

**“Assessment of Human Resources in
Pathardi Tahsil in Ahmednagar District
(Maharashtra)”**

A DISSERTATION SUBMITTED TO THE
**TILAK MAHARASHTRA VIDYAPEETH,
PUNE**

*FOR THE DEGREE OF VIDYANISHNAAT
(M.Phil.)*

IN
GEOGRAPHY

BY

LAWANDE GANGADHAR BHAURAO

Lecturer, Department of Geography
D.P. Rajale College of Arts and Science, Adinathnagar, Tal- Pathardi.
Dist. Ahmednagar, Pin-414505

UNDER THE GUIDANCE OF
DR.P.H. MHASKE

Reader in Geography
Shri. Dnyaneshwar Mahavidyalaya, Newasa,
Tal. Newasa, Dist. Ahmednagar.

March - 2010

Declaration

I hereby declare that the thesis entitled, “**Assessment of Human Resources in Pathardi Tahsil in Ahmednagar District (Maharashtra)**” Submitted by me for the degree of Vidyanishnaat. (M. Phil.), is the record of work carried out by me under the guidance of Dr. P. H. Mhaske and has not formed the basis for the award of any degree, diploma, associate ship, fellowship, title in this or any university of other Institution.

I further declare that the material obtained from other sources has been duly acknowledged in the thesis.

Place: Pune

Date: 27.03.2010

Signature of
Research Student

Certificate

This is to certify that the work incorporated in this thesis entitled, **“Assessment of Human Resources in Pathardi Tahsil in Ahmednagar District (Maharashtra)”** submitted By LAWANDE GANGADHAR BHAURAO was carried out by the candidate under my guidance. Such material as has been obtained from other sources has been duly acknowledged in the thesis.

Place – Pune

Date - **27.03.2010**

Dr. P. H. Mhaske
Reader in Geography
Shri. Dnyaneshwar Mahavidyalaya,
Newasa, Dist. Ahmadnagar.

ACKNOWLEDGEMENT

First and foremost I thank the almighty God for all the guidance thought my life- long journey and the blessing showered to me in all my lingering memories of life.

I would like to place on record my sincere indebtedness to my guide **Dr. P. H. Mhaske**, who not only provided the guidance and encouragement, but also put the field work, data analysis and preparation of the final report.

I intend to express my special thanks to the Management of **Shri DadaPatil Rajale Educational Institute, Adinathnagar** for their constant support for the completion of my research work. I especially express my sincere gratitude to **Hon.Shri Appasaheb Rajale, President of Dadapatil Rajale Educational Institute, Adinathnagar** for his encouragement in undertaking the work and completing it in time. I would also like to thank **Hon. Shri.Rajiv Rajale, former MLA** for his inspiration. I also express my sincere thanks to **Hon.Shri.J.R.Pawar, Secretary of the Institute and Shri.Goresaheb, G.M.** for their kind co-operation in all respects.

My deep sense of gratitude is also to **Tilak Maharashtra Vidyapeeth, Pune** as well as **Dr. Yargop Madam**, Head Department of Geography, **Tilak Maharashtra Vidyapeeth, Pune** who extended all possible co-operation without which the present work would not have been completed.

Various departments of Government of Maharashtra have provided necessary data for this work, viz Tahsil. and Panchayat Samiti office of the Pathardi Tahsil, Various circles. Statics Department of Ahmednagar

District, Agricultural department of Pathardi etc. I wish to thank the Government authorities and staff member who gave the best possible cooperation in data collection **Shri Dr. M.K. Fasale, Prof.A. B. Shirsath, Prof. J. T. Kanade** etc. have been proactive for collection of secondary data.

I feel highly thankful **Dr. P.G. Saptarshi, Dr. B. C. Vaidya, Dr. Ravindra Jaybhay, Dr.Jyotiram More**, Pune, Who gave very valuable guidance and encouragement for the completion of my research work. I am also thankful to former **Principal V.D.Solat, Principal Dr.R.J.Temkar, Shri V. B. Rajale, Prof.J.N.Nehul, Prof.M.S.Tamboli** of DadaPatil Rajale Arts and Sci.College,Adinathnagar,Tq. Pathardi, Dist.A'nagar for constant encouragement and support in completing the research work.

I am also thankful to **Prof. Ajbe** for his help in collecting data and field survey. I express my thanks to **Shri.More, Chandrashekhar Ubale** for going through manuscript and correcting draft of the report. I would like to express my sincere thanks for the cartographic work, **Dr. Jyotiram More** who has laboriously prepared the maps and diagrams.

Lastly I am very much indebted to my family member especially my father **Shri. Bhaurao Lawande**, My Uncle **Shri. D. R. Lawande**, My son **Ajit** and **Prashant**, My daughter **Dipali** and my wife **Savita Lawande** for their constant support.

I am also thankful to all those who have directly or indirectly helped me in completing the present study.

CONTENTS

SR. NO.	CONTENTS	PAGE NO
1	ACKNOWLEDGMENT	
2	LIST OF TABLES	
3	LIST OF MAP AND DIAGRAMS	

CHAPTER – 1

Sr.No.	Particulars	Page No.
1.1	Introduction	1
1.2	Importance of the Study Subject	2
1.3	Aims and Objective of the Study	4
1.4	Hypothesis	5
1.5	Methodology	5
1.6	Source of Data	6
1.7	History of Agricultural Development	7
1.8	Review of Literature	9
1.9	Resume	13

CHAPTER – 2

Sr.No.	Paticulars	Page No.
2.1	Introduction	14
2.2	Historical Background	14
2.3	Geographical Location	15
2.4	Administrative Set up	16
2.5	Topography	20
2.6	Slope	21
2.7	Climate	21
2.8	Drainage	24
2.9	Rainfall	26

2.10	Soil	28
2.11	Natural Vegetation	30
2.12	Wild Animals and Birds	31
2.13	Resume	31

List of Tables

Sr.No.	Paticulars	Page No.
1	List of Villages in Pathardi Tahsil	17
2	Distribution of Temperature	23
3	Monthly Distribution of Rainfall	27
4	Growth Rate of Population	33
5	Population Density	35
6	Sex Ratio	36
7	Literacy Rate	37
8	Distribution of Worker	39
9	Occupational Structure	41
10	Circle wise Area Under Irrigation	43
11	Distribution of Weekly Market	46
12	General Land – use pattern in Pathardi Tahsil	52
13	Distribution of Crops	57
14	Area Under Cereals	58
15	Area Under Pulses	63
16	Area Under Oil Seeds	67

17	Area Under Vegetables	70
18	Area Under Foods	73
19	Area Under Crops in Tahsil	79
20	% of Area Under crops in Tahsil	80
21	Theoretical Distribution of Cropped Area- Weaver	88
22	Changing Cropping Pattern	89
23	Weaver's Method Variance Value	96
24	Changing Cropping Pattern of Karanji Circle	108
25	% of Changing Cropping Pattern of Karanji Circle	109
26	Changing Cropping Pattern of Pathardi Circle	110
27	% of Changing Cropping Pattern in Pathardi Circle	111
28	Changing Cropping Pattern of Takali Manur Circle	112
29	% of Changing Cropping Pattern in Takali Manur Circle	113
List of Maps and Figures		
1	Location Map of Study Area	15
2	Village Boundary Map	20
3	Relief Map	21
4	Temperature	23
5	Drainage Map	25
6	Distribution of Soil Map	28
7	Decadal Change	34
8	Sex Ratio	37
9	Mail Workers	40
10	Road Net Workers	47
11	General Land – use	52
12	Distribution of Crops	57

List of Tables

Sr. No.	Content	Page No.
1.	List of Villages in <i>Pathardi</i> Tahsil	20
2.	Distribution of Temperature	26
5.	Monthly Distribution of Rainfall	50
4.	Growth Rate of Population	56
5.	Population Density of Tahsil	58
6.	Sex Ratio	40
7.	Literacy Rate	41
8.	Distribution of Workers	45
9.	Occupational Structure	45
10.	Circle wise Area Under Irrigation	48
11	Distribution of Weekly Market	50
12	General Land-use Pattern in <i>Pathardi</i> Tahsil	56
14	Distribution of Crops	62
15	Area Under Cereals	65
16	Area Under Pulses	68

17	Area Under Oilseeds	72
18	Area Under Vegetables	75
19	Area Under Fruits	78
20	Area Under Crops In Tahsil	84
21	Percentage of Changing Cropping Pattern	85
22	Theoretical Distribution of Cropped Area – Weaver.	95
25	Changing Cropping Pattern	101
24	Weavers Method Variance Value	125
25	Changing Cropping Pattern of <i>Karanji</i> Circle	125

List of Maps and Figures

Sr. No.	Content	Page No.
1.	Location Map of the Study Area	18
2.	Pathardi Tahsil Village Boundary Map	25
5.	Relief Map	24
4.	Temperature	26
5.	Drainage Map	28
6.	Distribution of Soils	51
7.	Decadal Change	57
8.	Sex Ratio	40
9.	Main Workers	44
10.	Road Network	52
11	General Land-use	56
12.	Distribution of Crops	62

Chapter-I

Introduction

1.1 Introduction:

Human resources are term which is used in connection with the society. It is very important factor for the regional development quality of human resources dependent upon various factors such as literacy, education, techniques & life. Human resources have at least two related interpretations depending on context. The original use drives from political economy and economics, which was traditionally called as lab our. The more common use within corporations & business refers to the individuals within the firm. It refers to the firm's organization that deals with hiring, training and other personnel issues.

Human resource is one of the vital resources of a country. Its study falls under the purview of man in geography has for long been questioned by the geographers mainly because of the fact that the earlier geographers had greater leaning towards the study of natural environment, but with the increasing realizations among the geographers that geography is one of the social science, a number of publications by geographers on population and associated problems have been growing in recent years. Hence, the geography of population is a recent sprout of the science of geography. Over the years, it has come to denote the discipline for the study of human population.

The evolution of human civilization is principally due to man's urge to study and understand his surroundings to use the knowledge, thus gained to meet his material needs and to modify and control his environment so as to suit to his requirements The studies of spatial distribution of environmental factors and human population from, one of the chief courses of geography. The outcomes of environmental factors are responsible for most of the natural

resources, which determine the base for the economic development of a particular region.

Resource – natural as well as human play a very important role in the development of the national economy.

The human resource management considers the key functions such as – hiring (recruitment), compensation, evaluation & management, promotions, managing, relations and planning. However, the modern concept of human resource does not insist upon human beings as commodities or resources. But they are creative and social beings that make class contributions to society & to civilization.

Modern concept of human resources emphasizes the role of leadership, cohesion and loyalty in organizational success. It is necessary to consider about human resource development in terms of recruitment and selection. It is important to determine the level of skills or technical abilities, competencies, flexibility of the employee required. It is also important to consider the internal and external factors that can have an impact on the recruitment and efficiency of employees. The external factors are those which include the current and future trends of labour market i.e. skills, education level, government investment into industries etc. Internal influences include management and organization culture.

Natural resources as well as human resources play a very important role in the regional development. According to Frederic Harbison, “Human resources constitute the ultimate basis for-wealth of nations. Capital and natural resources are passive factors of production. Human beings are the active agents who accumulate capital, exploit natural resources, build social economic and political organizations and carry forward national development. Clearly a country which is unable to develop the skill and knowledge of its people and to utilize them effectively in national economy will be unable to develop anything else.”

It is man who creates the resources and utilizes them for human welfare. Therefore the study of man is inevitable in geographic research at regional levels for a developing country like-India, where human population is increasing rapidly population of an area positively and definitely affects its economic growth. Human beings are ends in themselves and factors of production as well. No doubt human resource is itself a factor of prime importance in the economic development of a region.

Balanced regional development is not only an economic issue but also a political and social necessity. It might not be surprising it this increasing inequality created adverse reaction and eroded national integrity (Baghel, 1995). Human resource development is known as the only pivotal element for regional structured development.

Human resources refer not to human beings as such, but to the qualities they possess and which can be used by the community for some useful purpose. Increasing the rate of output growth requires not merely more men, but rather more men in whom are embodied certain skills which make for efficiency. These skills are created and improved through education, better living standards and better training.

So, all human beings are not considered as resource. Only the people possessing some qualities can be considered as resource. Human resource does not originate spontaneously. It is cultivated through education & proper training. Through proper training and spread of education capital accumulation process starts working. When human being is considered as capital, expenditures on education, medical facilities and provision of food should be termed as investment.

Economic development of any region is linked up with both human and physical capital accumulation. Prof. Harbison has rightly remarked: "Human resources are the energies, skills, talent and knowledge of people

which potentially can and should be applied to the production of goods and services.”

Mere production of goods and services are not enough, unless and until it is consumed properly. Man is situated at the centre–stage. On one side he produces, on the other he consumes. So, man plays a dual role in the development of resource.

Human beings are the most important among all resources, as they are the end values to be achieved in the process.

The advent of the knowledge based society opens up a promising path to dematerialization, making intensive use of information & skills, rather than natural resources.

A knowledge based society, emphasizing creativity & diversity can enlarge human choices, although knowledge is created by private individuals, knowledge is public good because we can share it without diminishing it.

Three important issues:

First a knowledge- based society is more than a service economy. In a knowledge-based society typical workers are highly skilled, & their knowledge resides in their brains & life experience rather than in the machines that they operate.

Second, any restriction the sharing of knowledge is inefficient, because knowledge can be shared at no cost & can make others better off. But without some restrictions, there may be no incentive to create new knowledge, solving this paradox of knowledge may require new institutions.

Third, a knowledge based society is also an information society. An information society requires information infrastructure, encompassing such modes of Tele communications as cable & satellite coverage & telephone lines, computer infrastructure, such as personal computers & the internet, and social infrastructure, such as educated people and an open society that allows information to flow freely within a society & to & from the rest of the world.

A resource may be an item of information or a material substance that a society wants or needs & is willing to absorb the cost for attaining. The resource may be ideas, information, or knowledge. This form of resource has increased in volume with the growth of the post industrial economy.

The concept of resource is also applied to people. Human resources are needed in the economic systems worldwide.

The Human capital perspective can- in principal – be defined very broadly to cover both types of valuation, but it is typically defined- by convention. Primarily in terms of indirect value: human qualities that can be employed as “Capital” in production in the way physical capital is. In this sense, the narrower view of the human capital approach fits into the more inclusive perspective of human capability, which can cover both direct and indirect consequences of human abilities.

For example- If education makes a person more efficient in commodity production, then this is clearly an enhancement of human capital. This can add to the value of production in the economy and also to the income of the person who has been educated. But even with the same level of income, a person may benefit from education, in reading, communicating, arguing, in being able to choose in a more informed way, in being taken more seriously by other, and so on. The benefits of education thus exceed its role as human capital in commodity production. The broader human capability perspective would record- and value- these additional roles. The two perspectives are, thus, closely related but distinct.

The significant transformation that has occurred in recent years in giving greater recognition to the role of “human capital” is helpful for understanding the relevance of the capability perspective. If a person can become more productive in making commodities through better education, better health, and so on, it is not unnatural to expect that she can also directly

achieve more. And have the freedom to achieve more. Both perspectives put humanity at the center of attention.

Altogether, this involves, to a great extent, a return to an integrated approach to economic and social development championed particularly by Adam Smith (both in *The wealth of Nations* and in *The Theory of Moral sentiments*). In analyzing the determination of production possibilities, Smith emphasized the role of education as well as division of labour, learning by doing, and skill formation. The development of human capability in leading a worthwhile life as well as in being more productive is quite central to Smith's analysis of "the wealth of nations".

Indeed, Adam Smith's life in the power of education and learning was peculiarly strong. Regarding the debate that continues today on the respective roles of "nature" and "nurture", Smith was an uncompromising "nurture", and this fitted in with his massive confidence in the improvability of human capabilities:

The difference of natural talents in different men is, in reality, much less than we are aware of; and the very different genius which appears to distinguish men of different professions, when grown up to maturity, is not upon many occasions so much the cause, as the effect of division of labour. The difference between the most dissimilar characters, between a philosopher and a common street porter, for example, seems to arise not so much from nature, as from habit, custom, and education. When they come into the world, and for the first six or eight years of their existence, they were, perhaps, very much alike, and neither their parents nor playfellows could perceive any remarkable difference.²

There is, however, also a crucial difference between the two approaches – a difference that relates to some extent to the distinction between means and ends. The acknowledgement of the role of human qualities in promoting and sustaining economic growth – momentous as it is

– tells us nothing about why economic growth is sought in the first place. If, instead, the focus is, ultimately, on the expansion of human freedom to live the kind of lives that people have reason to value, then the role of economic growth in expanding these opportunities has to be integrated into that more foundational understanding of the process of development as the expansion of human capability to lead freer and more worthwhile lives.³

The distinction has a significant practical bearing on public policy. While economic prosperity helps people to lead freer and more fulfilling lives, so do more education, health care, medical attention, and other factors that causally influence the effective freedoms that people actually enjoy. These “social developments” must directly count as “developmental” since they help us to lead longer, freer, and more fruitful lives, in addition to the role they have in promoting productivity or economic growth or individual incomes.

Despite the usefulness of the concept of human capital as a productive resource, it is important to see human beings in a broader perspective than that of human capital (breaking the analogy with “a chest of drawers”). We must go beyond the notion of human capital, after acknowledging its relevance and reach. The broadening that is needed is additional and cumulative, rather than being an alternative to the “human capital” perspective.

Finally, it is important to take note also of the instrumental role of capability expansion in bringing about social change (going well beyond economic change). Capability serves as the means not only to economic production (to which the perspective of “human capital” usually points) but also to social development. For example, as various empirical studies have brought out, expansion of female education may reduce gender inequality in interfamily distribution and also help to cut down fertility rates. Expansion of basic education may also improve the quality of public debates. These instrumental achievements may be ultimately quite important even though the

instrumental role involved is not that of a factor of production in the making of conventionally defined commodities.

In looking for a fuller understanding of the role of human capabilities, we have to take note of :

- Their direct relevance to the well-being and freedom of people.
- Their indirect role through influencing economic production; and
- Their indirect role through influencing social change.

The relevance of the capability perspective incorporates each of these contributions, and the different contributions relate closely to each other.

1.2 Significance of the Study

The study will be useful to understand the socio-economic condition of population of the region; the study will help to know about various amenities available to the population of the region. It would give information regarding s ratio, literacy, population growth, density, medical, Educational etc. available in the region. It would assess the changes taken place from time to time. The study would also focus on the irrigation, other facilities available in the area. Such data collected will be very useful for various government and Non-government agencies to assess the development and provide the humanitarian aid there upon Wherever it is necessary. The data collected would be very useful in collecting the in formation residing the agricultural development and facilities required for the same. The information would be very helpful to know about medical and education facilities available in the region. The present study would be very helpful to the researchers & the students who want to undertake the research in the present area. The study would be of great importance as to assess the present situation of human resources and for the possible development in this regard in future with the help of present study, various schemes of development could be launched in the region as to benefit the human in the region as to benefit the human

resources This would ensure the overall development of the human resources and thereby of the region.

1.3 The Study Area :-

Pathardi tahsil is located to the east of Ahmednagar district in Maharashtra. It covers the total area of 1177.84 sq.km. It is a rural area having 134 villages. It is extended upto 18⁰54'N to 19⁰12'N latitude and 74⁰54'E to 75⁰24'E longitude.

As per the census of 2001 the population of the pathardi tahsil is 214872 Density of population is 195 persons per sq km. The region is covered under the draught prone area of the Government of India. The region is surrounded by hills and there is scarcity of rain. A large portion of the population is involved in the sugarcane cutting. This population remains outside the area for more than six months and work as sugarcane cutters. The economy of the region is largely based on the agriculture dairy farming, poultry and other occupations. There is a lack of industries in the region except one sugar factory. & one Tobacco fast Track Pvt. Ltd.

1.4 Aims and Objectives of the Study:

The present study has been undertaken to assess and evaluate the population, according to socio-economic parameters. The detailed survey of population and major economic activities has been focused on the study mainly aims at evaluating the (facilities/Amenities) related to the human development. Following are some of the aims & objectives of the present study.

To study population growth & structure on the basis of circle wise data since 1991 to 2001

1. To classify the growth structure density, (population structure and occupational structure) of population of the tahsil, as per District census handbook.
2. To evaluate Human Resources on the basis of socio. Economic circle wise parameters. (caloric density, Agricultural density, and nutritional density) studied in view of evaluation Human Resources.
3. To evaluate the facilities (Education medical, Drinking Water, Post and Telegraph Such as communication devices Market Approach road and power supply) provided to population of the pathardi Tahsil.
4. To study the comparative development taken place in various areas in which the study has been undertaken.

1.5 Hypothesis of Study :-

1. Social economic conditions in the pathardi Tahasil is inconsistent.
2. Population in the tahsil is continuous increasing as compared to less ratio of death.
3. Characteristics of population are different in different circles of Pathardi tahsil.
4. Less number amenities are available in southern part of tahsil as compared to the rest of the tahsil.
5. Well Irrigation facilities are available on a large scale in western and Northern part of the tahsil.
6. The tahsil is hell a head in educational facilities. There are no of Schools & college however the facilities for advanced education are required.

1.6 Database and Methodology:

- 1) Secondary data of demographic variables are used for present study on collected from District Census Handbook (1971-2001) & collected from Tahsil office.

2) Cartographic Techniques, Maps, Graphs, pie diagram, choropleth, Dot methods etc.

3) Statistical methods are use essential mean, mode, chi-square test and correlation test etc.

1.7 Review of the Literature :

While defining population geography Trewartha stressed that it was concerned with understanding of the regional differences in the earth's covering of people, trewartha¹ (1969)

As stated by Ghosh (1985), Chandana (1986), Baghel (1995) etc population Geography has evolved as the branch of human Geography. Population Geography is one of the important branch of geography including human Geography Baghel(1995) has described importance of population geography and stated that, Geography of population is a recent sprout of the science of geography Although it includes many demographic studies, it is different from the subject demography. Chandana (1986), Agrawal (1988), Bhende & Kanitkar (1988), HansRaj (1996) Kulkarni and Shrivastav (1998), Ghosh (1985) have stated that the demography has been devoted to numbers and depended heavily upon statistical methods.

In the population study, distribution is one of the important aspects. The scholars like. Mazumdar (1973), Mehata (1973), Saptarshi (1993), Kadam and Saptrashi (1999), Jagdale and Saptrashi (2001) have described and given the distribution of population in the different regions.

Population growth is one of the important aspects of population geography The studies devoted to this aspect have been useful to understand the future trend of the population growth. Karmarkar (1982), The studies put by Gosal (1982), Singh (1984), Gosal (1990), Singh (1992), Siddigui (1995), Gatade and Kale (1996), Chandana (1996) have been relevant to the problem and prospects of population growth.

Thus a perusal of literature in population geography suggest that the subject is mainly related to the ground realities of problem associated with distribution, growth , structure, migration etc.

1.8 Human Resource Development:-

The difficulties regarding the assessment of human resources and planning for their development have been found in the literature of demography, management, Industrial sectors etc. The demographers understand human resources through the parameters like level of literacy, age-sex distribution, growth of population, density, sex ratio etc.

Some scholars have stated the importance of human resources. For example, Gosal (1995) has stated that, the human resources are most important than the natural resources. Dixit (1996) has also considered human resource as the vital part of overall development. Mali (1999) opened that regional development is based on natural resources as well as human resources.

In the recent period, after development the branch of human geography, many geographers have emphasized the study of various aspects of human resource development. Many, experts like Tripathi (1985), Gosal (1995), Baghel (1995), Arya (1995), Dixit (1996), Koli (1996), Saptarshi (1996), Mail (1999), Prdeshi and Nawale (2001) have adopted indicator's approach to study human resource development and to understand importance in the regional development. Thus, it may be remarked that any regional development depends upon the quality and quantity of the population of that region.

Human resource development has been measured with the help of some parameters (Das, 1982, Mahato, 1982. Saptarshi, 1993, Baghel 1995, Gosal, 1995, Gosal, 1996, Saptarshi 1996, Basu 1998, Mali 1999, World Bank Report 1998-99, Ramchandaran 2000, HRD Report 2000) Saptarshi (1996) has chosen the parameters like density of population, population Growth rates, and literacy as proxy indicators of the quality of human resources Gosal (1995) has described that, population Growth, literacy, education, technical education and health care facilities are important indicator for the quantifying the human resources He has also stated that, all the parameters of human resource development are interrelated among themselves directly or indirectly and should therefore, constitute an integrated unit in the total developmental process. Mahato (1982) has given the impotence to the per capita income. Life expectancy, education per capita consumption of electricity and health facilities for the human resource point of view.

1.9 Resume :-

Introduction to the topic and the study area has been presented in this chapter. It also includes Aims and objectives, hypothesis, Methodology, database, importance and need of the study and review of previous literature

REFERENCES

1. ARYA P.P. AND TANDON B.B. (1995): Human resource development, Deep and Deep Publications, New Delhi.
2. BAGHEL G. S. (1995): Geography of human resources, Mohit Publications, New Delhi.
3. CHANDNA R. C. (1996). Development and population growth. Population geography. A journal of the association of population, geography of India, vol. 18, No. 1 & 2, PP. 09-26.
4. JAGDALE, KADAM & SAPTARSHI (2000): A Spatio Temporal Study of Population Growth in Pune District. (1951-1991) M. S. S. P, Maharashtra Bhugolshasra Parishad, Vol. XIV, No. 1. PP. 25-39.
5. MALI K. A. (1999): Levels of Human resources development in Amravati District: A Spatial Perspective, M. B. S. S. P, Maharashtra Bhugolshasra Parishad, Vol. XIII, No. 2, PP. 153-161.
6. PRITHWISH ROY (2006): Resource Studies, Central Educational Enterprises, Calcutta.
7. SAPTARSHI P. G. (1996): Appraisal of population resources, MAEER'S MIT, Pune, Vol. V, No. 17&18, PP. 203.
8. SAKIKO FUKUDE-PARR AND A. K. SHIVAKUMAR (2007): Readings in Human Development, Oxford V. P.
9. BHENDE ASHA AND KANITKAR (1988): Principles of population studies Himalaya Publishing House, Bombay.
10. DIXIT K. R. (1996) Land and Human resources development M. B. S. S. P, Maharashtra Bhugolshasra Parishad, Vol. X, No. 1. PP. 69-81.
11. KLAUKE, A. (2000): Coping with Changing Demographics (<http://www.ericdigest.org/pre-9214/coping.htm>) An analysis of the effect of changing demographic patterns on school enrollments and education.
12. <http://en.wikipedia.org/wiki/human> resources.

13. RANJAN BASU (1998): “ Status of human development in West Bengal”. Geographical Review of India, Vol. 60, No. 4, PP. 421-431
14. HARBINSON, F.H. (1973): Human resource as the wealth of nations, Oxford U.P.
15. HANSRAJ, Fundamentals of Demography.
16. GOSAL GURUDEO SINGH (1995): Human resources Development, Population Geography. A journal of the association of population Geographers of India, Vol. 17, PP. 2-6.
17. AMARTYA SEN (1997): “Human Capital and Human Capability”, Reading in Human Development, Oxford University Press, New Delhi. Edited by Sakiko Fukuda- Parr and A.K. Shiva Kumar. Second Edition PP. 35-37.
18. HARBINSON, F.H., Human Resource Development planning in economies.

Chapter -II

Study Area

2.1 Introduction

In the previous chapter a brief introduction of the study area has been given. These aspects like such as relief climate, soil, population is very important in the study of agriculture. Physiographic study is necessary for understanding the problem of agriculture; Agriculture related to the Land & Land is the basic resource of human society. Its utilization shows a reciprocal relationship between man and ecological conditions of a region. It is therefore necessary to evaluate the agricultural Land use of the study region needs to unfold the nature of ecology of the Pathardi Tahsil.

The present chapter attempts to discuss, Relief, Climate, Vegetation, Soil & drainage

2.2 Historical Background

Pathardi Tahsil is known as Land of saints. This tahsil has important through many Historical and Mythological event. The period of Mahabharat Pathardi was the capital of Babruwahan. There was a war between Arjun & Babruwahan. Babruwahan Killed through Arjun in this war, but in the war Arjun's son died and he wept Pathardi. He weeps here so it is called "PARTH RADI" Pathardi. This is the ancient tahsil of Pathardi. It means that Pathardi was established since Maharashtra. This Tahsil lies in the region shadow zone of the Sahyadri Mountain so the Pathardi Tahsil known as a droughtprone are of Ahmednagar district.

Location Map of the Study Area

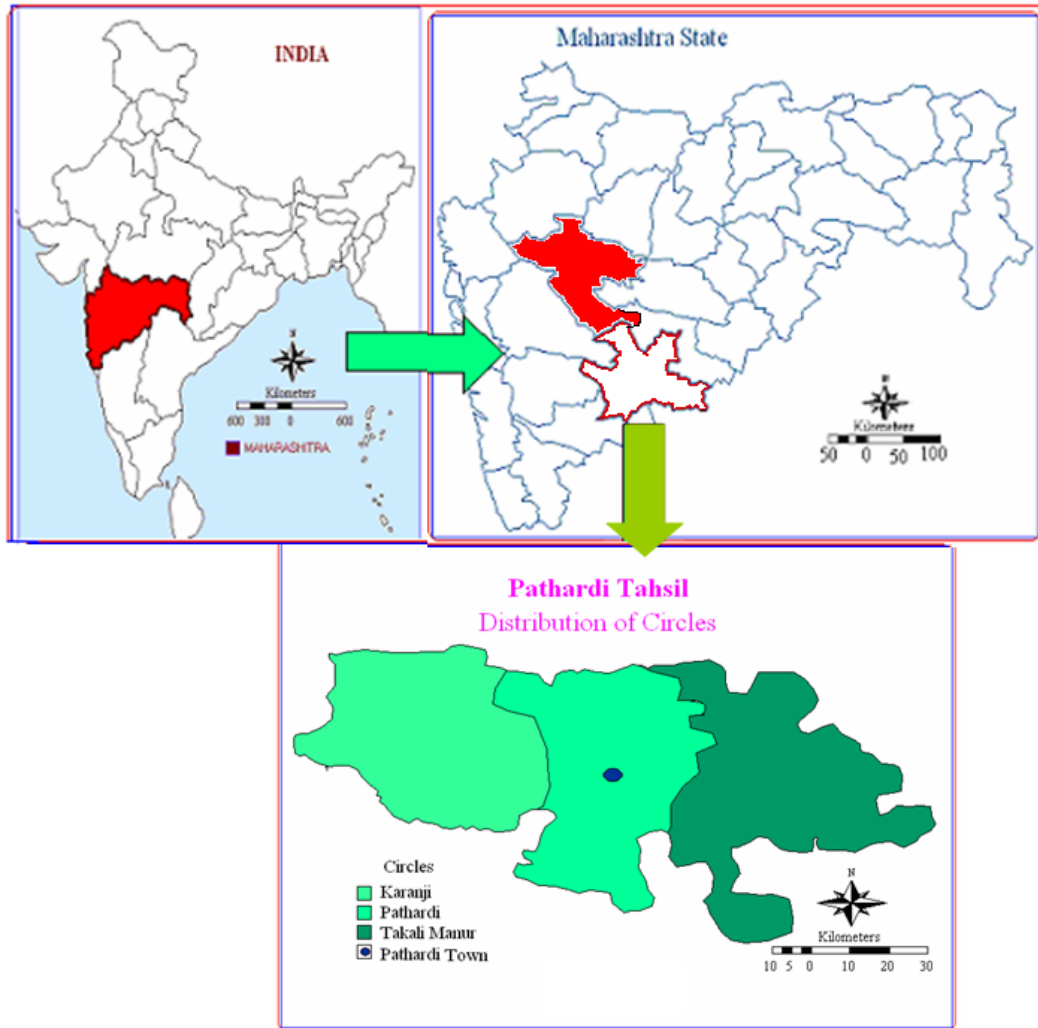


Fig No. 2.1

2.3 Geographical Location:

The tahsil is located in the east part of the Ahmednagar district. Shirur, Beed & Gevrai Tahsil of Beed district is located to the East. Shevgaon and Newasa of Ahmednagar District in the North-West. Ahmednagar Tahsil in the West respectively in the South Ashti Tahsil of Beed District.

Pathardi Tahsil lies in between **18° 54'** to **19° 12'** North Latitude & **74° 54'** to **75° 24'** East Longitude. It lies East & West direction. Geographical area of the Tahasil is 117784.35 hector according to 2001 census. Total population of the Tahsil was 214872 and density of population was 195.01 persons per Sq. km. as 2001 census.

2.4 Administrative Set Up:

As per Land revenue department of Pathardi Tahsil is comprises of 134 Villages. For administrative purpose the Pathardi Tahsil is divided into three division having

1. Karanji
2. Pathardi.
3. Takali Manur.

Table No.2.1**List of Villages In Pathardi Tahsil with circle wise*****Karanji Circle***

Sr. No.	Code No.	Name of Village	Sr. No.	Code No.	Name of Village
1	1	Shingave Keshav	19	19	Somthane KH
2	2	Shankarwadi(N.V.)	20	20	Parewadi
3	3	Miri	21	21	Tisgaon
4	4	Renukaiwadi (N.V.)	22	22	Shirapur
5	5	Adgaon	23	23	Nimbodi
6	6	Kamat Shingave	24	24	Devrai
7	7	Mohaj Bk	25	25	Tribhuwanwadi
8	8	Kadgaon	26	26	Joharwadi
9	9	Chichondi	27	27	Kaudgaon
10	10	Shiral	28	28	Khandgaon
11	11	Kolhar	29	29	Lohasar
12	12	Gitewadi	30	30	Vaiju Babhulgaon
13	13	Damal Wadi	31	31	Dagadwadi
14	14	Dongarwadi	32	32	Bhosa
15	15	Dharwadi	33	33	Karanji
16	16	Raghohivre	34	34	Satwad
17	17	Mohaj Kh.	35	35	Ghatshiras
18	18	Mandave	36	36	Karadwadi

Pathardi Circle

Sr. No.	Code No.	Name of Village	Sr. No.	Code No.	Name of Village
37	37	Kasarwadi	59	59	Malegaon
38	38	Jawakhede Khalsa	60	60	Dulechandgaon
39	39	Kopare	61	61	Agaskhand
40	40	Hanuman Takali	62	62	Walunj
41	41	Jawakhede Dumala	63	63	Karegaon
42	42	Kasar Pimpalgaon	64	64	Mohari
43	43	Padali	65	65	Shirasathwadi
44	44	Chitali	66	66	Ranjani
45	45	Sakegaon	67	67	Madhi
46	46	Kalegaon Fakir	68	68	Dhangarwadi
47	47	Prabhupimpri	69	69	Kelwandi
48	48	Pagori Pimpalgaon	70	70	Damalwadi
49	49	Sangavi Bk.	71	71	Manik Daundi
50	50	Sangavi Kh.	72	72	Chekewadi
51	51	Dangewadi (N.V.)	73	73	Patryacha Tanda
52	52	Hatral	74	74	Ghumatwadi(Nv)
53	53	Dhawalewadi (N.V.)	75	75	Alhanwadi
54	54	Saidapur	76	76	Landakwadi
55	55	Nivadunge	77	77	Chitalwadi
56	56	Dhamangaon	78	78	Borsewadi
57	57	Malibabulgaon	79	79	Pirewadi
58	58	Kherda	80	80	Shindewadi
			81	81	Jatdeole

Takli Manur Circle

Sr. No.	Code No.	Name of Village	Sr. No.	Code No.	Name of Village
82	82	Susare	107	107	Jambhali
83	83	Somthane Nalwade	108	108	Badewadi (N.V).
84	84	Somthane Bk.	109	109	Jawalwadi
85	85	Wasu	110	110	Dhakanwadi 82
86	86	Nipani Jalgaon	111	111	Malewadi
87	87	Koradgaon	112	112	Midsangavi
88	88	Aurangpur	113	113	Munguswade
89	89	Kalas Pimpri	114	114	Bhalgaon
90	90	Tondoli	115	115	Kasalwadi
91	91	Sonoshi	116	116	Ekanathwadi
92	92	Kolsangavi	117	117	Chumbhali
93	93	Jirewadi	118	118	Ambika Nagar (N.v.)
94	94	Nandur-Nimba-Daitya	119	119	Takali Manur
95	95	Bharajwadi	120	120	Tinkhadi
96	96	Kharwandi	121	121	Bhilwade
97	97	Bondarwadi	122	122	Karodi
98	98	Yeli	123	123	Chinchpur Ijade
99	99	Pimpalgav gavhan	124	124	Kuttarwadi(N.V.)
100	100	Bhutetakali	125	125	Pimpalgaon Tappa
101	101	Shekate	126	126	Manewadi
102	102	Palavewadin (N.V.)	127	127	Jogewadi
103	103	Akola	128	128	Chinchpur Pangul
104	104	Ghaitadakwadi	129	129	Dhakanwadi
105	105	Mohata	130	130	Wadgaon
106	106	Mohoj Devdhe			

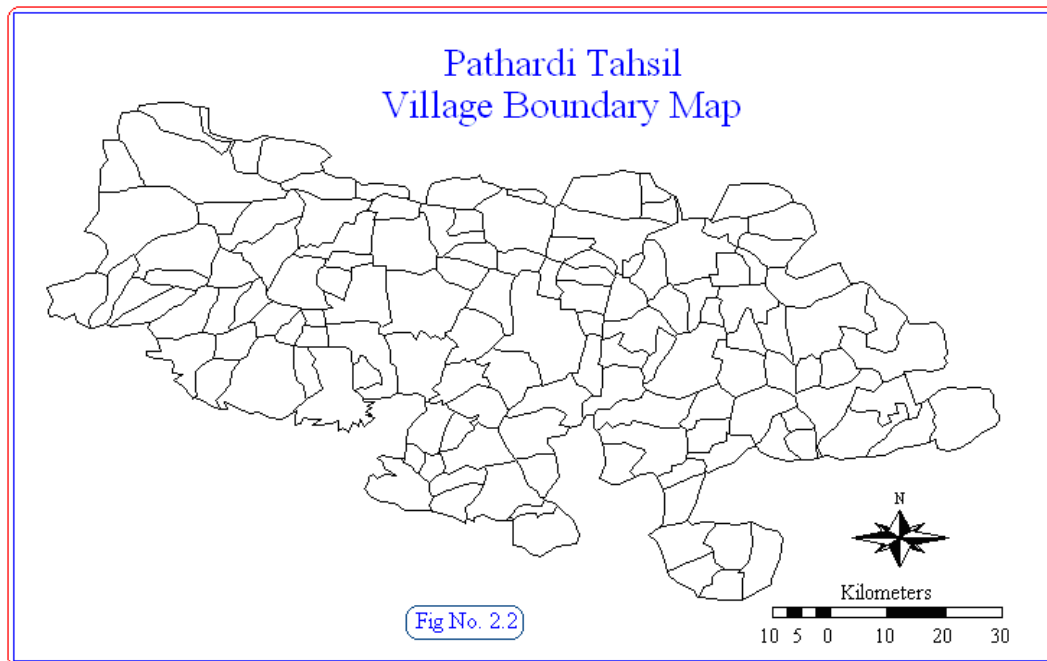
Source: The Ahmednagar Disjtrict census 2001

Table No.1.1

List of Villages in Pathardi Tahsil

ALPHABETICAL LIST OF VILLAGES ALONGWITH MANUAL CODE AND POPULATION IN 1991

Source : The Ahmednagar District census 2001

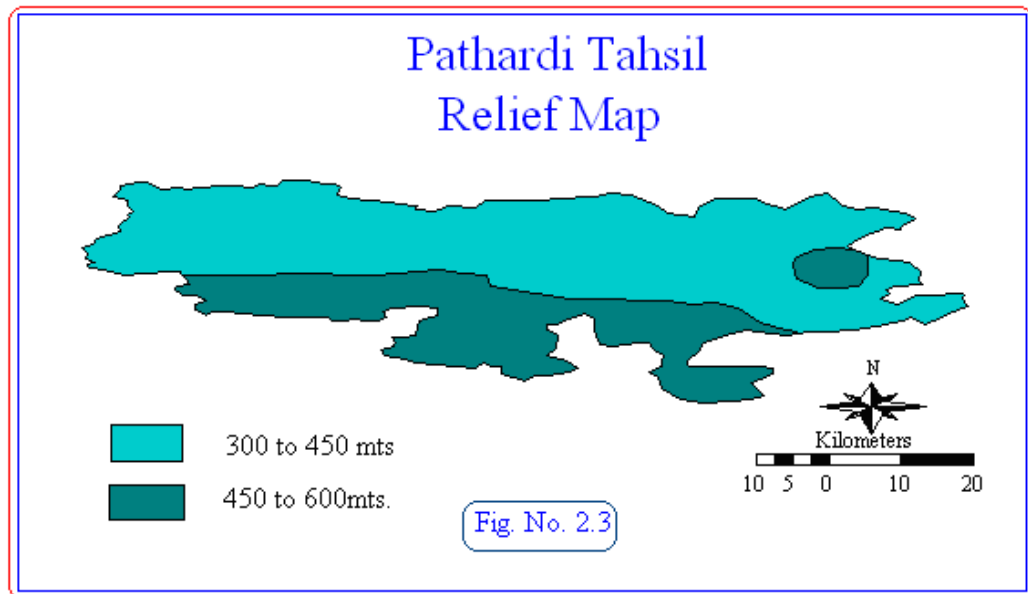


2.5 Topography :

Human resources are closely related to the Physical factors of study area. These factors directly or indirectly affect the distribution of population, Density, Transportation, Communication as well as agriculture and industry.

The region under study is covered by Basalt; geologically the basalt format by outpouring of enormous Lava flow which spread over vast area (Ahmednagar district gazetteer 2001) Deccan trap is divided into two varieties viz. vesicular and non-vesicular. The vesicular types are soft tribal

and breaks easily. The non vesicular type is hard, tough, compact and medium to fine grained and breaks with a concordat fracture (Bhende 2002) Pathardi's mean sea level height is 300 to 600 meters. It is lowered from South to North towards west and southern part of tahsil. There is Garbhagiri range because of this range the height is increased. Pathardi situated around high hills so it has high structure.



2.6 Slope.

Slope is an important manifestation of Landforms. It determines the agricultural activity and controls the amount run off as well as soil erosion. The direction of the slope is South to North in east part. While it is west to East in the Western part of Tahsil the Tahsil is situated high hills of Garbhagiri. The physical feature are high hills, steep slope are common in this region.

2.7 Climate :

Climate plays an important role of the human resources and agricultural Landuse. Many workers like (Husain 1999) have explained that climate factors are significant to determine the agricultural Landuse and agricultural pattern of the region.

The climate of the Tahsil is on the whole agreeable and characterized by general dryness in the major part of the year. The climate of the Tahsil is characterized by a hot summer and general dryness except during the south-west monsoon. The year can be divided into four seasons. The cold season from December to February. Followed by the hot season from March to the week of June. The South-West monsoon season is from the Second week of June till the end of September the post monsoon or retreating monsoon season. So the climate of Pathardi is hot and dry. The maximum temperature is 39.9⁰c. Minimum 11.7⁰c. Winter season climate is maximum 30⁰c and minimum temperature is 11⁰c recorded. And summer season maximum temperature is 44 to 45⁰c minimum temperature is 22⁰c recorded.

2.7.1 Temperature

Edmond (1972) explained that the temperature fluctuations influence the crop growth and development in the Pathardi tahsil maximum temperature is 43⁰c and minimum temperature is 11⁰c recorded. Highest temperature is recorded in the month of May so in the study area the hottest month is may while the coldest month is December.

Seasonal variation in temperature is quit large from March to onward increases nights remaining comparatively cool. In that time Individual days temperatures occasionally rise. With the onset of the South-West monsoons there is an appreciable drop in temperatures and weather become pleasant with the withdrawal of the monsoons day temperatures increase but night temperatures progressively decrease. From about the middle of November

both day and night temperatures decrease rapidly. December is the coldest month of the year with the men daily minimum temperature at 11⁰c in association with the passage of western disturbance across north India during winter season the minimum temperature in the Tahsil sometime drops to 3⁰c or 4⁰c.

Seasonal variation in temperature is quit large from March onward is a period of continuous increase in day temperatures, the nights remaining comparatively coll. Individual day's temperatures occasionally rise. With the onset of the South-West monsoons there is an appreciable drop in temperatures and weather become pleasant with the withdrawal of the monsoons day temperatures increase but night temperatures progressively decrease from about the middle of November both day and night temperatures decrease rapidly December is the coldest month of the year with the men daily minimum temperature at 11⁰c in association with the passage of western disturbance across north India during winter season the minimum temperature in the tahsil sometime drops to 5⁰c or 6⁰c.

Table No. 2.2

Distribution of Monthly Maximum and Minimum Temperature

Sr. No.	Month	Maximum 0°C	Minimum 0°C
1	January	28.6	13.7
2	February	30.0	14.6
3	March	35.7	18.5
4	April	39.6	22.3
5	May	43.0	27.3
6	June	33.6	22.9
7	July	30.1	21.9
8	August	28.4	20.1
9	September	29.6	20.6

10	October	32.1	18.2
11	November	28.3	13.2
12	December	27.0	11.0

Source: IMD Pune. 2008

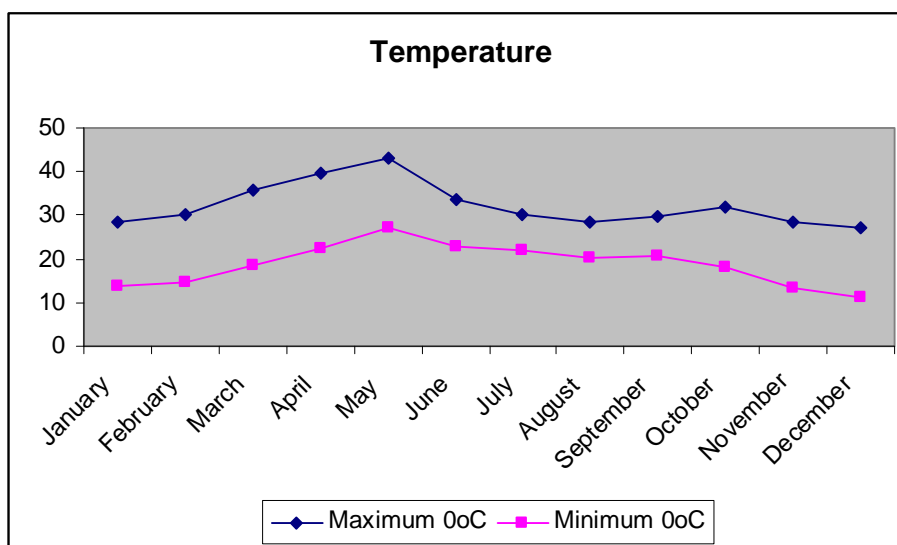


Fig. No. 2.4

2.7.2 Humidity :

The air is generally dry over the tahsil except the monsoon season. Before commencing monsoon and therefore the humidity considerably drops down. The high humidity is observed in the rainy season. It decreases to 20 to 25 percent in December. The tahsil lies on the eastern side of the Western *Ghats* it is the rain Shadow Zone. Therefore dryness is dominant in the summer and winter season.

2.7.3 Clouds :

Skies are generally clear or lightly clouded during most of the year. During the South West monsoon season the skies are heavily clouded to overcast. Winds are generally light to moderate in force with 50 m strengthening during the monsoon season.

2.7.4 Rainfall :

The average annual rainfall in the Tahsil is 579mm. The distribution of the rainfall is very uneven. The eastern part of the Tahsil gets more rainfall than the western part. The tahsil mostly lies in the rain shadow zone to the east of Sahyadri. So this Tahsil come in to drought prone area. Because of Low rain fall limitation of agriculture activities in the tahsil.

The climatologically investigations of drought prone characters have been carried out by many scholars like. Subramanyam (1972) Sarkar (1979), Reedy and Reedy (1983), Ghosh (1985), Gadgil (1986), Gregory (1989), Deosathali(1992) etc. The monthly distribution of rainfall for the three rain guage station has been given in the table no.2.1

Table No.2.3
Monthly Distribution of rainfall (mm)
(2008)

MONTH	PATHARDI	KASAR PIMPALGOAN	MANIK DAUNDI
January	Nil	Nil	Nil
February	Nil	Nil	Nil
March	62	42	35
April	Nil	Nil	Nil
May	Nil	39	Nil
June	65	06	15
July	52	123	95
August	107	73	142
September	361	332	295
October	37	02	20
November	Nil	Nil	Nil
December	Nil	Nil	Nil

(Source :Tahsil office Pathardi 2005)

The rainfall increases from West to East direction. Gadgil (1986), Saptarshi (1993) have stated that a hot summer and general dryness feature the climate of the drought prone zone of Maharashtra during all season. Agriculture in this Tahsil is mainly dependent upon rainfall in this Tahsil 84.9% of the total cultivated area is under dry farming. There are no major irrigation schemes. The rainfall therefore, determines the pattern of crops, rotation of crops and the productivity of the Land in the Tahsil.

The rain start in June & continuous up to October through out the Tahsil. Thus, the main precipitation during June to August is rather precarious. The showers in September and October are heavy and more assured winter rains brought by the North-East monsoon are of small in magnitude. The normal rainfall for the monsoon period June to September.

2.8 Drainage :

A general idea of drainage is essential in the study of population because it affects on arrigation and distribution of water resources .

The drainage system is most important for the Plants, Animals and human life. It indicates of river tracks and slope of the region. Its effect is on agriculture and human activities.

The source of the tributaries is mainly “Garbhagiri range”. These range is covered Southern part of the Pathardi Tahsil. In this tahsil all the rivers are rained and seasonally in character. In this tahsil five main rivers are following.

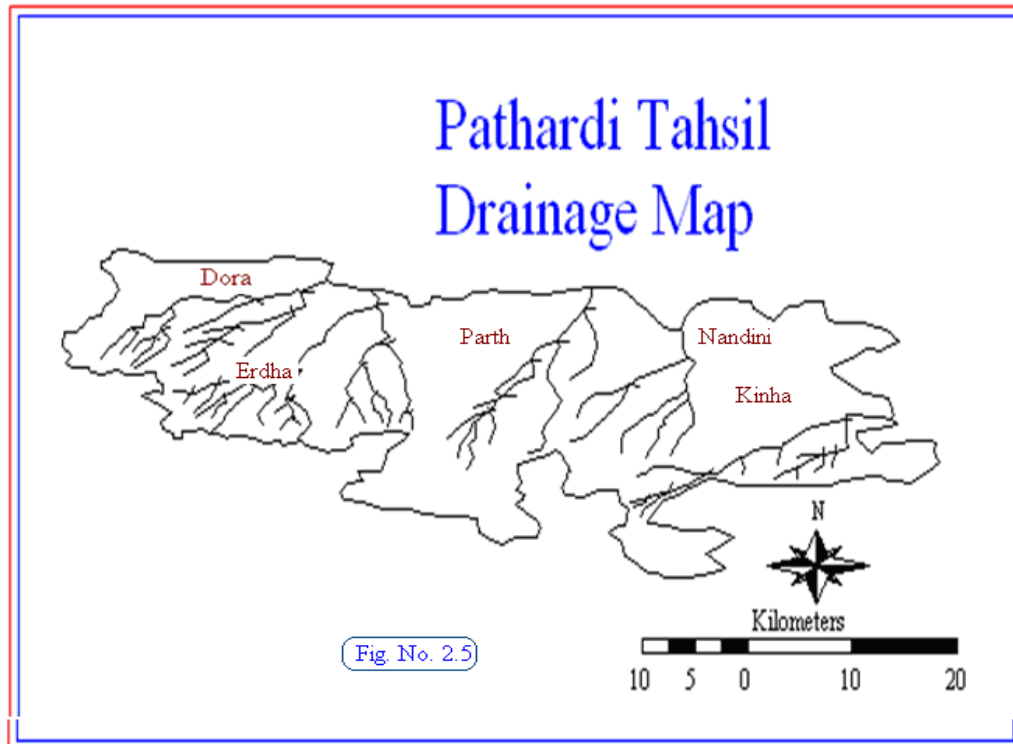


Fig No. 2.5

1. The Dhora River :

The Dhora is main and most important river in this tahsil. This river flows from south to north 60 K.M. and joined to Godavari River. It is origin at Nagar tahsil and flows from Kolhar, Mohoj Jawkhede. These river flows is main and most important for the Pathardi tahsil. But it is seasonal. These river flows are rainy season in month of July to January.

2. The Erdha River :

Erdha River is origin at Vriddheshwar. Erdha is tributary river of Dhora. It flows from south to north direction. It covers the area of Ghatshiras, Devrai, Mandave, Jawkhede and Join the Dhora river at Shevgaon tahsil on these river the percolation tank built at Ghatshiras.

3. The Parth River :

The Parth river origin is at Manikdaundi hilly region. This is flow from South to North direction. It covers the area of Manikdaundi, Kelwandi, Shirsatwadi, Pathardi, Dule Chandgaon, Pagori Pimpalgaon and joined to Nindini river at Varur in Shevgaon tahsil. On this river one percolation tank is at Shirsatwadi.

4. Nandini River :

Nandini river origin is at the “Tarkeshwar Gad”. This river is tributary of Dhora river. It flows from South to North Direction. It covers the area of Mohata, Akola, Mohojdevadhe, Koradgaon, and joined the Dhora River at Shevgaon Tahsil.

5. The Kinha River :

Kinha river origin in the Ashti Tahsil of Beed district. It covers the small part of Pathardi tahsil. Kinha river covers the area of Khuttarwadi, Chinchpur ijade, Takli Manur, Malewadi, Midsangvi and goes to Gevrai.

2.9 Soils Resources:

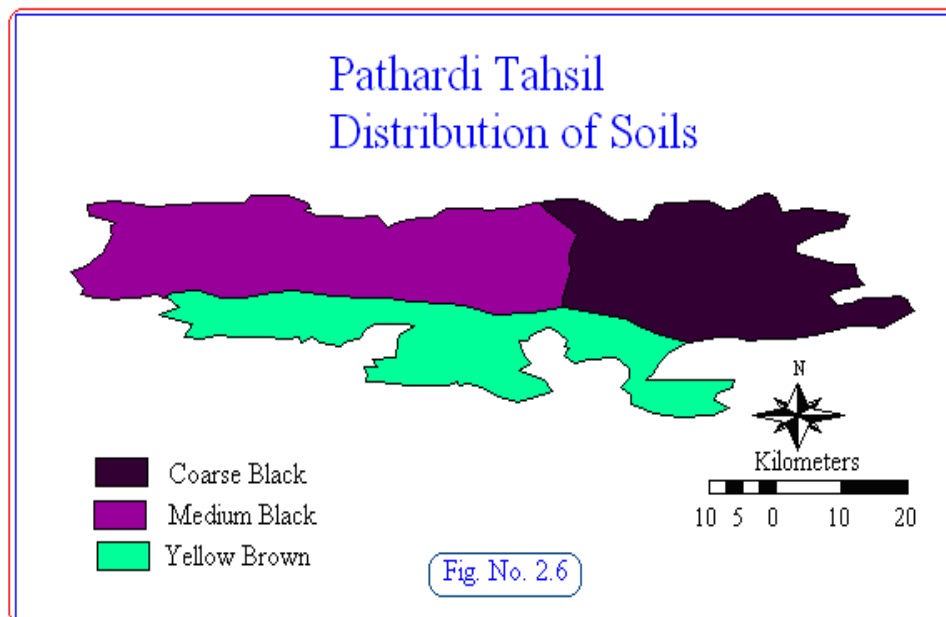
One of the primary functions of soil is to produce new wealth. (Wealth, in economic sense, is anything that has the power to satisfy human wants.) Our early history shows that as we developed our knowledge of soil and climate we prospered and advanced. Wherever the conditions of soil and climate have approached an ideal balance the possibilities of human progress have been extended and, in past, we have depended primarily upon our own efforts, combined with soil and climate, for our food, shelter, clothing and cultural luxuries.

Soil is one of the most important aspects of environment. It provides nutrients water and even air for the growth of the plant. Crops are affected much by unmet and soil variables. Improvement of the soil quality and to overcome the problems related to soil such as soil acidity, alkalinity, water logging is now possible. But in the developing countries like India is too expensive to apply remedial measures uniformly all over the region. Therefore it is necessary to make a detailed study of the soil for proper Landuse Jainendra (1985) has rightly pointed out the need for careful study of soil provides basic nutrients to plant for longer than chemical fertilizers.

Made an attempt to classify the soil in the Pathardi tahsil, on the basis of information obtained from the villagers at the time of field survey.

In Pathardi Tahsil some limited types of Soil occur in it.

1. Coarse Black
2. Medium Black
3. Yellow Brown (Mountain Soil)



2.9.1 Coarse Black :

The Coarse black soil in region is called kali or Regur. It appears as dark brown to grayish black in colour. The soil particles are very fine and coherent. It is black in colour due to excessive predominance of humus content over ingredient and has high power of entraining moisture. The Coarse black soil in the tahsil varies in depth from two feet to 7 feet. The coarse black soil of this region has good fertility due to its high moisture retentive capacity. These soils are found along the same streams and high plateau region. These are mainly located in the west part middle part and east part of the region. These soils are rich humus and hence support traditional crops like Jawar, Bajara, Maize & Grain. As a recent development the cash crops like sugarcane cotton, Sunflower and various type of vegetables, like lemon guava, Mango, Papaya etc are cultivated.

2.9.2 Medium Black :

The second type of soil are observed in the region is medium black soil. These are acquires loose particles in dry and muddy in wet and lime content occurs in moderate quality. Moreover its soil soaks water easily and has less productivity than coarse black soil. Earlier Bajara, Jawar, Wheat, Tur, Mung, Sunflower, Raised successfully in this soil. This type of soil found some western, southern part of the tahsil.

2.9.3 Yellow Brown :

This type of soil is poor mixed red soil is found on the rapped hills. Where topography prevents accumulation. Fertility of this soil is Low to moderate grade. Locally, this soil is known as 'Baradi Land'. These soil or higher ridges are usually unsuitable for cultivation. Such soils are deficient

in Nitrogen, Phosphate, and organic matter. These soils are confined to steep hills slopes, and rugged tops in the west and southern part of the tahsil.

2.9.4 Natural Vegetation :

Saptarshi (1992) explained that the actual cover is functionally related to the biophysical environment and the land use. The vegetation of the study area is 6425.85 hectore 5.46 % of TGA. According to 2001 census. The factors like topography soil and rainfall affect upon the vegetation cover. Due to variation rainfall within the tahsil various type of plants are observed.

The vegetal cover of the landscape is the product of its physiographic, climatic, edaphic and the biotic conditions.¹ In the study region the natural vegetation shows a random type of distribution of forest.

The area under forest has very low quality forest. Most of the areas under vegetation have either thin grass cover or barren. In this area various types of plants founds such as Nimb, Mango, Babool (Acacia), Palas, Pimple, , Hirda, Dhawada, Kaout, amla, Tamarind, Jambhul, Umbar, Bor, Chinch, Khair, Tembhurni, Custard apple and rare plants manual eucalyptus, like manual eucalyptus, Sandal Wood tree and weeds like harali, kunda, are found in the tahsil.

Importance:

Our forests are our greatest renewable natural resources.² They are an important source of raw materials.

Wild Animals & Birds :

Different types of wild animals are found in the Pathardi tahsil. Such as Rabbit Dear, Monkey, Cat, Wolf, Surreal Mongoose, Fox (Jackal) sayai Ghorpad, wild dog. These animals found in the Garbhagiri mountain range in the southern part of tahasil

Dear and rabbit found eastern and Northern part of the tahsil.

The following birds are found such as Owe, Woodpecker, Pewit, Brown dove, Parakeets, Cuckoos, Shikro, Bulbul, Maldhok, Myna, Parrot.

2.10 Resume:-

In this chapter discussed of this physiographic and sidewise village set up of the tahsil physical aspects namely. Relief, temperature, soil types, Natural Vegetation and wild animals has very less amount of rain and high temperature.

REFERENCES

1. Ahmednagar Districts Gazetteer 2001.
2. BHENDE ASHA(2002): "Principles of Population Studies", Himalaya Publishing House, Bombay, pp-180-279
3. HUSAIN (1999): "Human Geography" Rawat Publications Jaipur. And New Delhi pp-223-251
4. GADGIL A. G. (1986) 'Annual and Weekly analysis of Rainfall & Temperature for Pune. A multiple Time series Approach' Transactions 11G, Vol. 9. No. 1, Jan- 1986, PP. 27-34.
5. GREGORY S. (1989): The Changing Frequency of Drought in India 1871-1985. The Geographical Journal. Vol. 155, No. 3, PP. 322-334.
6. DEOSTALI, VRISALI (1992): "Moisture Adequacy for Extreme and normal year for Pune and its Environs," Geographical Review of India; Vol. 54, No. : 1 March 1992.
7. SAPTARSHI P. G. (1993): "Resources appraisal and planning strategy for the Drought-Prone areas- A case study of the Karjat Tahsil Dist. Ahmednagar, Maharashtra, Unpublished Ph. D. Thesis submitted to University of Pune. P. 232.
8. SAPTARSHI P. G. (1992): "A Geographical Assessment of Forest Resources in Karjat and Mawal", A paper presented at the Third Annual Conference of NAGI, Pune, Feb. 1992.
9. GHOSH (1985): "Fundamentals of Population Geography ", Sterling publishers Pvt. Ltd, New Delhi, pp22-133

CHAPTER – III

Socio Economic Profile

3.1 Introduction

Along with physical setting of Pathardi Tahsil, Socio-economic setting influences agricultural landuse pattern of the Tahsil both the physical and socio-economic factors impact on agriculture. Practice and its production Tasbir Sing & S. Dhillon (1987) have rightly stressed the necessity for the evaluation of Socio-economic variables in terms of inputs involved in agriculture sector that have been ultimately forming landuse pattern and yield per hector.

In this chapter attempts to discuss the socio-economic background of the region namely population. Occupational structure irrigation, Marketing, Transportation and their impact on agricultural landuse pattern of the Pathardi Tahsil.

3.2 (1.) Population

Human population is the most important resource from economic point of view population provides the Labour force for agriculture activities. As regards density of population in areas of high density of population diversified economic activities agglomerate on a large scale on the contrary in areas of medium density diversification takes place at lower extent and in areas of low density it takes place still lower extent.

The population growth is one of the important aspects of the tahsil profile. The decadal growth rates from 1951 to 2001 have been given in the table

Table No.3.1
Growth Rate of Population

Sr. No.	Year	District	Tahsil	Decadal District	Decadal Tahsil
1	1951	1413446	98148	----	---
2	1961	1779246	111214	+ 20.55	+ 11.74
3	1971	2273223	138590	+ 21.73	+ 19.74
4	1981	2712491	147837	+ 16.91	+ 06.25
5	1991	3372935	166313	+ 19.58	+ 11.10
6	2001	4088077	214872	+ 17.49	+ 22.59

Source: District Census Handbook 1951 to 2001.

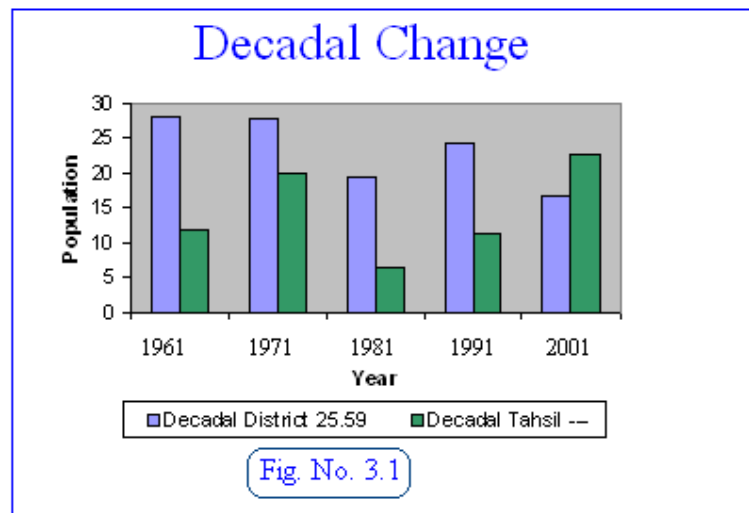
The tahsil shown only 22.59 percent decadal growth of population in the decadal rate 1991- 2001. While the Ahmednagar district decadal growth of population is 17.49 in 1991-2001.

As per 2001 census the population of the tahsil is 214872 persons. It is observed from the above table that the population in the Pathardi Tahsil has been increasing rapidly from 1951 to 2001. The population of Pathardi Tahsil was only 98148 in 1951. While it increased 214872 in 2001. The total increase in population during the above period is 116724 persons with higher rate.

The growth of the population of the district has been observed to be significantly more than of the tahsil by about the tahsil shown only 20.55% in 1951-1961,21.73% in 1961-1971,16.91% in 1971-1981,19.58% in 1981-1991 and 17.49% in 1991-2001.From 1951 to onward the population of district

increased with high rate, during the period from 1951 to 1991. But the year 1991 to 2001 the growth rate of tahsil is higher than the district.

It has increased by 13.3 percent growth in 1955-1961 to 29.19 percent in 1991-2001.



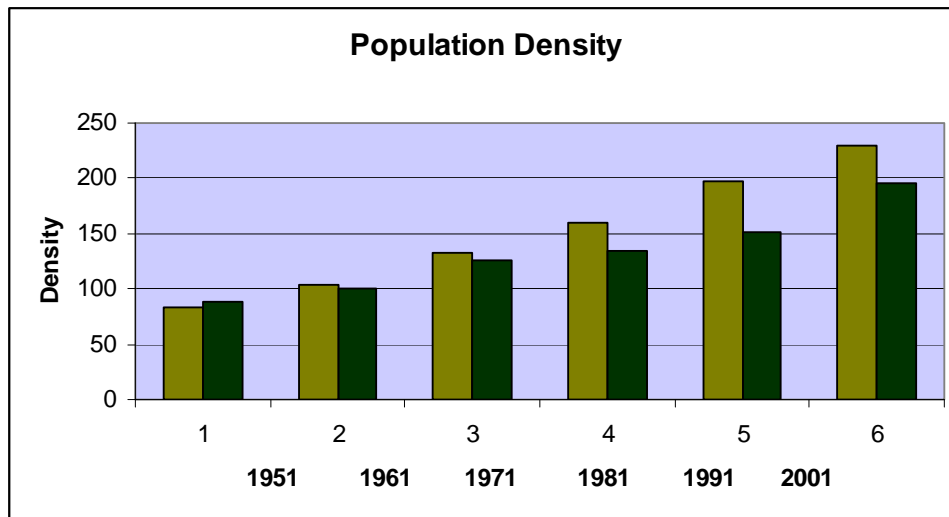
3.3 Population Density of Pathardi Tahsil.

The density of population is most important in the study of agricultural landuse. Because the density of population influence on agricultural landuse. Jagdale (2002) Kadam (2002) have stated that distribution and density are most important and fundamental factors in the study of population geography distribution means aerial distribution of a population. Population distribution depends upon the geographical economic, social and cultural factors of that particular area.

Table No.3.2
Population Density of Tahsil and District

Sr.No.	Year	District Population	Density	Tahsil Population	Density
1	1951	1413446	82.90	98148	89.07
2	1961	1779246	104.36	111214	100.93
3	1971	2273223	133.34	138590	125.78
4	1981	2712491	159.10	147837	134.17
5	1991	3372935	197.84	166313	150.94
6	2001	4088077	230.00	214872	195.01

Source: District Census Hand Book 1951 To 2001



The area under study has 81.35 % working population which is directly involved in agriculture (2001).

The distribution of the population is uneven within the tahsil. In the north east wet part of tahsil density of population is more than in compares on with the western southern part. The population of the tahsil is mainly dependent upon agriculture and hence availability of water and fertile agricultural land are the major factors influencing the distribution of population.

According to 1951 census the population density of the Ahmednagar district was 82.90 person per Sq km. While the density of Pathardi tahsil average of 89.07 people per Sq km. and 230 people per Sq. as per 2001 census while the tahsil density was 195.01 people per Sq km. It is observed that density of population in the tahsil is increasing since 1951 to onward. It is 89.07 people per Sq Km. in 1951 and 195.01 person per Sq km. in 2001.

3.4 Sex Ratio:

The sex ratio a region is the manifesto of number of demographic, Socio-cultural and economic phenomena. Gupata (1995) has stated that the sex ratio of a region is the manifesto of number of demographic, Socio-cultural and economic phenomena. Sex ratio may be one of the indicators for judging the level of development. It is well known that a balanced sex ratio (i.e.about 1000 female/ 1000 male) is the sign of proper human resource development.

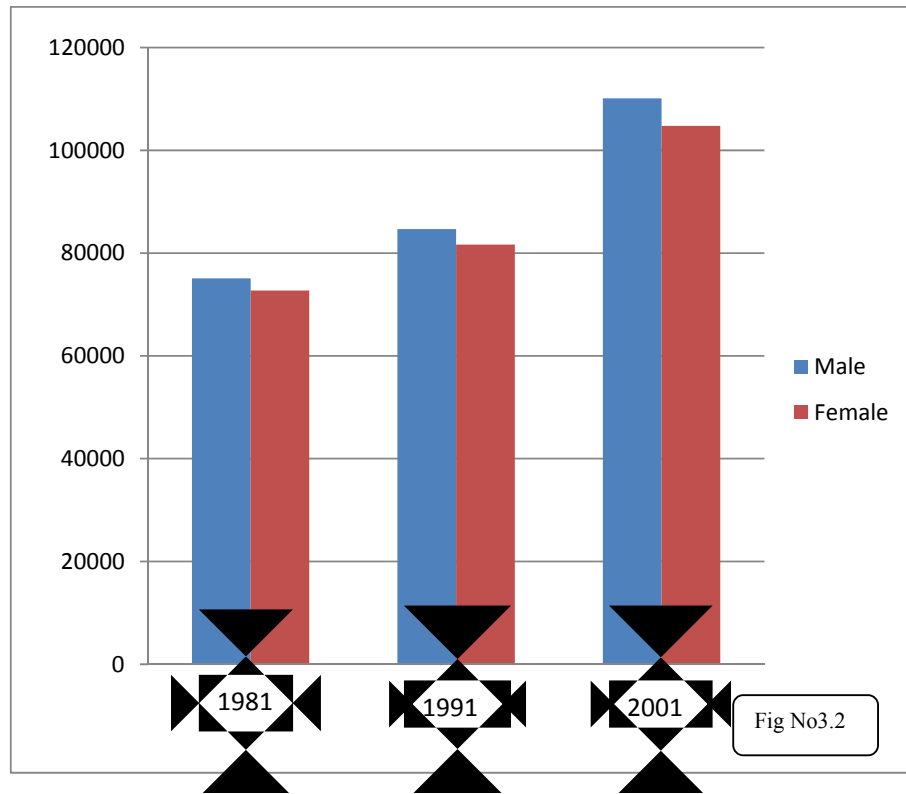
Table No. 3.3

Sex Ratio 1981 to 2001

Sr.No.	Year	Population	Male	Female	Sex Ratio
1	1981	147837	75106	72731	968
2	1991	166313	84663	81650	964
3	2001	214872	110116	104756	951

Source: District Census Hand Book 1981 To 2001

Sex Ratio



The table shows that the male population is more than the female population. The sex ratio has decreased from 968 in 1981 to 951 females per thousand in 2001. The sex ratio reflects the socio-economic and demographic characteristics. In both the census 1981, 1991 and 2001 the rural as well as urban sex ratio in the tahsil are less than 1000. The sex ratio has declined from 1981 to 2001 17 points.

3.5 LITERACY :

“A person who can both read & write with understanding in any language is to be known as a literate by the Indian census.”

In 1991 Ahmednagar district reported 1683165 people as literate, and it constitutes 61.03 % of the total population. The literacy rate of Ahmednagar district in 1981 census was 50.87 % of the total population.

Table No 3.4

Literacy rate of Pathardi Tahasil (1981-2001)

Sr.No.	Year	Total Population	Population		Literacy	
			Male	Female	Male	Female
1.	1981	147837	15106	72731	52.39	22.22
2	1991	166313	84663	81650	67.12	32.88
3	2001	214872	110116	104756	70.20	45.39

Source: District Census Hand Book 1981 To 2001

For the tahsil as a whole, the literacy rate for male is much higher than that of female in 1981 the literacy rate of male is 52.39. While females account for only 22.22 % (percents) in 1991 males' rate is 67.12% and female's rate 32.88 % percent as well as in 2001 male's literacy rate is 70.20% while female's literacy rate is low, it is 45.39%. In other words females are lagging behind males in literacy in the tahsil.

3.6 Occupational Structure :

In the agricultural land use the availability of labour resource and its involvement in various activities shows the development of the region in the Pathardi tahsil 81.35% population is engage in agriculture sector as per (2001).

It gives idea regarding population pressure on the agricultural land.

The planning commission organization has suggested two type of working population Main workers and Marginal workers.

3.6.1 Main Workers :

The main workers have been again grouped into four sub groups as follows:

1. Cultivators
2. Agricultural Laborers
3. Workers engaged in household industry
4. Other workers such as Trade & Transport.

As per definition, main workers are those who are worked for the major part of the preceding year were recorded as main workers (at least 6 months/183 days) while those who worked for sometime during the preceding year but not for the major part, have been treated as marginal workers. All those, who had not worked at all during the last year, were as non-workers, persons engaged in household duties, students, and dependents retired persons volunteers, beggars are some of the categories grouped as non-workers.

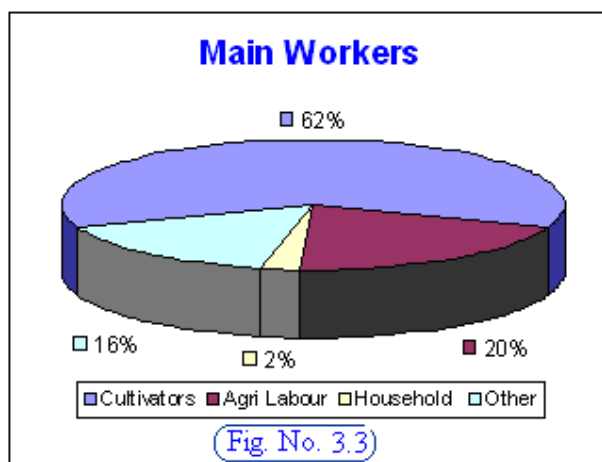
The table (Table 3.2) depicts that the percentage of workers in the tahsil has been 48.27% according to the 2001 census. This shows that the proportion of dependent population is marginally more than the working population. This kind of situation certainly does not depict the high standard of human development of the tahsil of these the work participation in the rural area is more 44.66% than that in urban area 3.36% in the both are Rural & Urban participation of male population is more 51.56% than the female 48.44% in Urban male 71.37 and female 28.63.

Table No. 3.5

Sr. NO.	Type of Worker	Total Tahsil Population			Rural Population			Urban Population		
		Total	Male	Female	Total	Male	Female	Total	Male	Female
1	Main workers	42.18	56.54	43.46	39.06	55.06	44.94	3.12	75.05	24.95
2	Marginal Workers	6.09	28.76	71.24	5.60	27.09	72.91	0.48	47.85	52.15
3	Total Workers to Total Population	48.27	53.03	46.97	44.66	51.56	48.44	3.36	71.37	28.63
4	Non Workers to Total Population	51.72	49.57	50.43	44.71	50.65	49.35	7.01	42.74	57.26

Source: District Census Hand Book 2001

The proportion of non-working population in the rural area is 44.71% while it is 7.01 in the urban area in the rural area the number of the marginal workers is more than 05.60% while it is less in the urban area i.e. 0.48%. It is worth to note that the female work participation in the urban area is significantly less than that than in case of rural area. This means that in the rural areas active population includes more women laborers than in the rural areas. It suggests that the development of rural population is in a stage in which female population has to seek employment for their survival. In other words, male workers are not getting sufficient wages to meet the needs of family as in case of urban areas in the tahsil. Therefore it may be concluded here that work participation ratio may be considered as the negative indicator development of rural areas.



In the Pathardi tahsil has 90640 total workers 42.18 % to total population. The occupational structure has been studied under four groups as follows :

1. Percentage of total workers to total population.
2. Percentage of cultivators to total workers.
3. Percentage of agricultural labour to total workers.
4. Percentage of other works percentage of Household industry to total workers.

Table No 3.6
Occupational structure

SN	Workers	Tahsils		Male		Female	
		Person	% MW Workers	Person	Percentage	Female	Percentage
1	Cultivators	55498	61.23	29540	53.23	25958	46.77
2	Agri Labour	18230	20.12	8048	44.15	10182	55.85
3	Household Industry	2263	2.49	14.05	62.08	858	37.92
4	Other	14649	16.16	12260	83.69	2389	16.31
	Total	90640	42.18	51253	62.78	30387	37.22

Source Ahmednagar District Census Handbook -2001

3.6.2 : Percentage of total workers to total population

In the Pathardi tahsil the percentage of total workers to total population shows in the table no 3.6.

It shows that the total workers is 90640 persons in working population category that is 42.18% in 2001 census. Male workers are more than the Female workers. Male percentage is 62.78 while female percentage is 37.22.

The classified quantitative information regarding working population clearly shows the significant difference in the rural and urban areas of the tahsil.

3.6.3 The percentage of cultivators to total workers:

The proportion of cultivators dominates the working class in the study area. The percentage of cultivators is 61.23 percent in the tahsil the population of male cultivators 53.23 and that of female 46.77 percent female percent. The cultivators are the landowners and hence, high number of them indicates dominance of small and marginal holding.

3.6.4 The Percentage of agricultural labour to total workers:

In the agriculture sector agricultural labour plans an important role. In the tahsil the percentage of agricultural labour is 20.12 the population of male agricultural labour is 44.15 percent in the tahsil and of female is 55.85. It means that the percentage of female agriculture labour is more than the male labours in rural area female are main agriculture labour. In view of the labour intensive nature of agricultural economy a large number of women are required to participate in work especially during the peak season of

agricultural operations like sowing and harvesting which are to be carried out in a short span of time covering large areas in each village.

3.6.5 Percentage of Household industry and other work to total workers:

In this tahsil the percentage of workers engaged in other services has been (16.16%). This indicates that the level of development in the non-agriculture sector is comparatively low in the tahsil. The percentage of main household workers is only 2.49 percent in the tahsil in which proportion of male is 62.08 and female 37.92 percent. Further the other workers are 16.16 percent in the tahsil with proportion of male 83.69 percent and female 16.31 percent. If this category is included in secondary and tertiary it shows need to improve female participation.

3.7 Area under Irrigation:

As monsoonal outburst is totally unpredictable in India, to ensure stability in the drought prone agricultural fields, irrigation became an age-old practice.³

Irrigation is a life line of agriculture. It is essential to have regular and timely supply of water for the growth of crops. Irrigation is life line of drought prone zone according to many scholars like Sings (1992), Jadhav and Ajagekar (1993), Saptarshi (1993), Bhagat (2002) More (2008) etc. The Rangarajan Committee has been suggested in the report 2006-07 that agriculture sector should be prominent by extending irrigation and electricity facilities. In the drought prone zone will irrigation is practiced even in monsoon season and hence smooth supply of electricity has become crucial. Thus, irrigation facility is basic factor and it encourages other important factors like implementation of modern technology in agriculture use of

chemical fertilized, pesticides, HYV Seeds and etc. Thus, irrigation is important basic factor in the agriculture.

The Pathardi tahsil entirely depends on monsoon rainfall for its crop-growth from this point of view the study of irrigation aspect is essential. Irrigation source such as tank, rivers, canals, wells can be used. But it's a limitation.

Table No.3.7

Circlewise Area Under Source of irrigation in Pathardi

Sr. No.	Source	Karanji	%	Pathardi	%	Takali Manur	%	Total Tahsil	%
1	Wells	2703	96.64	2831	97.69	3526	97.92	9060	97.46
2	Dams and Canals	65	2.32	54	1.86	60	1.67	179	1.93
3	Rivers	29	1.04	13	0.45	15	0.42	57	0.61
4	Total	2797	100	2898	100	3601	100	9296	100

Source: District census 2001

a) Wells :

Wells are the main source of irrigation in the study area. During the year 2004-05 review wells continued to be the main source of irrigation. The net irrigated area by wells accounted for 9060 hect. (9.27% NSA) In the study area most of the villages can be used wells for the source of irrigation out of these wells some wells are used for drinking purpose.

2) The area under canal irrigation is less (0.18%) there are few small Dams in the tahsil, which can not provide the irrigation facilities, in the North West

part of the tahsil Vambori canal provide limited irrigation facility majority of the village in the tahsil have not canal irrigation facility and hence drought prone characters prevail.

3) River:

Rivers from the source of irrigation for just 0.05.1 NSA in the study area. The net irrigated area by rivers accounted. Only 57 hect. In the study area all rivers are seasonal. Thus the scarcity of water is felt for major part of the year.

3.6.7 Unirrigated Area:

Most of the agricultural land (83.04%) in the tahsil is rain fed. Therefore, due to the longer dry spells probability of which is on higher side, the crops fail frequently. This situation permits the crops like, Bajara, Jawar, Bajara, Oil seeds and Pulses etc.

Marketing:

In agriculture geography the study of marketing is most important it extends selling and purchasing facilities to agricultural commodities. The numerous activities in agricultural seed purchasing and selling goods needs market facility.

There are two types of market, one is weekly and other is regular market. The Tahsil has wide distribution of weekly markets and one regular market at Pathardi has opened up on experimental basis for operation.

Here on attempt has been made to examine the distribution of market in the Pathardi Tahsil.

The distribution of weekly market and Regular Market-

Table 3.8

Sr.No.	No of Days	Name of Villages
A) Weekly Market	1	Kharwandi
1. Sunday	1	Chichondi
2. Monday	1	Karanji
3. Tuesday	2	Pathardi, Takli Manur
4. Wednesday	1	Tisgaon
5. Thursday	1	Jawkhede
6. Friday	2	Miri, Koradgaon
7. Saturday	1	Pathardi
B. Regular Market		

The above table shows the locations of weekly markets in the Pathardi tahsil and it spread out throughout the region. The main function that is served by weekly market is to distribute goods to consumers in the surrounding villages. The sequence of market day among the villages is best adjusted so as to deduce the completion in the surrounding area in the basin. Thursday is fixed for two villages namely Tisgaon and Taklimanur. Miri and Koradgaon are fixed Saturday. Sunday Market day of Kharwandi Monday for Chichondi, Thusday for Karanji, Wednesday for Pathardi, Friday Jawkhede.

Thus, the tahsil have 10 market places. Pathardi is the main market city in the tahsil. In these tahsil villages are best adjusted with having 7 to 15 kilometers distance from each village.

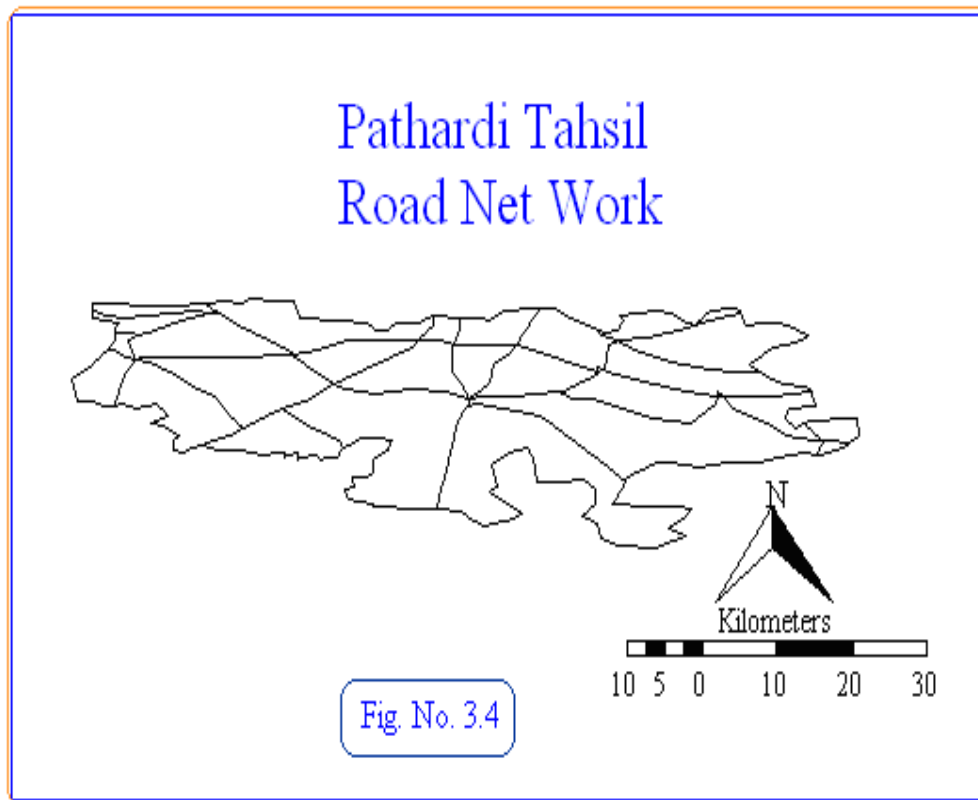
3.9Roads,Transports And Communication:

It is an effective means of interaction between villages' central places and agricultural market centers. According to view of development of transport of network in the study area may be considered as the developing region.

Most of the roads are milted in the study area work in progress Vishakhapattanam National High-Way No.222. This highway passes through Pathardi. Beed-Kalyan State Highway No.147 also passes through Pathardi tahsil. Pathardi-Shevgaon, Pathardi-Ashti, Pathardi-Shirur, Beed, Pathardi-Kharwandi-Beed roads are available in this tahsil. All these highway and local road play an important role for the transporting agricultural goods.

There is a plan of Baramati-Pathardi-Aurangabad State Highway from this tahsil, many local roads available in the tahsil.

It is observed that most of villages are linked by bus service of minimum two or three frequencies to each village. This bus service is owned by state transport service, Maharashtra Government. In rainy season kaccha road are badly affected for the transporting agricultural goods.



In this tahsil state transport buses and private vehicles are also available. Facility of railway is not available in Pathardi tahsil also available 46 Telephone booth and 15 post offices.

All these facilities play an important role for the transporting agricultural good and communication with each other.

3.10 Industrilisation:

In Pathardi tahsil is one of the main sugar industry. Shri Vridheshwer S. S. K. Lt, Adinathnager. These industry is located in western part of Pathardi tahsil.

3.11 Electricity:

“No power is costlier than no power”- historical remark of legendary Homi Bhabha rightly pointed out the necessity of power development in the Third world countries like India.

3.12 Animal Resources/ Livestock/ Animal husbandry:

Animal resources were considered important in the economic life of mankind ever since the dawn of civilization.

3.13 Resume :-

In this chapter the study may be useful to understand the socio-economic profile related to human resource in the tahsil. It includes density, growth, Sex ratio Occupational Structure and working population and there by human development.

REFERENCES

1. SINGH J. AND DHILLON S. S. (1987): "Agricultural Geography", Tata Mc-Graw Hill Publishing Company Limited, New Delhi, PP. 53-67.
2. JAGDALE UTTAMRAO (2002): "Appraisal and Planning of Human Resources in the Junnar Tahsil District Pune, Maharashtra, Ph. D. Thesis.
3. JAGDALE, UTTAMRAO, KADAM, AVINASH, AND SAPTARSHI, PRAVEEN (2000): "A Spatio Temporal Study of population Growth in the Pune District (1951-1991)", MBP journal, Vol. XIV, No. 1, PP. 25-40.
4. KADAM, AVINASH, (2002): "Environmental Impact of population Growth in Baramati Tahsil of the Pune District", Ph. D. Thesis.
5. GUPTA AND BAGHEL (1995): "Fertility Differentials in Madhya Pradesh" Population Geography, 'A journal of the Association of Population Geography of India' Vol. 16. No. 1 and 2 PP. 49-58.
6. SINGH, ABHA LAXIMI (1992): "Impact of Different Source of Irrigation on Cropping Pattern, Yield and Farm practices", Geographical Review of India, "The Geographical Society of India, Culcutta, Vol. 54. No. 1. PP. 19-30.
7. JADHAV, M. G. AND AJAGEKAR B. A. (1993): "Slope and Irrigation Development in Upper Vedganga Basin (south Maharashtra)" The Deccan Geographer. Vo.. XXXI, No.2, PP.25-32.
8. SAPTARSH P. G. (1993):"Resource Appraisal and Planning strategy for the drought-prone Area. A case study of the Karjat tahsil ,Dist Ahmednagar,M.S",Unpublished Ph.D Thesis submitted to University of Pune pp304-377.

9. BHAGAT, VIJAY (2002): “Agro-Based Model for Sustainable Development in the Purandhar Tahsil of the Pune District, Maharashtra”, Ph. D. Thesis (2002).
10. MORE J. C. (2008): “A Strategy for Sustainable Agricultural Development in Karmala Tahsil in Solapur District, Maharashtra”, Unpublished Ph. D. Thesis, University of Pune.
11. BAGHEL, GULAB SINGH (1995): “Geography of Human Resources”, Mohit Publication, New Delhi, pp-15-223

CHAPTER IV

ASSESSMENT OF HUMAN RESOURCES

4.1 Introduction:-

Resources are classified into two types one is natural and the other human resources. The study of population forms the base to have broad idea regarding quality of human life. The study of population in the Pathardi tahsil has been presented in the previous chapter. The present work thus proceeds further for assessment of human resources.

The human resources play the very important role in the development of the natural resources. Therefore both numerical strength and quality of people have gained importance. Gosal (1995) has supported the idea that the quality of man, is the key factor in the totality of regional development The development of the region is concerned with the quality and quantity of the population Man is the consumer as well as the producer and hence human resources are at the central stage in an economy. Such resources are evolved through socio-cultural development in the past Saptarshi (1996) has described that the potential of human population as a resource is determined by its social, cultural and economic characteristics as well as by the level of technological development. According to Datta and Sundaram (1996) the quality of population can be judged from life expectancy, the level of literacy. And the level of technical training attained by the people of country.

Human resource is one of the vital resources of a region. The qualitative and is thus necessary to understand the process of development in a region. With this as the main theme, chapter attempt to investigate level of human resoures in the Pathardi tahsil

4.2 Revenue circle wise size of villages:

The size of village depends on the natural environment of the particular region. The different of geographical condition of the study area affects size of village. In the mountainous region of the tahsil, particularly in the southern part and some Eastern part, the villages are small in size while in the western and northern part of the tahsil, villages are large because of plain region.

Table No. 4.1

REVENUE CIRCLE WISE SIZE OF VILLAGES

Sr.no.	Population	Revenue		Circle		Number	
		I	II	III	Total		
1.	7500-	01	11	09	21		
2.	500-999	13	14	13	40		
3.	1000-1499	09	05	12	26		
4.	1500-2999	11	12	14	37		
5.	3000-6499	02	03	05	10		
6.	6500	00	00	00	00		
	Total Number Of Villages	36	45	53	134		

Source – District census Handbook 2001

Revenue Circle

I) KARANJI II) PATHARDI III) TAKALI MANUR

The table 4.1 depicts that in the Pathardi and TakaliManur circle, number of small size villages are more, but the Population of these villages is less. This is because the Takali Manur circle is located in the southeast part and southern part of Pathardi circle of the tahsil. This area is mountainous and hilly In karanji circle, the number of small villages are less, but large villages

are more western and Northern part of the tahsil has the plain area There are fertile soil, water resources, and transport facilities are available

Table No. 4.2

REVANUE CIRCLEWISE DENSITY OF VILLAGES

Sr. No.	R.C.	No of Villages	Area (Sq Km)	Village Density per
1.	I. KARANJI	36	371.39	10
2.	II. PATHARDI	45	379.21	12
3.	IIITAKALI MANUR	53	463.50	11

Source – D.C.H. 2001

4.3 Amenities:-

The development of the region can be pulsed with the availability of various amenities like education, health services, market, drinking water, transport etc. The availability of various facilities in the Pathardi tahsil have shown in the map (fig- 4.1) Table 4.1

Distribution of villages According to the availability of different Amenities and population served.

Table No. 4.3

Availability of various facilities in Pathardi Tahsil

Sr.No.	Amenities	No. of villages		%of. villages Served by amenities		% of Population Served	
		1981	1991	1981	1991	1981	1991
1.	Education	122	130	100	100	100	100
2.	Medical	21	45	17.21	34.62	38.69	21.33
3.	Drinking water	122	130	100	100	100	100
4.	Post and	45	43	36.89	33.08	64.08	53.82

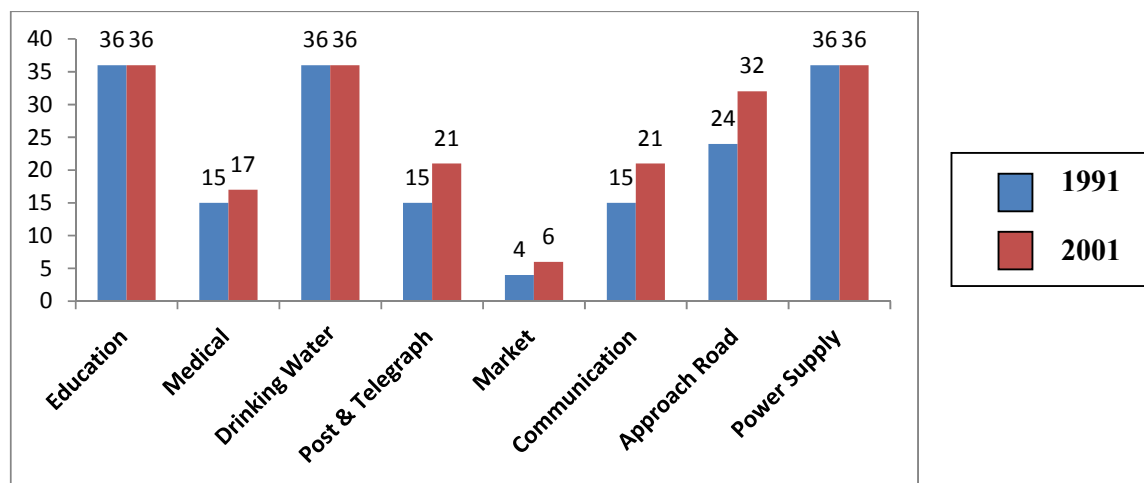
	Telegraph						
5.	Market	14	10	11.48	7.69	31.93	17.86
6.	Commutation	92	69	75.41	53.08	82.91	96.13
7.	Approach Road	53	71	43.44	54.62	54.54	70.05
8.	Power supply	82	130	67.21	100	77.22	100
	Source-D.C.H.	1981-1997	Villages	1981=122 1991=130			

Table 4.3.1
Karanji Circle

Sr.No.	Amenities	1991	2001
1.	Education	36	36
2.	Medical	15	17
3.	Drinking Water	36	36
4.	Post & Telegraph	15	21
5.	Market	4	6
6.	Communication	15	21
7.	Approach Road	24	32
8.	Power Supply	36	36

Karanji Circle

No. of Villages



FigNo. 4.1

AMENITIES

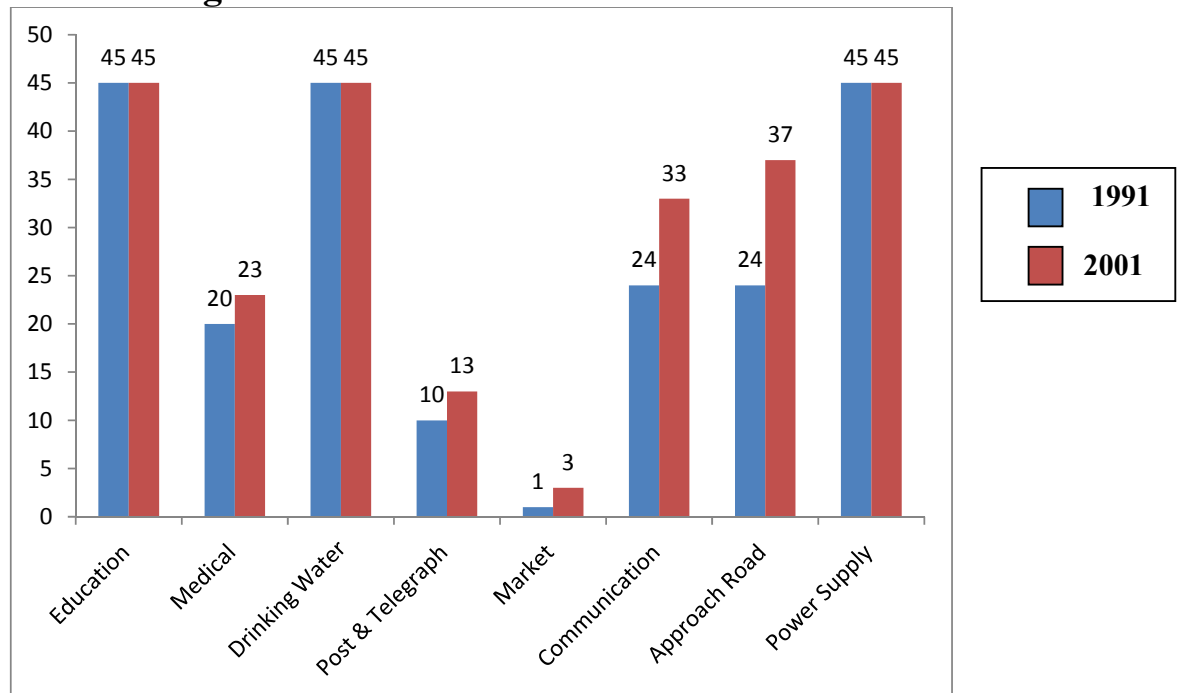
Table 4.3.2

Pathardi Circle

Sr.No.	Amenities	1991	2001
1.	Education	45	45
2.	Medical	20	23
3.	Drinking Water	45	45
4.	Post & Telegraph	10	13
5.	Market	1	3
6.	Communication	24	33
7.	Approach Road	24	37
8.	Power Supply	45	45

Pathardi Circle

No. of Villages



FigNo. 4.2

Amenities

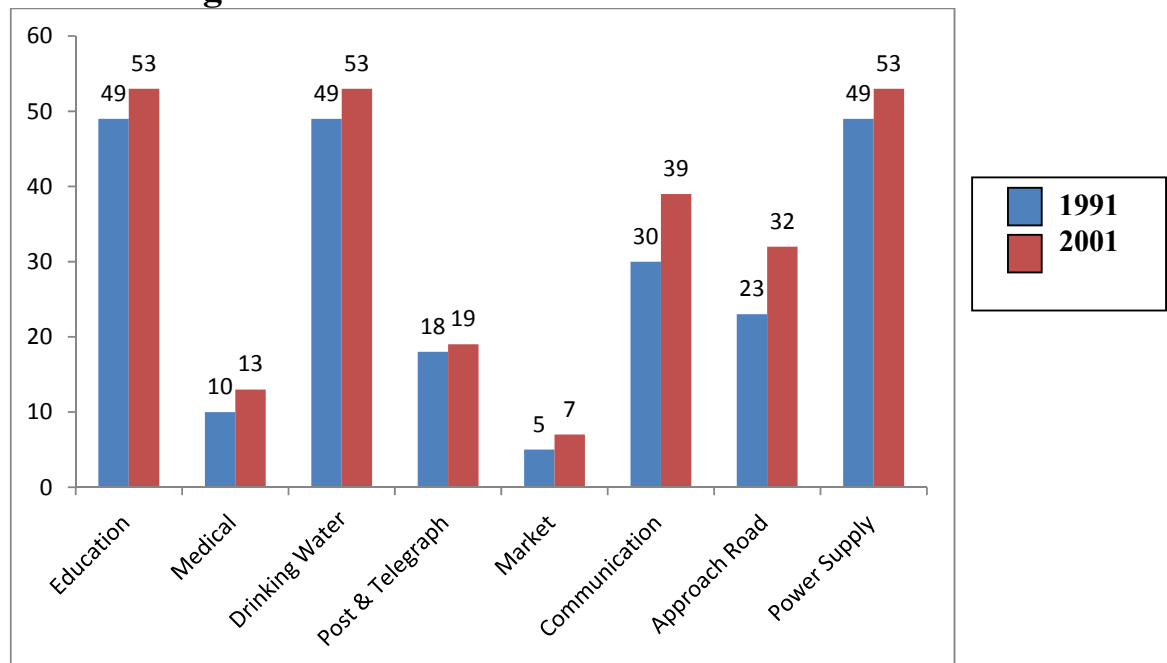
Table 4.3.3

TakaliManur Circle

Sr.No.	Amenities	1991	2001
1.	Education	49	53
2.	Medical	10	13
3.	Drinking Water	49	53
4.	Post & Telegraph	18	19
5.	Market	5	7
6.	Communication	30	39
7.	Approach Road	23	32
8.	Power Supply	49	53

Takali Manur Circle

No. of Villages



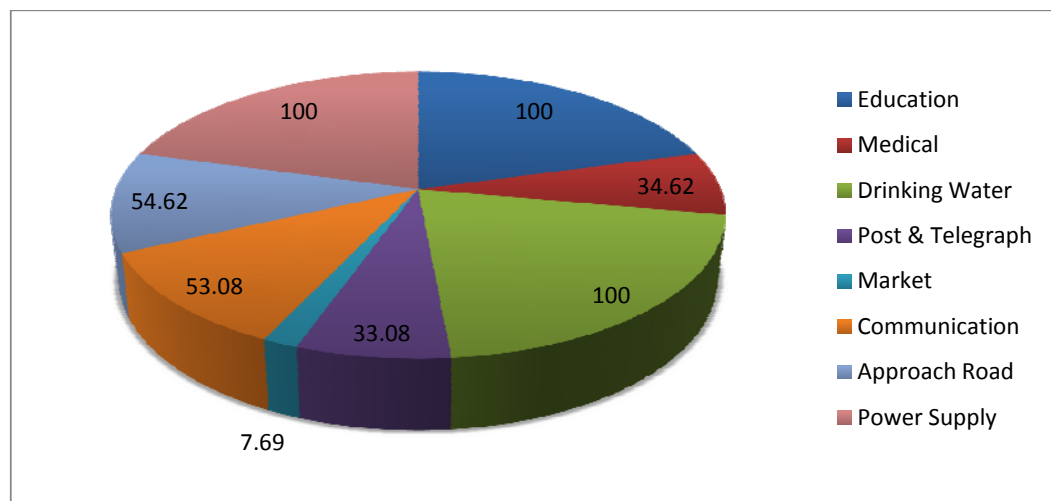
FigNo. 4.3

Table 4.4

Percentage of Amenities in Pathardi Tahsil

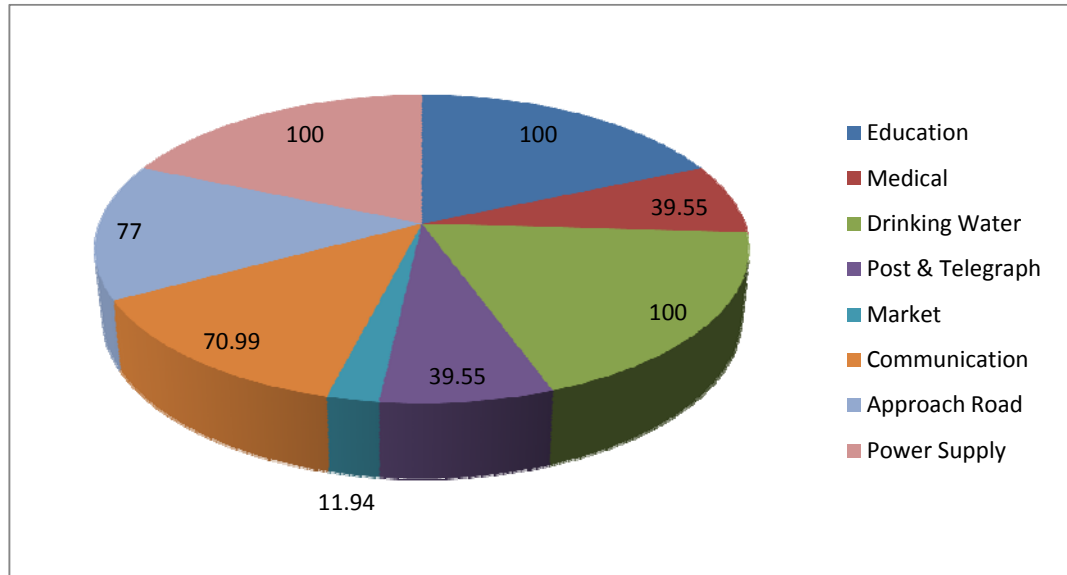
Sr.No.	Amenities	No of Villages		% of Villages served by amenities	
		1991	2001	1991	2001
1.	Education	130	134	100	100
2.	Medical	45	53	34.62	39.55
3.	Drinking Water	130	134	100	100
4.	Post & Telegraph	43	53	33.08	39.55
5.	Market	10	16	7.69	11.94
6.	Communication	69	93	53.08	70.99
7.	Approach Road	71	101	54.62	77.00
8.	Power Supply	130	134	100	100

Pathardi Tahsil



FigNo. 4.4

1991



FigNo. 4.5

2001

4.4 EDUCATION INSTITUTES / EDUCATION:

Education is a sound medium for all round development and acquisition of human qualities by man (Singh 1988) Husain (1994) has described that the higher level of development in a country the greater are both the quantity and quality of education available. Gupta (1998) has described that a minimum level of any region so that the people can understand the written statements and take self-decision. Gosal (1967) has stated that the level of education brings progressive change in the people and influences their socio-economic status. According to singh (1994) educational institutions are considered as an industry in which the development of human resources takes place. He has farther stated that the accessibility of such institutions play considerable role in maintaining reproducing and increasing human resources of the individuals for human resources development. There is close relationship between level of human resource development and educational facilities. The level of education depends upon the availability of educational institutions. Gupta (1990) has described that education formal as

well as informal, is one of the important agents to social change, particularly among the females, by posing them to out side world, widening their horizon and providing with information about many matters relevant to life. Dube and Misra (1991) have described that, the level of education gives the best exposition of regional development because of its dual function as cause and effect of modernization. They have further stated that, amongst the various elements of population characteristics, the level of education has been perhaps the best exposition of the level of socio-economic development. Education is one of the important factors for development than other factors. The modernization process modifies population characteristics. To take into account all these variables, it is necessary to know and study the level and progress of educational institutes playing important role in the progress of education and literacy the number of available education institutes in the tahsil is sufficient. According to the recent data there are about four senior collages. Eleven junior colleges, One Govt. ITI institute, B.Ed and D.Ed college each one colleges, one fishery, one D.Agree, one B.Sc.Agri colleges in the tahsil.

Table No.4.5
Number of Educational Institutes

Sr.no	Year	Primary	High schools	Jr.colleges	Colleges
1	1981	122	18	3	1
2	1991	139	45	5	2
3	2001	229	59	10	4
4	2006	246	60	12	4

Source District census Handbook

Table 4.5 depicts that the number of the educational institutes has increased in the tahsil in the period from 1981 to 2006. This is good

indication for the human development According to Gupta (1998), there is a high positive correlation between availability of educational Institutes and literacy rates in any region because the availability of educational facilities encourage the local people to acquire knowledge and learning. The average distance between educational facilities and human resource development. The spatial distribution of educational institutes have shown in the map (fig 4) the inter institution distance may be one of the indicators of availability of educational facilities in a region (Gupta 1998) Average distance (mali 1999), between two nearest schools computed using the following formula.

$$D = \sqrt{A/N}$$

D = Average distance

A = Total Area covered by tahsil

N = No. of schools

According to the data for 2001, the distance between two School is about 1.84 km. This means that the educational condition of the tahsil is satisfactory. The educational facilities are sufficient for the development of the human resources. For development of human resources it is necessary to acquire technical and medical knowledge and medical Institutes have not available.

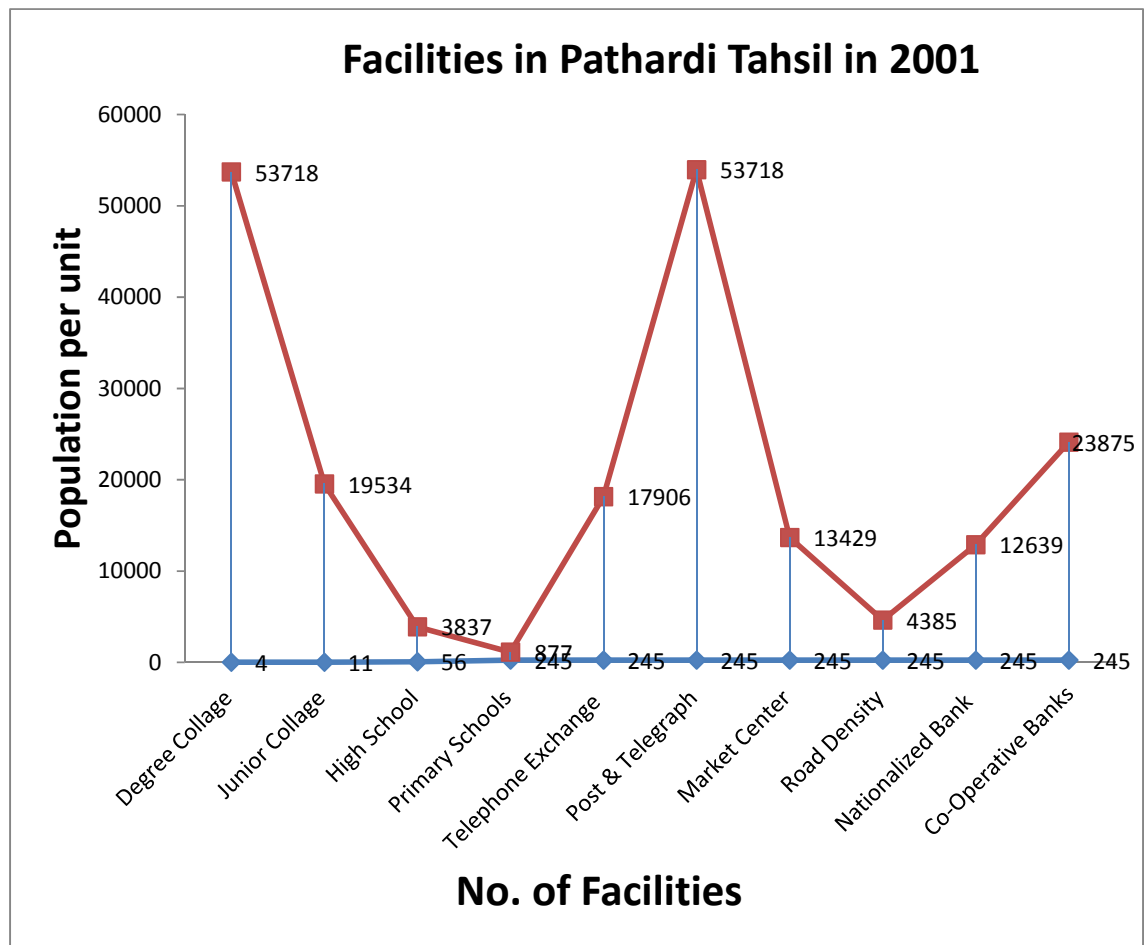
Table 4.6

INFRASTRUCTURE IN PATHARDI TAHSIL

Sr.No.	Facilities	Number	Population per unit
1.	Degree Collage	04	53718
2.	Junior Collage	11	19534
3.	High School	56	3837
4.	Primary Schools	245	877
5.	Telephone Exchange	12	17906
6.	Post & Telegraph	04	53718

7.	Market Center	16	13429
8.	Road Density	49	4385
9.	Nationalized Bank	17	12639
10.	Co-Operative Banks	09	23875

Sources : Respective offices



FigNo. 4.6

Table 4.7
Progress of Literacy
Karanji Circle

Sr.No.	Year	Person	Male	Female
1.	1991	24989	16440	8549
2.	2001	37237	21855	15382

Table 4.8
Progress of Literacy
Pathardi Circle

Sr.No.	Year	Person	Male	Female
1.	1991	20072	13822	6250
2.	2001	37584	20310	17274

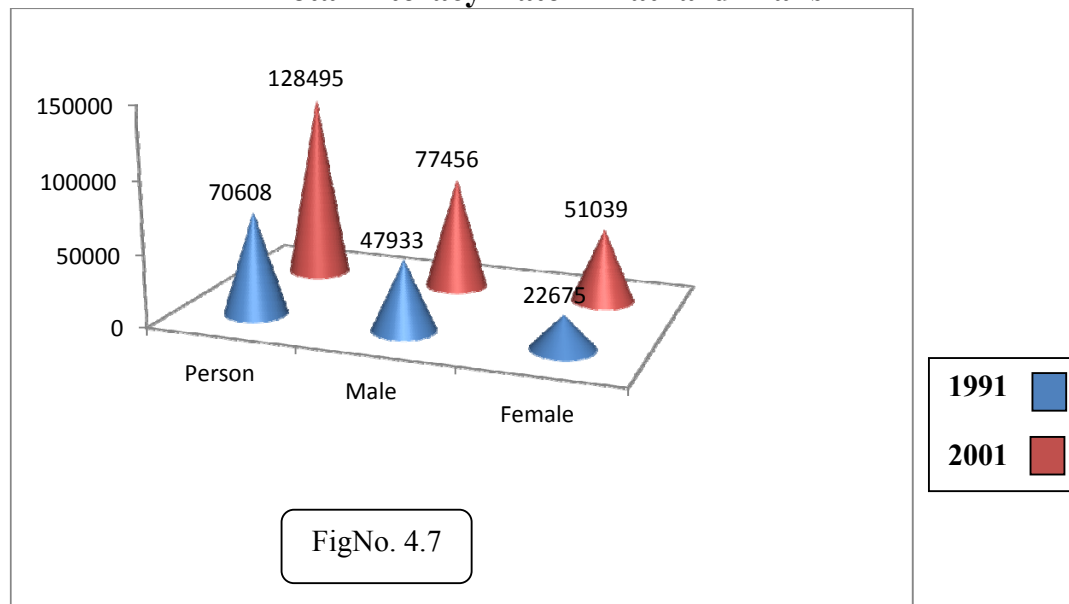
Table 4.9
Progress of Literacy
Takali Manur Circle

Sr.No.	Year	Person	Male	Female
1.	1991	25547	17671	7876
2.	2001	37466	25949	11517

Table 4.10
Total Tahsil Literacy Rate

Sr.No.	Year	Person	Male	Female
1.	1991	70608	47933	22675
2.	2001	128495	77456	51039

Total Literacy Rate in Pathardi Tahsil



4.5 No Of Students in Pathardi Tahsil:-

The Primary Students is Total 26,111 And Girls 12107, High School Students are Total 24011 Out of the Girl Students are 7645, Junior College Students are 3332 out of them 1311 are Girls, And Senior College Student 1860 Out of 455 are Girl Students. Total Number of Student is 54644 out of girl Student are 21818 in Pathardi Tahsil.

Table 4.11

Total Student in Pathardi Tahsil

Sr.No.	Students	Total	Girls	Boys
1.	Primary	26118	12107	14004
2.	High school	24011	7645	16366
3.	Junior College	3332	1311	2021
4.	Senior College	1860	455	1405
	Total	55314	21518	33496

Source : Social Economic Abstract Ahmednagar Dist 2006

Total Student in Pathardi Tahsil
No. of students

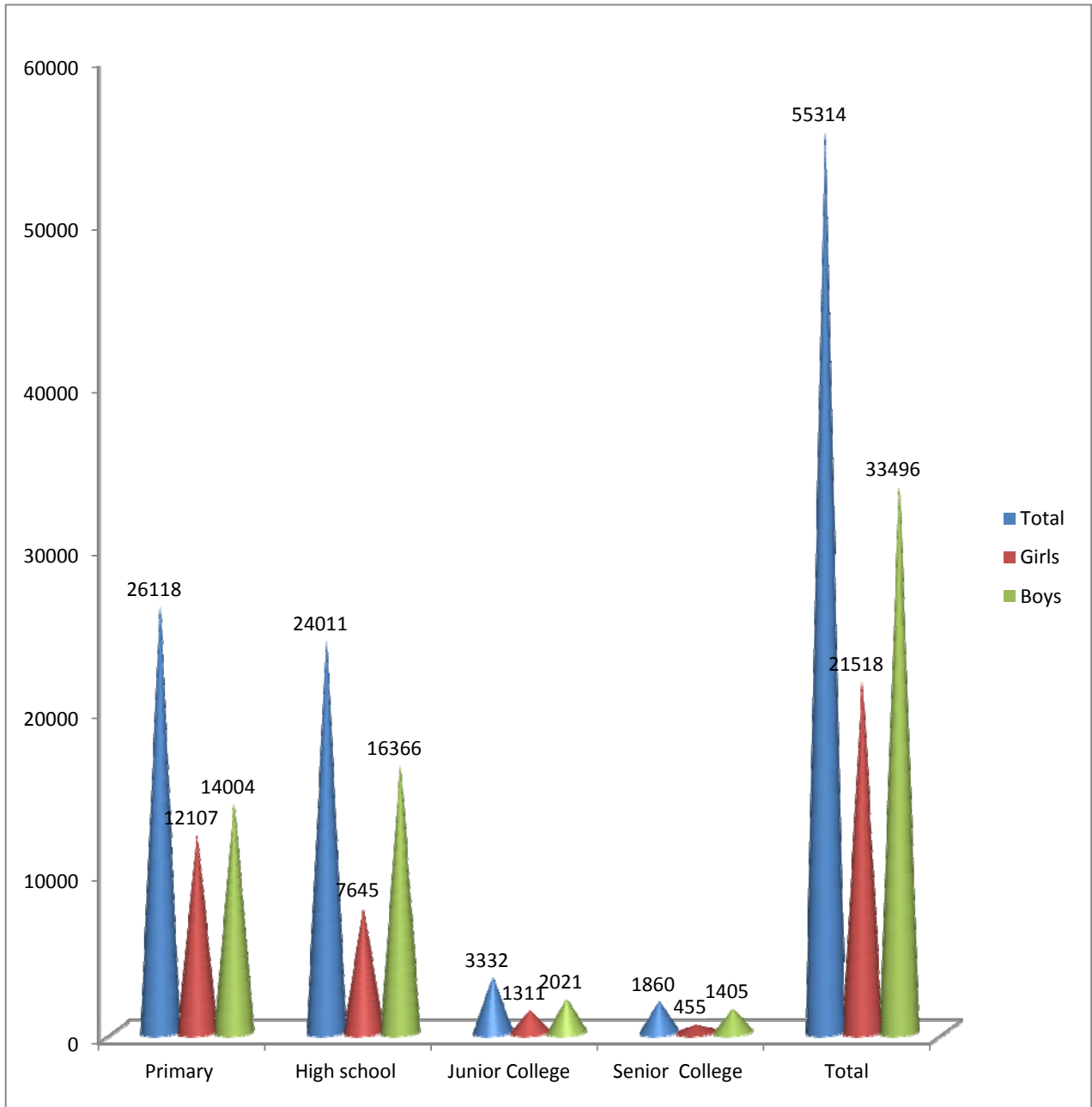


Fig No. 4.8

The Table 4.11

MEDICAL FACILITIES

Medical facilities are most important for the human resource development as it affects the efficiency and there by productivity; According to sigh (1994) health care centers should be considered as major premises for the development of human resources. He further stated that achievement of the target of human resource development depends largely upon the availability and functioning of accessible health institutions. Progress of health and educational facilities depends upon the economic development of a particular area. Husain (1994) has stated that there is a strong correlation between development and health. Gosal (1995) has also opined that able bodied and healthy men and women can be more productive and willing to meet the challenges than those can who do not remain well and suffer from malnutrition. It is necessary to develop the medical facilities for the well, develop the medical facilities for the well, healthy human resources. Human development is impossible without provision for good health. Thus, the prevision literature suggests that the study focusing on human resource development must take a review of health care facilities and nutritional status of various groups of people. There fore the present study has attempted to collect and analyse the data regarding these aspects. The location of primary health centers have been given in the map (4.)

Table – 4.12

PROGRESS OF MEDICAL FACILITIES

Sr. No.	Year	H	P H C	S.C.	Private Clinics
1.	1991	1	5	29	61
2.	2001	1	5	32	97

Source- Panchayat Samiti, Pathardi

H- Hospital

PHC- Primary Health Centre

SC- Sub-Centre

P.C.- Private Clinic

4.7 LIFE EXPECTANCY

It is very important parameters to assess manpower resources. Life expectancy is concerned with socio-economic condition of a region. Ganji (1982) has described that, expectancy of life is generally considered to be the best index of economic prosperity and cultural and material progress in any nation of the world. Maha to (1982) has opined that the expectancy of life would be a good indicator of health condition. Hans Raj (1996) has stated that life expectancy of a nation indicates its development and growth many scholars have also stated it that also indicates the extent of its modernisation and standard living.

Table 4.13

Life Expectancy

Sr.No.	Year	M	F	Total
1.	1981	70	67	69
2.	1991	72	70	71
3.	2001	75	71	73

Source- B.D.O. Pathardi

That table show that the life expectancy of the Pathardi Tahsil was 69 years in 1981, 70 Years for male and 67 for female. The life expectancy of the male has been more than that of the female. The life expectancy of the population has been increasing in 1991 and 2001, 1991 was 71 years, 72 years for male and 70 years for female and 2001 total life expectancy was 73

years, male was 75 years and female was 71 years, the life expectancy of the Pathardi tahsil has been increased, because of that medical facilities and communication are increased.

4.8 DRINKING WATER.

For the human life clean water supply is essential Human health is closely related to the availability of state water. Several waterborne diseases can be eliminated if piped water is supplied as opinion by many experts.

The present part of the study has given the data obtained from the 2001 census to understand the drinking water facility in the study area show the following table as circle wise.

Table 4.14

Availability of Drinking water

Sr.No.	Particulars	C 1		C 2		C3	
		1991	2001	1991	2001	1991	2001
1.	River	15	15	08	08	05	05
2.	Well	36	42	43	56	46	59
3.	T	21	27	34	49	32	37
4.	T W	40	45	41	49	43	51

Source- Panchayat Samiti

The majority of villages and population depend upon the well and tube well for drinking water. About 100% villages are depend upon well and tube-wells for drinking water. After 1991 the tap water schemes are implemented on large scale. Today majority of the villages are facilitated with safe, Potable and clean drinking water. This is good indicator of the health human life of the Pathardi tahsil.

4. 9 Below Poverty line Population:

The Proportion of BPL Population may be on of the important indicators of human development. The cause of poverty not only lies in

scarcity of natural resources but also in the system of distribution o economic development. There fore the population below poverty line may be considered as the population deprived of benefits of economic development. In India per capita income is very low and income is very in equal, that is very serious problem. The BPL Population in India is 33% and standard of living is below the minimum level. ‘The poverty line as the mid point of the monthly per capita expenditure class having a daily intake of 2400 calories per person in rural areas and 2100 calories in Urban area. Planning commission (1973-74)

4.10 Electricity

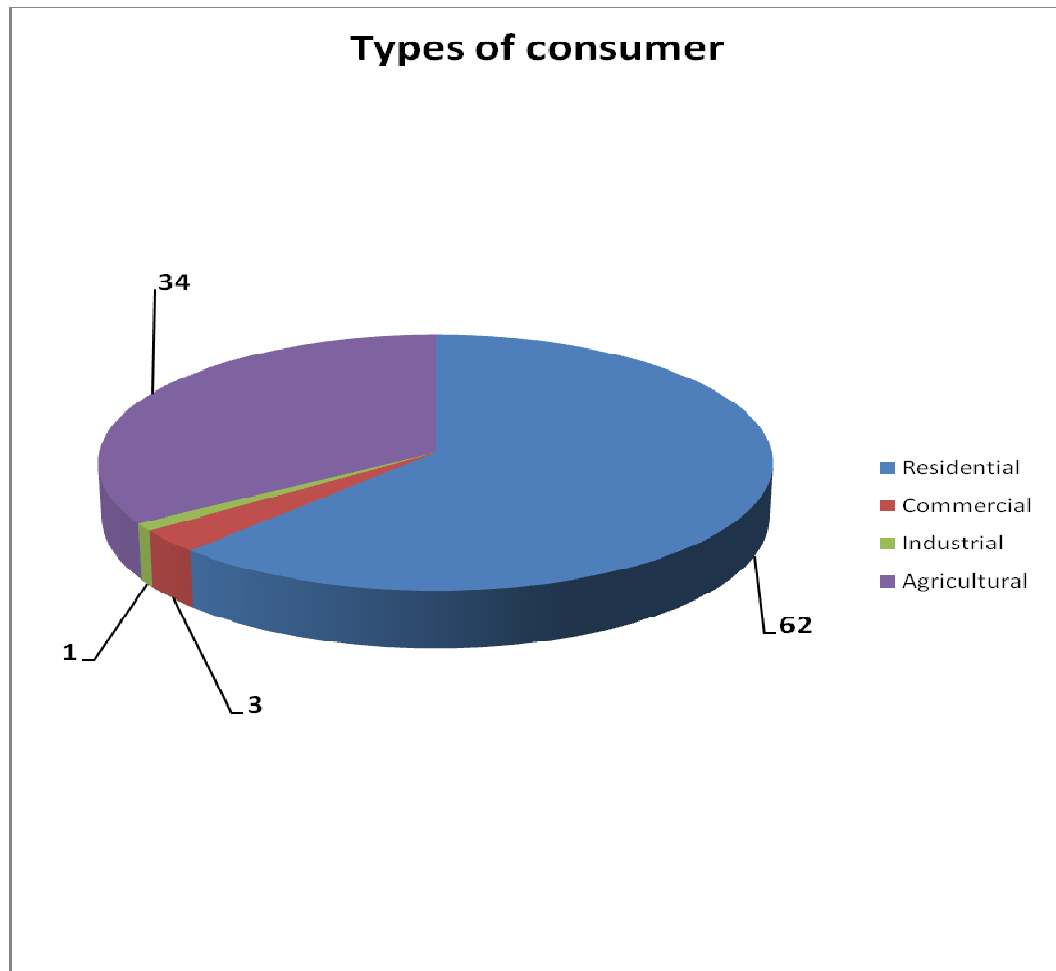
There is close relationship of electricity and human resource Development “No power is costlier than no power”- historical remark of legendary Homi Bhabha rightly pointed out the necessity of power development in the Third world countries like India.

Table No 4.15

Utilisation of Electricity

Sr.No.	Types of Consumer	Number of consumers	% of consumer
1.	Residential	29032	62
2.	Commercial	1263	3
3.	Industrial	394	1
4.	Agricultural	15687	34
	Total	46376	100

Source- MSEB Office, Pathardi – 2001, Fig. 4.9



In the Pathardi tahsil 100% of the villages are electrified Electricity (Power) is very important factor for the agricultural activities, Industrialisation, standard of living and economic development. The proportion of electricity consumer by Residential (domestic) (62 %), Agriculture (34%), commercial (3%), and Industries (1 %) is very low level.

4.11 Resume :-

This chapter has attempted assessment of human resources on the basis of Literacy, Education, Medical Facilities, Drinking water, connectivity, Electricity etc.

REFERENCES

- 1) GOSAL, G.S. (1995): "Human Resources development", Population Geography, a journal of the association of population, geographers of India, Vol. 17 pp 1-6.
- 2) SAPTARSHI, P.G. (1996): "Appraisal of population Resources" MAEER'S MIT, Pune, Vol. V, No. 17 & 18 pp 203.
- 3) DUTTA, AND SUNDARAM (1996): "Indian Economy", S. Chand & Company Ltd., New Delhi, pp-42-69.
- 4) Singh, s. and Singh A. (1998): "Level and Dynamics of educational development in U.P." A Geographical Analysis." Geo Science journal, Vol. 3, pp 36-45.
- 5) HUSAIN, MAJID (1994): " Human Goegraphy", Rawat Publications, Jaipur and New Delhi, pp 223-251.
- 6) GUPTA M.P. (1998): " Educational Development among Scheduled Tribes", Analysis, National Associaton of Geographers, India Vol XVIII, No. 1&2, pp 110-120.
- 7) GUPTA, N.L. (1990): " Female literacy in Rajasthan- 1961-1981". Population Geography, a journal of the association of population Geographers of India, Vol 12, No. 1&2, pp 59-68.
- 8) DUBE, R.S. AND MISRA, R.P. (1991): "Level of Education: A Versatile Indicator of Regional Development", Geographical Review of India, Vol. 43, No. 3, pp 279-285.
- 9) SIGH, B.R.K. (1994): "planning for education and health accessibility for human resources development in rural areas: A case study of a block in Magadh Plain." Geographical review of India, Vol. 56, No. 2, pp-14-24.
- 10) GANJI, M.H. (1982): " A geographical approach to sum Demographic features of the Muslim Countries" , Population

geography, A journal of the association of population, geographers of India, Vol. IV, No. 1 & 2, pp 10-25.

- 11) MAHATO, KAILAS (1982): “ Indicators of Economical Development: A Theoretical Approach”, Transaction, IIG, Vol. 4, No.1, pp 99-104.
- 12) HANS RAJ (1996): “Population Studies”, Surjeet Publication, Delhi, pp 30.

CHAPTER –V

HUMAN RESOURCE DEVELOPMENT

5.1 Introduction:

There are various factors which are responsible for the human resource development in Pathardi tahsil . The Factors such as Agriculture, Agricultural land use pattern Agriculture density connectivity, density of roads Industries ,Occupational structure etc.Can be consider as a source of human resource development. Such characteristics and human resources are considered in this chapter which have been devoted in the previous chapter to understand human status of resource . various parameters have been analyzed in this regard. An attempt is made to find out their relationship with human resource development.

The detailed information has been provided in this chapter on the basis of secondary data collected from various sources.

5.2 Agriculture:

Agriculture is the important occupation in the Pathardi tahsil. Agriculture, the primary form of economic activity, includes cultivation, dairy, forestry, irrigation host of other activities. Agriculture is a human activity involving planned utilization of land or soil and water for the growth of plants and animals to meet the basic requirements of food and clothing.

5.2 General Land-use:

Many scholars like **Date and Gupte (1984)**, **Memoriya (1986)**, **Vaidya (1997)**, **Saptarshi (1992)**, **Ramanna (2001)**, **Bhagat (2002)**, **Ugale (2006)**, etc. have studied the influence of physio socio-economic Phenomena

on agriculture and general land-use. It is found that slope, soils, rainfall, water availability, climate etc. are commonly responsible for particular type of land-use and affects differently from region to region. Thus the land-use is a cause and effect of different geographical parameters.

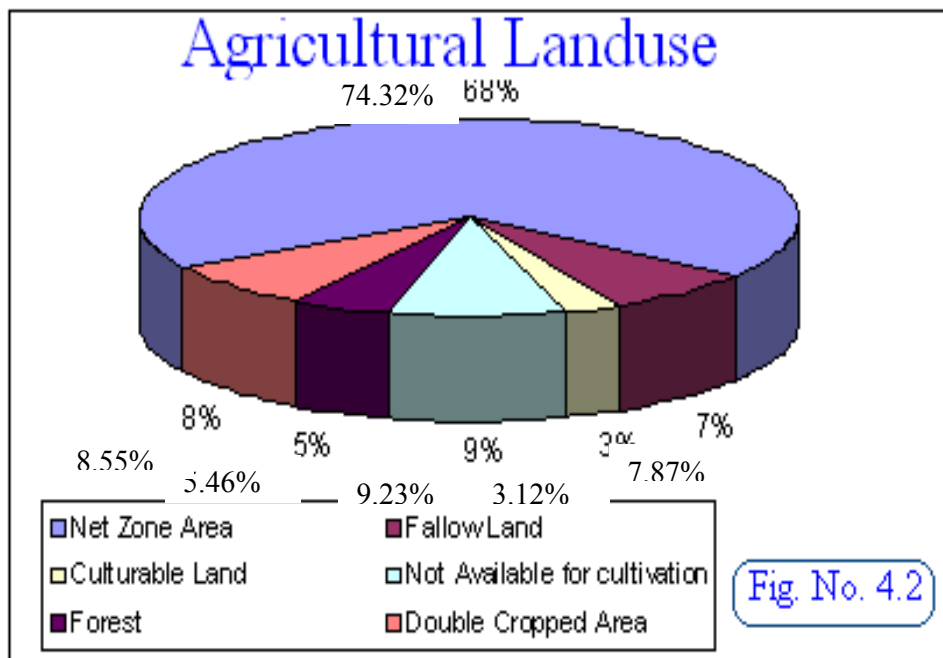
Land classification means dividing the land into different categories. Therefore land classification may be of many types depending upon the factors taken for classification. The Land classification related to climatic factors soil characteristics, slope of the land, degree of erosion, water supply drainage and similar environmental conditions.

The overall landuse has been categorised into different sub type on the basis of recommendations made by Food and Agricultural Department, Government of India these are as follows :

1. Net sown area
2. Barren and uncultivable land
3. Fallow land
4. Cultivable wet land
5. Forest land

The land-use is primarily the function of land man relationship specifically in the rural area. Therefore it may be considered as the key indicator of economic development keeping such view in mind general land-use and its pattern have been studied in the present part of the investigation. The total geographical area (**TGA**) of the tahsil is **117784.35 hect.** (Table No. 4.1) out of that **74.52% (87535.51 hect.)** of area is under agriculture.

Table No.4.1
General Landuse in Pathardi – 2001



Sr. No.	Land-use Type	Area in Hect.	% of Total Geographical area
1.	Net Sown Area	87535.51	74.32
2.	Not available for cultivation	10872.07	9.23
5.	Fallow land	9275	7.87
4.	Cultivable west	3675.92	3.12
5.	Forest area	6425.85	5.46
	Total Geographical Area source	117784.35	100%

Source: District Census Hand Book-2001

5.3.1 Net Sown Area:

The net sown area includes land actually under food, cash and fodder crops. The *Pathardi* Tahsil has **74.32 percent** land under cultivation to total Geographical area. As a net sown area according the 2001 census.

It is observed that net sown area increases from south to North and West to East. This is the outstanding trend of net sown area. This can be explained by the fact that southern part of tahsil occupied by *Garbhgiri mountain rang*. That is almost unsuitable and low fertility soil. As a result comparatively less percentage of area has been brought under cultivation.

5.3.2 Land Not Available For Cultivation:

The land agriculturally unproductive or land not available for cultivation may be described as no cultivate land. It includes two types of land namely.

a) Land put to non-agricultural uses. This type includes land occupied by settlement roads, railways, streams, canals and rivers.

b) Barren and uncultivable land includes outcrops of hills and mountains. The small part of this land can be brought under cultivation of very high costs. Generally, barren and uncultivated land is as associated with poor soils, heavy rainfall and intense erosion.

The category of land-use is mainly means for grazing purpose for livestock. This includes all such lands which are practically unproductive and unfit for cultivation. This type of land accounts is **9.23 percent (10872.07 hect.)** to total geographical area in *Pathardi* Tahsil. This land is marked in the Southern and North East part of tahsil.

5.3.3 Fallow Land:

The *Pathardi* Tahsil has **9275 hectores** of its total area under fallow land (**7.87%**). The fallow Land is generally, divided into two categories.

- a) Current Fallow Land
- b) Other than Fallow Land

The current fallow land includes the land which is not cultivated during the current year due to a variety of reasons i.e. as phase of rotation, for regaining fertility or due to some other constraints. The land than current land includes arable area which is taken up for cultivation but has gone temporarily out of cultivation for a period of not more than five years.

5.3.4 Cultivable Waste:

The cultivable waste land includes other uncultivated lands excluding fallow land. This category is divided into three types

- a) Permanent pastures and other grazing lands.
- b) Miscellaneous tree crops and groves.
- c) Cultivable waste.

The permanent pastures and grazing lands include all land, are under grass cover, government and private land, or permanent pastures which are kept reserved as a village common grazing ground or vast tract of protected land, not open for free grazing and unreserved grass lands. The miscellaneous tree, crops and groves include land under grasses, bushes and other groves for fuels etc. which are not included under orchards or forests, are included in this category and the land not cultivated during the proceeding five years is called cultivable waste.

Pathardi Tahsil has **3.12%** of total area extent (**3675.92 hectares**) under fallow land.

5.3.5 Area Under Forest:

The total forest area of the Pathardi tahsil is **6425.85 hect**. It means **5.46% of TGA**. According to 2001 census. Area under forest in tahsil is highest in *Manikdaundi* is **647 hect**, *Madhi* is **441 hect**, *Kasalwadi* is 305 hec, *Nandurnimba-Daitya* is 248 hect. *Dhamangaon* is 223 hect.etc.

5.5. Agricultural Land-use Pattern:

The term, “Agricultural Land-use” denotes the extent of the gross cropped area during the agricultural year under various crops. It is the result of the decision made by the farmers regarding the choice of crops and methods for production. Thus, this decision making is based on not only the physical constraints and limitation but also on farmers perception of the total environment. His perception of environment is related to contents and natural of available information much of which is based on traditional approach. The physical as well as cultural environments reflect on crop growth and production. Siddhartha (2003).

A study of agricultural land-use pattern to understand agricultural practice has been regular feature in Geography as observed in several works. There are several studies about agricultural land-use pattern by many scholars like **Sharma (1972)**, **Banarjee and Barman (1983)**, **Vaidya (1997)**, **Bhagat (2002)** etc. The agricultural land-use pattern in the tahsil has been associated with factors like climate soil vegetation, water resource market accessibility, skilled labour etc.

5.4.1. Crops and seasons:

There are two agricultural seasons in the Pathardi Tahsil, that is *Kharif* and *Rabbi*. The *Kharif* crops are sown in June or July and harvested at the end of October or early November while *rabbi* crops are sown in October or Mid-November and harvested in month of February or month of March, The *Kharif* crops is Bajara, *Mat*, *Corn*, *Tur*, *Groundnut*, *Sunflower*, *Cotton*, *Kardai*, *Kultha*, *Mung*, *Vegetable*. While *rabi* crops are *Jowar*, *Wheat*, *Gram*, *Sunflower*, *maize* etc.

Gross cropped area in the tahsil is 101165 hectare (Table no. 4.2) including 87487.51 hectors of NSA and 9851.49 hectares of the double cropped area.

5.4.2. Area Under Cereals

The net sown area in Pathardi Tahsil has been **87487.51 hect.** In 2004-05 of this maximum area has been occupied by cereals like, Bajara (**64.24%**) Jowar.

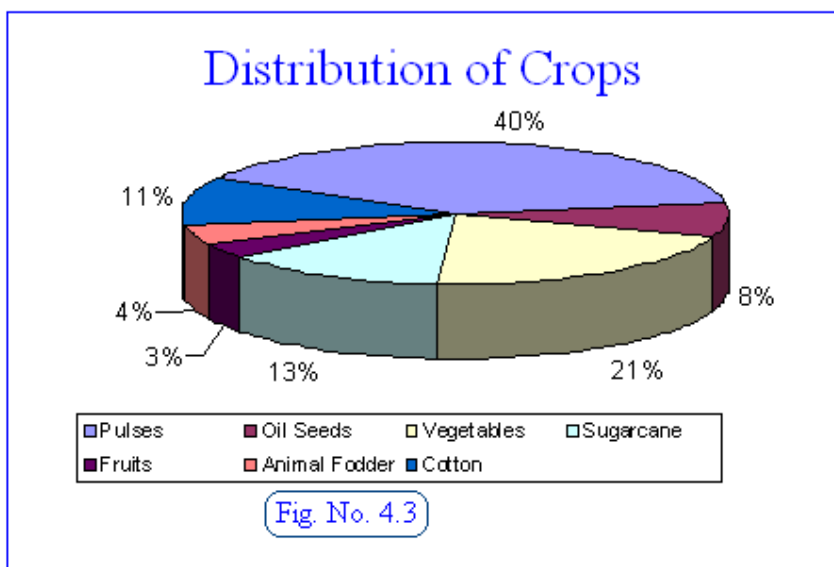
Table No. 5.2

Area Under Total Cultivated Crops

Sr. No.	Crops	Area	%
1	Cereals	91650	90..59
2	Pulses	3721	3.68
5	Oil Seeds	770	0.76
4	Vegetables	1959	1.94
5	Sugarcane	1260	1.25
6	Fruits	315	0.31

7	Animal Fodder	450	0.42
8	Cotton	1060	1.05
Total		101165	100%

Source: Tahsil Office, Pathardi.



(32.06%), Wheat (7.37%) and Maize (1.09%) as

depicted in the table (Table No.4.5). Bajara is the most important staple food grain in the tahsil. Jowar and wheat are *rabi* crops while bajara is the *Kharip* crop. Maze is raised in any season as in case of most of the area of the state. It has also been observed that wheat is grown in the irrigated areas. In short the dominance of cereals especially rainfed bajara indicates that the tahsil has subsistence agriculture Bajara and Jowar are the main Food Grain in this tahsil.

5.5 Agricultural Density in Pathardi Tahsil:

The ratio of Population to agricultural land is called agricultural density, Saptarshi (1996) has defined agricultural density of population as the number of persons per hundred hector of NSA. Agricultural density shows the ratio of the rural population to agricultural land.

Baghel (1995) has opined that the agricultural density can be more efficient method for calculating the pressure of population. Agricultural density focuses the pressure of population as the number of persons per hundreded hectare of N S A. agricultural density shows the ratio of the rural population to agricultural land. Agricultural density is calculated with the following formula (Saptarshi 1993).

$$\begin{aligned} \text{Agricultural density} &= \frac{\text{Population}}{\text{N S A}} \times 100 \\ &= \frac{214872}{87535} \times 100 \\ &= 245.46 \end{aligned}$$

5.4 Caloric density:

The ratio of population to area under food crops, is called caloric density Baghel (1995) has stated that caloric density is a method of calculating man land ratio in comparison with other densities. Caloric density is calculated with the following formula after Saptarshi (1993).

$$\begin{aligned} \text{Caloric Density} &= \frac{\text{Population}}{\text{Area under food crops}} \times 100 \\ &= \frac{214872}{91650} \times 100 \\ &= 234.45 \end{aligned}$$

Caloric density is computed in terms of persons per 100 Percentage hectare of area under food crops.

5.5 Nutritional density:

The ratio of population to GCA is called nutritional density.

5.6 Connectivity:

Road transport is very important factor for the economic, social and cultural development of the country. The transport and economic development are mutually inter related. Transport circulation system in a human body. According to Singh (1982) an efficient circulation system serves as effective tool for the utilization of regional resources and effects the mobility of traffic of people, goods and services. For all round development of the region, efficient transport system is essential. Mishra (1991) has stated that, transportation plays a key role in the process of national development by stimulating the widening of domestic market which is essential to the economic growth. Transportation is one of the most fundamental contributing factor and its role, now a days has become very vital with the increasing dimensions of trade and commerce and surging pressures of economic demands.

Many experts like Baghel (1995) has stated that, the cheap, efficient and fast transportation is dominate factor of our modern industrial and scientific age. Thus, transportation plays important role in the development of human resources.

The only road transportation system is available in the Pathardi tahsil

Table – 5.3

Length of the roads (km)

Sr.No.	Types of Road	Un-metaled	Metaled	Black topped	Total
1.	National Highway	0	0	60	60
2.	State highway	0	0	80.20	8020
3.	Major district road	0	0	179.40	179.40
4.	Other district roads	9.20	63.50	364.50	437.20
5.	Rural roads	35.90	151.40	92.60	279.90

Source. PWD office and Panchayat samiti, Pathardi

The road transport is the only system in the study area. This includes National and state highway, major District roads and other rural roads. The length of the road is one of the most reliable indicator of transport development in an area. Density of road measured in terms of population is also a signification and one of the most reliable measures of transport network in a region. The total length of the road network is 1036.70 Km. The density of road per 100 sq. km. is 88.02 km. and the proportion of the roads for per 1000 population is 4.82 km.

Table 5.4

Density of Roads

Sr No	Total length of Roads (km)	Density of Roads (per 100 Sq. Km)	Roads per 1000 Popⁿ.
1.	1036.70	88.02	4.82

Most of the roads are medaled in the Pathardi tahsil. There is only one national high way is the study region. That is Mumbai Vishakhapattnum (NH -222) National high way. The total length of this highway is 60 km in the study region. Beed-Kalyan State high way No 147 also passes through Pathardi tahsil All these highway, state highway and District or local roads plan an important role for the transport people and agricultural goods. There is a plan of Baramati-Pathardi-Aurangabad State high way.

Most of the villages are linked by Rural, District and state highways. Gradually, growing transport in the region has led to the expansion of socio-economic activities and facilities. Thus, the density of roads can be considered as the indication of human resource development.

5.7 Industries:

The term industry covers a multitude of meanings. In its narrowest sense it may only refer to manufacturing the making of goods. This conjures

up vision of factories and mills and is in consequence, rather limited in scope. In its broadest sense it refers to all stages and types of economic activity. Industrial establishment and development may be equated to increase in value of raw material as well as manpower. Hence, it has been considered as indicator of human resource development for a balanced growth of economy of a region industrial development must be commentary to agricultural development. However, development of the industrial sector has been limited is the tahsil.

The industries may be classified on the basis of raw materials used. There are following types of industries in the tahsil.

1. Agro based
2. Dairy
3. Wooden (Saw Mills)
4. Building Material
5. Chemical
6. Engineering Based industries.
7. Packaging

Table – 5.5

Sr.No	Types Of Industry	Number of Units
1.	Agro-based	06
2.	Dairy (Live Stock)	24
3.	Wooden (Saw mill)	09
4.	Building Material	39
5.	Chemical	01
6.	Engineering Based Industries	07
7.	Packing	01

5.8 Sex Ratio :

The sex ratio means the ratio between male and female. To study the sex ratio is very important in the demography. The social, economical and cultural condition of the region depend upon the sex ratio.

According to the 1991 census the sex ratio of the tahsil was 964 and 951 female for Per thousand male in 2001.

5.12 Literacy / Education:

Literacy is the indicator of human resource development. “A person who can both read and write with understanding in any language is to be taken as literate by the dial census.”

Total literate population is 1,28,465 & males 77,456 & female 51,036 are literate in Pathardi Tehsil. For the tehsil with 70.20% of the males are literate while female account for only 45.39%. for the tehsil as a whole the literacy rate for male is much higher than that of females.

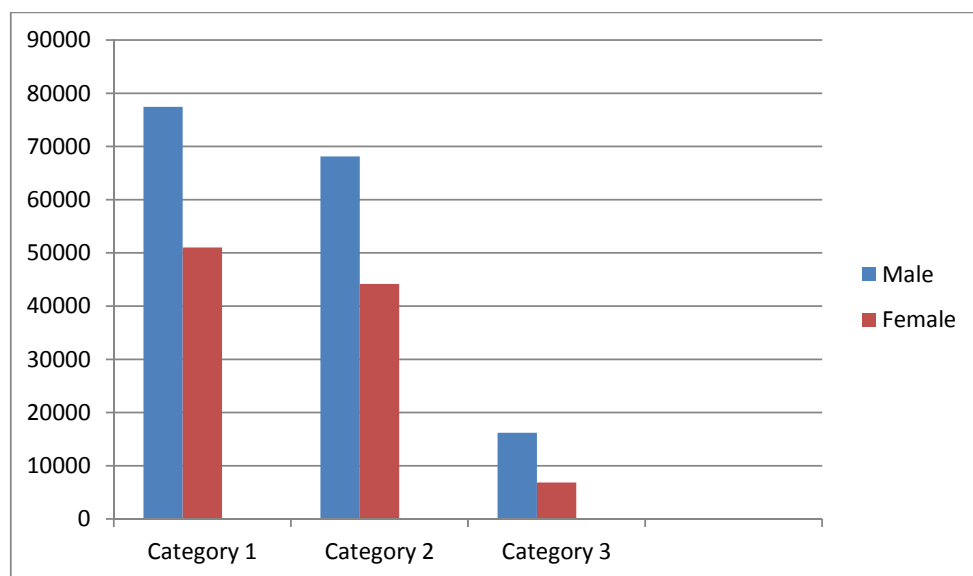
Table 5.6

LITERACY OF PATHARDI TEHSIL

Sr.No.	Pathardi	Males	Females
Total	128495	77456	51039
Rural	112287	68114	44173
Urban	16208	9342	6866

(Source: District Census Handbook 2007)

Fig. 5.3



Rural and Urban Literacy In Pathardi Tehsil

5.12.1: Educational Facilities:

There are total 304 Educational Institutes in Pathardi Tehsil. Out of them 4 schools are for girls. 240 Primary Schools, 46 High Schools, 11 Junior colleges and 4 Senior college.

5.12.2: STUDENTS:

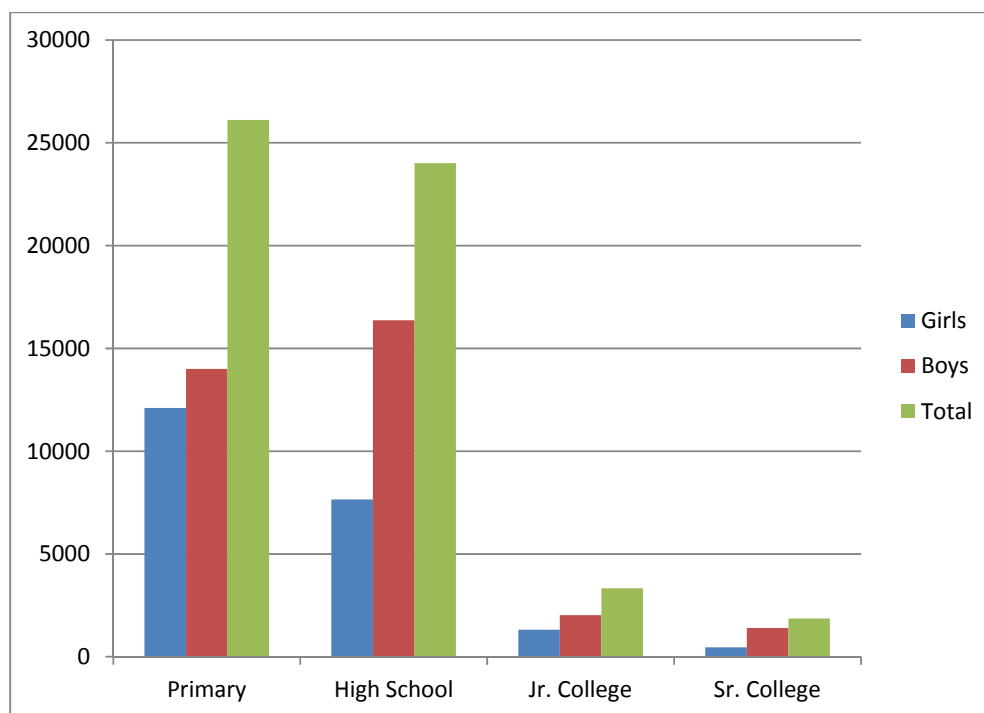
The total Primary Students are 26,111 and girls are 12,107. High School students are 24011 and girls students are 7645. Unior college students are 3332. Out of the 1311 are girls, and senior college students are 1860. Out of 455 are girl student.

Table 5.7

Sr.No.	Students	Total	Girls	Boys
1	Primary	26111	12107	14004
2	High school	24011	7645	16366
3	Jr. college	3332	1311	2021
4	Sr. college	1860	455	1405
5	Total	55314	21518	33496

(Source: Statistical dept. Ahmednagar 2006)

Fig. 5.4



5.13 Occupational Structure:

The occupational structure gives the idea regarding the level of economic development. Many workers like Singh (1982), Banerjee (1982), Saptarshi (1993), Baghel, Sharma (1995) have admitted this notion and hence the present study has attempted to understand the occupational structure.

Sr. No.	Categories	No. of Persons 1991	%	No. of persons 2001	%
1	Primary	72974	43.87	73728	34.31
	m Cultivators	55205	-	55498	
	m Agriculture labour	17205	-	18230	
	m Livestock, forest, fishing, Hunting, and Plantation	00432	-	-	
	m Mining	00045	-	-	

2	Secondary m Manufacturing & Processing, household Industry	2696 2696	1.62	2263 2263	1.05
3	Tertiary m Construction m Trade & Commerce m Transport & communication	2189 358 1239 592	1.32	11435 540 7342 3553	5.32
4	Other Service	2729	1.64	3214	1.49
5	Marginal workers	5969	3.58	13090	6.09
6	Non Workers	79756	47.55	111142	51.72
	Total	166313		214872	

5.14. Migration: Migration means a change of place of living for almost a long, stable period. Migration keeps the balance between the distribution of population and the supply of natural resources. Baghel (1995) has stated that migration is a natural phenomena which produces demographic, social and economic interactions that together reduce some of the irregularities of nature.

5.15. Resume :- This chapter has studied the human resources in the contest of socio-economic environment of the study area. In the first part of the chapter agricultural density , caloric density, nutritional density have been studied at the circle wise.

REFERENCES

1. DATYE, V. S. AND GUPTE, S. C. (1984): "Association Between Agricultural Land-use and Physio – Socio – Economic Phenomena. A Multilevel Approach", 'Transaction' Institute of Indian Geographer Vol. 6, No. 2.
2. MEMORIYA C. B. (1986): "Geography of India: Shiva Lal Agarwal and Company Delhi – 51, PP. 143-162.
3. VAIDYA B. C. (1997): "Agriculture Land-use in India" Manik Publication New Delhi, PP1, 68-77, 101-108.
4. SAPTARSHI P. G. AND PARKHE G. G. (1992): "Application of Regression and Correlation Analysis in Agricultural Geography". A case study of Sugarcane Crop in Junnar Tahsil District, Pune. Maharashtra, Unpublished Paper presented in Annual conference of Maharashtra Bhugolshatra Pavishad, Pune. Junner, Nov. 1992.
5. RAMANNA A. S. (2001): "Changing Land-use profile in Belgaum District (Karnataka). A Spatio Temporal Analysis", The Deccan Geographer Research Journal Vol. No. 39, Jul-Dec.2001. PP. 88-95.
6. BHAGAT, VIJAY (2002): "Agro-Based Model for Sustainable Development in the Purandar Tahsil of the Pune District, Maharashtra." Ph. D. Thesis.
7. UGALE VILAS (2006): "Problems and Prospects of Socio- Economic Development of Mahadev Koli in The Ambegaon Tahsil, District Pune, Maharashtra", Unpublished Ph. D. Thesis. University of Pune.
8. SHIDDHARTHA K. AND MUKHERJEES. (2003): "A Modern Dictionary of Geography. PP. 276.
9. SHARMA, PARSHURAM (1972): "Crop cultivation Intensity their Ranking and Crop Association Region in Chhattisgarh. A

Geographical Analysis”, The National Geographical Journal of India, Vol. XIII, No. 2, Jan 1972. PP. 91-101.

10. BANARJEE, SWAPNA AND BARMAN. J. (1983): Impacts Availability and Modern Agriculture in Burdwan District, West Bengal, Transection Institute of India Geographers, Vol. 5, No. 2, Jul. 1983.
11. VAIDYA S. G. AND MAHAJAN A. B. (1997): “Importance of soil testing in crop production, Maharashtra Tahsil Jami, Agricultural Commissioner Office, Maharashtra Pune, Pp. 201-212.
12. BAGHEL, GULAB SINGH (1995): “Geography of Human Resources”, Mohit Publication. New Delhi, pp 15-223.
13. MISRA, B.N. (1991): “ The level of Transport Development in Basti District U.P.”, Geographical Review of India, Vol. 53, No.1, pp-24-35.

CHAPTER VI

CONCLUDING REMARK

6.1 Introduction:

After finding circle wise planning strategic for development of human resources in the tahsil, it is time to go for the concluding stage. The present study reveals the fact that the human resource can be achieved if the area specific problems are addressed properly. The study reveals the fact that there is need for more survey to understand the human resources and its utilization in the tahsil. In this concluding chapter the focus will be on findings applicability and the limitations of the present study.

6.2 Finding of Study:

The present study was aimed at finding the human resources available in the tahsil and its utilization for various purposes. Despite some difficulties in collecting the data, the findings have been remarkable as the focus on the overall human resource developments in the study area. Following are some of the specific findings of the study.

6.3 Physical Setting :

The *Pathardi* Tahsil a part of *Ahmednagar* District of Maharashtra State extending from 18⁰ 54' to 19⁰ 12' North latitude and 74⁰ 54' to 75⁰ 24' East Longitude. The tahsil comprises the 130 villages. It lies east and west direction and covers an area of 117784.35 hectares. Total population of the tahsil was 214872 according to the census of 2001 and density of 195.01 persons per square kilometer Physiographical the tahsil is situated around hilly area in the south part of tahsil lies the Garbhagiri range. Slope

decreases south to North direction. The tahsil is relatively rocky and rugged with black and yellow brown soils. The rivers Dhora Erdha, Parth, Nindini Kinha constitute the drainage system in the study region. All rivers are rain fed and season in character. Thus rivers are unable to provide the irrigation facility. The typical monsoon climate with small variation in rainfall and range of temperature prevail. The region experience intense heat in summer and fairly cold winter. The summers are dry which cannot promote the growth of vegetation. The mean monthly temperature is 11⁰c in December and 39.9⁰C in May. The average annual rainfall has 579 mms with slight variations in its amount over the basin. The success of agricultural operations growth of crops and there production depends on regular and sufficient rainfall during the rainy period. The tahsil mostly lies in the rain shadow Zone of Sahyadry Mountain, The normal rainfall for the monsoon Period June to September. The rainfall amount diminishes after October with occasional stormy spells. The soils type is key parameter in agriculture activities. In the tahsil three types of soil is observed namely course black, medium black and yellow brown.

The observations, analysis and findings discussed in the preceding chapters are presented below:

The *Pathardi* tahsil is predominantly in its occupational structure with 81.34 percent working force to total workers engaged in agriculture. The type of agricultural is traditional it is totally depend upon rainfall. Even slight variations in rainfall amount affect agricultural Land-use in the area under review.

6.4 The Socio-economic and Demographic Characteristics

1. The socio-economic and demographic characteristics. The Socio-economic Demographic variables have influenced the agricultural land-use pattern in the tahsil. Growth rate of population is slightly higher in the tahsil

in 1951 the total population of the tahsil was only 19148, while it increased to 214872 in 2001. The total increase in population during 1951 to 2001 is 116724 persons.

2. The pressure of growing population has been increasing upon the natural resources and Land-use pattern and therefore per capita Land has significantly decreased. The density of population influence on agricultural land-use. It is observed that the density of population in the tahsil is increasing since 1951 to onward. It is 89.07 person per Sq.Km. in 1951 and 195.01 person per 59 Km. in 2001.

3. Sex ratio may be one of the indicators for judging the level of development. The male population is more than the female in the tahsil in 1981 to 2001 the sex ratio has declined 17 points.

4. The literacy rate of male is much higher than the female.

5. The relative importance of agricultural activity has been pointed by working force 81.35 % of total population is engaged in agriculture sector, comprising 61.2% of cultivators and 20.12 % agricultural laborers.

6. The percentage of workers in the tehsil has been 48.27 %. This shows that the proportion of dependent population is 51.72% marginally more than the working population. Therefore it may be concluded here that work participation ratio may be considered as the negative indicator of development of rural area.

7. Ten market centers serve to agglomerate and distribute the agricultural products and people within and outside the tahsil. Bus services are available. But in remote villages bus services are seasonal.

8. In the study of traditional implements are still in use in the study area.

6.5 Assessment of Human Resources:

Human resources in the Pathardi Tahsil has been evaluated with the help of revenue circle wise data. The finding related to the human resources development may briefly outlined below.

1. Education :

Education facilities are inadequate. In Pathardi tahsil 245 Primary schools, 56 High-Schools, 11 Jr. Colleges and 04 Degree Colleges available. Distance between two schools about 1.84 km.

2. Medical Facilities:

According to 2001 census there is one hospital, 5 P.H.C., 32 Sub Centers and 97 Private clinics providing medical facilities to the people of the tahsil.

3. Life Expectancy:

The life expectancy of the Pathardi Tahsil was 69 years in 1981, 70 Years for male and 67 for female. The life expectancy of the male has been more than that of the female. The life expectancy of the population has been increasing in 1991 and 2001, 1991 was 71 years, 72 years for male and 70 years for female and 2001 total life expectancy was 73 years, male was 75 years and female was 71 years, the life expectancy of the Pathardi tahsil has been increased, because of that medical facilities and communication are increased.

4. Drinking Water:

The majority of villages and population depend upon the well and tube well for drinking water. About 100% villages are depend upon well and tube-wells for drinking water. After 1991 the tap water schemes are implemented on large scale. Today majority of the villages are facilitated with safe, Potable and clean drinking water. This is good indicator of the health human life of the Pathardi tahsil.

5. Electricity:

The availability by power supply is very important by the agricultural, industrial, commercial, as well as the social and all round development of the region.

In the Pathardi tahsil 100% of the villages are electrified Electricity (Power) is very important factor for the agricultural activities, Industrialization, standard of living and economic development. The proportion of electricity consumer by Residential (domestic) (62 %), Agriculture (34%), commercial (3%), and Industries (1 %) is very low level.

The villages in study area have been grouped in to three circles according to identical characteristics. The planning strategies for each circle have been discussed in the present work. These are mainly related to the characteristics of population.

6.6. Human Resource Development:

1. The total geographical area (TGA) pf the tahsil is 17784.35 hector. Out of that 87535.51 hect. (74.32 %) grossed area under in agriculture.

2. In the study area 599 hector (0.51%) land is under non- agricultural uses.

3. The barran and uncultivated land is 8.72 % it means land is not available for cultivation 9.23 % of TGA.

4. The tahsil has 9275 hectares (7.87%) of its total area follow land. Current follow land is 4.64 % and follow land other than current follow is 3.23%.

5. Cultivable land is 3675.92 hectares (3.12%) of TGA.

6. Total forest area of the tahsil is 6425.85 hectares (5.46%) of TGA.

7. Agricultural densities:

The ratio of population to agricultural land is called agricultural density. It is 245.46 in Pathardi tahsil.

8. Caloric density in Pathardi tahsil is 234.45.

9. Road density in Pathardi Tahsil per 100 k.m. is 88.02% and roads per 1000 population is 4.82 k.m.

10. Industry: only one Shri Vridheshwar Sugar Factory is in Pathardi tahsil.

The present study offers the following special features as related to the human resource development in the study area.

1) The data collected for the present study has its source from district census handbook, from tahsil department related to human resources of attempt has been made to unify all the data so collected.

2) The present study has adopted integrated approach in which demographic parameters have been viewed in the context of physiographic and socioeconomic characteristics.

3) The detailed study of occupational, structure, Agricultural density and Industrial development. Have been made in the present study.

4) The comparative charts have been prepared to show the detailed statistics of human resources.

5) The stress is laid on finding various amenities available in the region and the possible development in those amenities.

6.6 Relevance of the Study :-

The present study gives idea about the various amenities available in the region and its utilization. The present study is relevant to the development in the field of human resource from past till the date. This is very useful for Government and Non government organization to chalk out a plan for the benefit of the population of the region. The study is very useful to students and researchers also. It has social relevance as it finds the human resource development of the region. It is primarily relevant to the agricultural sector which is backbone of the economy of India.

6.7 Limitations:-

There are some limitations regarding the availability of the data. The available data has been used for the present study. However there are some respects. The study has been based on the census data available from on the census data available from 1981 to 2001. However there are some limitations to the information available at source. There has been no information regarding private medical facilities available in the region.

6.7 Suggestion :-

The tahsil is drought-prone area having the lack of basic facilities. The source of income of population of the area is less. The lack of Employment and less opportunity of earnings are the striking features of the area. A large no of population misstate for there livelihood though it for about six months during the year. The majority of population of the region is involved in the work of sugarcane cutting.

The following are some of the suggestions:-

- 1) The irrigation facilities need to be developed the traditional methods of agriculture are still in use. There is need to provide information about modern agricultural facilities.
- 2) There is lack of good medical facilities in the area. The population has to move to the cities to avail of good medical facilities. Hence there is need of providing good medical facilities in the region. There should be more PHC.
- 3) There is much availability of lab our in the region. However there are less no of work places as to provide the labour to the population. The opportunities can be created with in the region by establishing versions small scale and large-scale industries in the region.
- 4) There is good foundation of primary and secondary education in the region. However there is lack of the facilities of higher education such as

medical, engineering, technology etc. The students have to migrate to other areas to fulfill their need of education hence by providing the good educational facilities of higher education such migration can be stopped.

5) The area is well connected with state. Highways however some of the rural areas located in hilly region are deprived of the facilities of roads. By providing the road facilities in such areas, the transportation can be developed and that would have more scope for the economic envelopment of the region.

6) There are traditional sources for drinking water such as wells, rivers, tanks large portion of population is still deprived of the facilities of drinking water. There is need of providing, potable, clean water to this population This will result in reducing the viral disease. The schemes for establishing pure water supply can be launched in every village.

7) There is scope for establishing the various centers for communication there are some facilities of communication such as telephone, post, telegram, mobile, internet however there is need of establishing more such facilities especially for the population which live in remote and hilly areas.

8) There are no good facilities of market available in the region the farmers have to carry their products out side for marketing. Hence the good market facilities can be provided to these populations and it will strengthen the economy of the region.

9) There is need of establishing the nationalized and co-operative banks in the region. So that the finance could be made available to the agriculture sector and to the small scale industries this will enhance the economy of the region.

Total number of available facilities and total number averagely population in Pathardi tahasil, its co-relation indicate of the statistical method of this study with Chi-Square test.

The following formula is used in χ^2 test.

6.4 Chi-Square Test :

$$X^2 = \sum \frac{(O - E)^2}{E}$$

Where –

O= Observed Value

E= Expected Value

Sr. No.	Facilities	No. of Facilities O	E	O-E	(O-E) ²	$\frac{(O-E)^2}{E}$
1	Education	134	82.66	51.34	2635.79	31.88
2	Medical	53	82.66	-29.66	879.71	10.64
3	Drinking Water	134	82.66	51.34	2635.79	31.88
4	Post & Telegram	53	82.88	-29.66	879.71	10.64
5	Market	16	82.66	-66.66	4443.455	53.75
6	Communication	93	82.66	10.34	106.91	1.29
7	Road	101	82.66	18.34	336.35	4.06
8	Power Supply	134	82.66	51.34	2635.79	31.88
9	Banking	26	82.66	-56.66	3210.35	38.83
	Total No. of Facility	744				$\sum x^2 = 214.8$ 5

According to above formula the value of X^2 is 214.85.

Total number of frequency is 9 of freedom formula is $n-1 = 9-1 = 08$ for that in table of X^2 value. The table value of 0.05 and 0.01 are 15.51 and 20.09 respectively. Concluded value 214.85 is greater than table value. Therefore hypothesis H_0 will be rejected and hypothesis H_1 will be accepted. Both table values are less than concluded value therefore null Hypothesis is rejected and alternative hypothesis (H_1) is accepted.

Conclusion – 1) Education, Drinking water and Power supply facilities are provide averagely 51% population in Pathardi tahsil.

2) Market, Medical and Banking facilities are less than other facilities.

(Number of Degree of freedom is :- $n-1=9-1 = 08$

Using a 0.05 level of significance the table value of $\chi^2_{0.05}$ is 15.51 and 0.01 table value is 20.09 since the calculated $\chi^2 = 214.85$ is much greater than the table value, the hypothesis is H_0 rejected and H_1 is accepted. i.e. the relation between total population in Pathardi Tahsil and the total Number of facilities means effect of population on the facility.)

CONCLUSION :

The human resource has not developed considerably in the region. There is disparity regarding the distribution of benefit of development various amenities are available. However they are insufficient to meet the need of the growing population of the region. The region comes under drought-prone. The agriculture is totally dependent on the rain-fall. There is less no. of employment opportunities. Irrigation facilities are less. A large no. of population has to migrate to other places for their livelihood. Medical facilities are not in proportion to the population. To avail the better medical facilities, the people are forced to move to the places like Pune and Ahmednagar. Educational facilities are maximum however, the students have to shift themselves to the cities for better higher education. There is a scope for development of all these amenities in the future.