiced with a great deal of constraints and at a subsistence level. Less opportunities in industrialisation further limits livelihood choices for the people.

People are predominantly dependent on agriculture activities. The district is spread over rocky and forest land leaving less proportion of land suitable for agriculture operations. Insufficient investment in agriculture infrastructure and adoption of traditional agriculture practices constrain and restrict production in farming operations in the district. Initiatives for empowerment of people, use of advancement in science and technology and responsible governance by the state government is essential for diversifying livelihood choices for people in the district.

There is need for youth and women oriented, self-employment and industry related, traditional courses, enabling people to adopt diverse livelihood options in the district. Improved public private partnership and involving other stakeholders is essential for improving skills of people and improving livelihood choices for them. Population engaged in agriculture sector, artisans and other craftsmen should be encouraged through various flagship and mission mode programmes of the state government to encourage employment generation through development of skills and self-employment. It is important to create livelihood opportunities in rural areas through promotion of modern methods in agriculture, scientific rearing of livestock and creating self-employment through small and household enterprises. Ways and means to further strengthen flagship programmes should be found for this purpose.

There is need for encouraging vocational education, further, to encourage productive activity in various talukas. The role of other stakeholders in society like corporate houses and non-government organisations, educational trusts and others in the state need to be effectively regulated and used for improving skills and capabilities in the backward areas for creating greater livelihood options and improving the lot of population in rural areas of the district.

Natural resources should be conserved and replenished in the district such that alternate means of livelihood are expanded for the people of the district.

Tourism circuits in the district need to be developed to promote domestic tourists which will promote development expansion of new and other related services in the district. This will create greater opportunities for emergence of employment such new areas in the economy.

Women employment opportunities should be specially made in Kalol and Halol, where highest gap in male female WPR in case of main work is registered. Talukas like Morwa can be given due importance in employment related programme planning as maximum marginal male and female workers and least main male and female workers are from this taluka.

There is an urgent need of having a gender related data base of all gender oriented indicators at all levels will allow effective monitoring and review of programmes for gender equality. Rustagi (2005) noted that a detailed examination of women's development using different indicators even at district level and below to elicit specific information is essential to understand, strategies, plan and formulate new programmes as well as implement existing government policies effectively.

Overall the district has a comparatively better gender equality. Women development in Panchmahal is, thus, a mixed bag, which needs to be understood carefully so that intervention in areas where the district is in need of immediate attention can be possible right from childhood of female. Thus empowering women through greater participation in decision making will further human development in the district.



Champaner...

World Heritage Site

Champaner was an out-of-the-way pilgrimage site for hundreds of years. It became the capital of Gujarat, and was then abandoned to be overtaken by the jungle. The city rose and fell almost as fast as the modern stock market, but left behind far more aesthetic remains. The city is remarkably well preserved, with Hindu and Jain temples which are a thousand years old, mosques from the time of the Gujarat Sultanate and the whole workings of a well-planned capital city still in evidence, from granaries and fortifications to step wells and cemeteries.

At Champaner you can walk the ancient streets just as its inhabitants did five centuries ago. Champaner became UNESCO world Heritage Site in 2004.

(Source: Tourism Corporation of Gujarat Ltd.)