# A STUDY OF TRIBAL CHARACTERISTICS IN THANE DISTRICT, MAHARASHTRA STATE

A Thesis Submitted to

**Tilak Maharashtra Vidyapeeth, Pune**

**For the Degree of Doctor of Philosophy (Ph.D.)**

**In Geography Subject**

**Under the Faculty of Moral & Social Sciences**


Submitted by

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Research Student

Under the Guidance of

**Dr. B. C. VAIDYA**


**February, 2017**

## CERTIFICATE

This is to certify that the work incorporated in the thesis entitled, **"A Study of Tribal Characteristics in Thane District, Maharashtra State"** submitted by Mr. Ganesh Kashinath Madhe for award of Ph.D. degree in Geography in faculty of Moral and Social Sciences to the Tilak Maharashtra Vidyapeeth, Pune is his original work carried out by candidate under my guidance and this work has not been submitted previously for any other degree or diploma to this or any university. The material obtained from other sources have been duly acknowledged in the thesis.

Place: Pune
Date:

**Professor B. C. Vaidya**
**Guide**

## DECLARATION

I hereby declare that the work incorporated in this thesis entitled "A Study of Tribal Characteristics in Thane District, Maharashtra State" is the original research work carried out by me under the guidance of Professor B. C. Vaidya for the award of Ph.D. degree in Geography to Tilak Maharashtra Vidyapeeth, Pune. This has not been submitted previously in part or full by me for any degree or diploma of any other University or Institute.

Place: Pune
Date:

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# CHAPTER-I
# INTRODUCTION

## 1.1 General Introduction

The year since the end of the Second World War has witnessed remarkable change in term of population trends and their implications. Human being one of the resources on the earth studies the distribution of population and their characteristics. “The power of population is indefinitely greater than the power in the earth to produce subsistence for man.” (Thomas Malthus, 1798). The population growth, its structure and composition affect the social and economic conditions. Unplanned population growth within region is responsible for shortage of food, shelter, water, transport, education, health services and other socio-economic amenities resulting as imbalance in sex ratio, marital status, fertility, mortality, age structure, migration and occupation structure. Most of the studies in geography have dealth with there aspects with cause and effect relationship. India is a welfare state committed to growth for social justice. Accordingly, eradication of poverty and raising the standard of living of weaker sections has been the most important objectives during India’s Five Years Plan. The term 'Scheduled Tribes' (ST) first appeared in the Constitution of India. Article 366 (25) of Constitution and it defines Scheduled Tribes as “such tribes or tribal communities or parts of or groups within such tribes or tribal communities as are deemed under Article 342 to be Scheduled Tribes for the purposes of this Constitution”. Empowered by Clause 1 of Article 342, President of India notified list of Scheduled Tribes in States and Union Territories. The scheduled tribes wherever they live are faced with many and diverse problems which are of social, economic, political and educational in nature. Because of acute poverty, among tribals had been victims of exploitation by powerful classes like moneylenders, traders, landlords, labour contractors and officials.

“Tribals form the very segment of the weaker sections of society with their traditional skills and resources. They are the most vulnerable section of the population and they are being exploited by the most age-old social and cultural handicaps coupled with environmental factors”. In order to protect the interests of these people suffered from all sorts of discrimination, Constitution of India provided special concessions to enable them to catch up with the rest of the Indians in the process of

development. The state tribal wellbeing or their quality of life in north eastern part of Maharashtra which is near to Sahyadri hilly ranges has becomes focus on tribal study with questioning like. What kind of physical environment they live in which has put their survival at states? The condition of tribal peoples is in a very bad situation in a Maharashtra, which is one of the most advance states in India. Despites its high Industrial and urban development, life scheduled tribes especially the children in neighborhood of Mumbai-Thane are at stake is mainly because of malnutrition and inadequacy of food supply and non-availability of life saving essential health facilities. And they are unable to save their life and their children for the simple reason that they are unable to buy the food, less purchasing power even if it is made available.

In terms of their population, "Tribal population" is a social group of members of which lives in a common territory have a common dialect, uniform social organization, possess cultural homogeneity with a common ancestor, political organization and religious pattern. Perhaps it would be very difficult to find out many tribes in India who possess all these characteristics. The tribal groups recognized by government are designated as "Scheduled Tribe." Tribal live at disparate levels of socio-economic development spreading along the entire spectrum of evolution in terms of social, historical, cultural, political, economic and even technological. The presence of tribal is universal, particularly in old world and share at least three-four common features though living continents apart for the last several thousands of years. Tribals were the earliest among the present inhabitant forming the integral part of the civilization. The references of tribes are found in Vedas, Puranas, Mahabharata and Ramayana. Tribal are stated to be kolerain stock, and are variously called *vanyajati* (castes of the forest), *adijamati* (primitive people), *janjaati* (folk people), and *anusuchit janjati* (scheduled tribe). Principally of them adivasi and anusuchit janjaati are used frequently. However, it does not contain the criterion for the specification of any community as scheduled tribe. An often used criterion is based on attributes such as geographical isolation, backwardness, distinctive culture, language and religion and shyness of contact (Lokur Committee, 1965).The former in regular parlance and the latter under constitutional classification. The study of tribals is a subjects of anthropology, sociology, geography, economics and regional planning.

As per 2011, Census tribal population in the country is 104 million. The tribal population had grown at the rate of 49.7 percent during the period 2001-2011.

Broadly, the scheduled tribes inhabit two distinct geographical areas, the Central India and the North- eastern area. More than half of scheduled tribe population is concentrated in Central India, i.e., Madhya Pradesh (14.6), Chhattisgarh (7.5), Jharkhand (8.29), Andhra Pradesh (5.7), Maharashtra (10.08), Orissa (9.2), Gujarat (8.55) and Rajasthan (8.86). The other distinct area is the North-east in Assam, Nagaland, Mizoram, Manipur, Meghalaya, Tripura, Sikkim and Arunachal Pradesh. These tribal populations have found unique characteristics like pre-agriculture level of technology, inactive population, low literacy and subsistence level of economy in India.

**1.2. Literature Review**

The geographers have mainly studied the demographic aspects of tribes in term of spatial and environmental perspective by Enthoven, R. E. (1922), Haimendorf (1943), Elwin Vrier (1945), Russel and Hiralal (1975), Sharad Kulkarni (1982), Singh, K. S. (1982) etc. Among the Indian geographers who have made substantial contribution to tribal study are, namely, Boss, V. K. (1961), Diksha Barai (1975), Hussain (1977), K. Sita (1981), Buddhadeb Chaudhary (1982), and Sateysh Chakraborty (2001). These geographers have studied tribes and tribal societies of India focusing attention on their distribution patterns. Boss, V. K. (1969) has studied the tribes and tribal societies in India in general, while Dakasha Barai (1975) has studied the tribes of Andaman and Nikobar islands. Sateysh Chakraborty (2001) has discussed tribal problems focusing on development from the point of social scientist. K. Sita (1981) and Phadke V. S. (1982) have studied tribal study at micro level with respect to the problems of tribes of Sahaydri region in western India.

Ghurye, G. S. (1943) has given the theory of Public Park. According to him tribals were nothing more than backward caste hindus. They should be treated as part of the hindus. Following Ghurye's argument, Majumdar, D.N. in 1944 has undertaken a slightly different position and suggested that the cultural identity of tribals should be retained. The scientific study of tribal economy in India was first undertaken by Nag, D. D. and Saxena, R. P. In 1958 Nag has made an extensive field in Mandla, Bilaspur, Durg, Balaghat and has studied the economy in context of general economic theories lying emphasis on the sources of economy of Baiga tribe. Vema (1959-1960) has discussed the socio-cultural organisations of Sanria Paharias, Mal- Paharias and Knmarbhag. He has examined various phases of tribal life, pregnancy and birth, adolescence, widow remarriage, place of women in society, religion, village council

and institutions. Yyas, N. N. (1967) has studied the historical, social and economic life of Baniyas tribe in Rajasthan, Andhra Pradesh, Punjab and Gujarat. He pointed out the differences in customs and practices of the Baniyas tribes in different states in India. Vidyarthi, L. P. (1970) examined impact of urbanisation on tribal culture. He studied impact of the emergence of heavy engineering complex in a tribal belt of Chota Nagpur and has analysed the pattern of socio-economic changes occurred owing to large scale industrialisation. Burman Roy (1973) evaluated the tribal life differences and non-tribal and associate that their is hardly share a common life. Their contacts are few and formal. The tribals in urban areas are in neither of the two worlds fully. Joros Dean (1973) has studied relationship between political socialisation of tribals and integration process and their on tribal welfare programmes of their political socialisation. He revealed that the political socialisation process of tribals is more complete evaluation of tribal welfare programmes would be ensured. Doshi, S. L. (1978) examined study of Bhils tribe in term of process of unification and integration. According to him integration is achieved by tribals with wider society as a result of political unification. They are aware of working of democracy, democratic institutions of identification and level of values.

Kumar Ashok (1986) has analysed and interpreted the socio-cultural organization and economic structure of Mal-Paharias tribe of Santal Parganas district, Bihar in the light of regional geographical perspective, he examined the land use, income expenditure pattern, size of families and its geographical ratification. Thakur Devendra (1986) has made an elaborate study of Santhals tribe in Bihar. This study highlights their socio-economic conditions. It has studied the different projects and programmes undertaken during the developmental plans. Menon Geetha (1987) has revealed the impact and loss of common property resources among tribal women. Tribal women are the major victims of deprival of traditional rights of tribals in common property resources. Prasad Rarnakant (1988) has studied the tribe of Bihar and their livelihood in different ecological settings. This tribe represents extreme variations in their culture due to changing ecological condition.

Mohanthy, L. C. (1989) has evaluated economic conditions tribes in India. He believes that giving tribals full freedom to manifest their genius will help their integration. Sengupta Nirmal (1990) has assessed process of rapid industrialisation supportive dimension to the problem of tribals, as majority of tribal concentration in country are in the area send owed with rich natural resources. The establishment of

resource-based industries in such areas has inevitably led to displacement of the tribals. Chaudhari Buddhadeb (1992) has attempted to study the Tribal Transformation in India in five volumes where effort was made to study the changing tribal scenario and diversity of tribal economy, agronomy, politics, ethnicity, ecology, education, technology transfer, social political movements, religious faiths and rituals. Deogaonkar S.G. (1994) has described the origin, growth and development of tribal in India and examined the enumerates the administrative structures and organisational strategies adopted during the last few years of planning. P. Sudhakara Reddy (1995) has undertaken comprehensive study of Yanadis tribe of Shriharikota Island in Andhra Pradesh. Baviskar Amita (1998) has studied the erosion and destruction of environment in Narmada valley tribal conflicts and developments. Tripathy, S. N. has written book on "Primitive Tribes of India". Moreover, it was studied problems policy, and financial institution mitigating tribal economic problems. Jain, P.C. (1999) has studied the characteristics of Bhil and Mina tribes in Rajasthan and assessed the development attained by these tribes. In First Year Plan, State Government has attempted to bring out the tribals at par with other tribal groups economically and socially advanced. S. R. Bakshi and Kiran Bala (2000) have assessed the present social-economic status of scheduled tribes of sub-continent, wherein their life-style, customs and traditions have studied. Prakash Chandra Mehta (2000) has presented an overall review of tribal development measures adopted during 20$^{th}$ Century. The first half century was administered by British Government and local rulers in India. In addition, less bothered about their needs and welfare, hence were exploited by the rulers.

**1.3 Choice of study region**

The study region under investigation is influenced by typically over a period. Firstly, tribal population of study region is drastically backward and has not undertaken tribal study from geographical point of view. Hence, this topic has remained untouched for in-depth study. Secondly, demographic change occurs due proximity of urbanisation in study region and tribal population problem has not studied by geographers planning purpose. Moreover, undertake the topic on to tribal population and their characteristics. Finally, researcher belongs in this study region and therefore is familiar with tribal local language hence, familiar with study region.

## 1.4 Study Region

Thane district forms a part of 'Konkan plain' extending from $18^0$42' to $20^0$20' north latitudes and $72^0$37' to $73^0$45' east longitudes covering 9,558 square kilometers area. Administratively, this region is divided into fifteen tahsils (Fig.-1.1). Its eastwest spread is 100 kilometers. The north south length is 140 kilometers and has population of 1,10,60,148 persons (Census, 2011) of which male and female were 5,865,078 and 5,195,070 respectively accounting for 3.11 percent, 9.84 percent of total population in state. 27.42 percent people reside in rural areas and 72.58 percent in urban areas. Study region has 84.53 percent literacy. The sex ratio was 886 females per thousand males. The population density is 1157 in 2011. People belongs to schedule caste ware 6.60 percent and schedule tribe were 15,42,451 and it is 13.95 percent to total population in study region. The study region consists of 1727 inhabited villages, 21 uninhabited villages and 37 towns occupies the northern most position of Konkan adjoining the Arabian Sea in the northwest part in Maharashtra state. Its northern boundary delimiting Union territory of Dadra, Nagar Haveli and the state of Gujrat while districts Nashik and Ahmadnagar lies east, Pune to southeast, Mumbai sub-urban district to south. Net sown area in study region 18,800 hectares. The total workers were 40.62 percent in study region among them 35.54 percent was main workers, 5.08 percent marginal workers, and 59.38 percent non-workers in study region.

The study region topographically, district can be divided into four parts, namely, coastal region, central region, Sahydri footh hill region and Sahydri region. Vaitarana and Ulhas are major river in study region. The tributaries of Vaitarna river are, namely, Pinjal, Deharja, Surya, Tansa and Barvi, Bhatsa, Kalu are the tributaries of river Ulhas. The climate is characterised by high humidity throughout year, an oppressive summer season and heavy rainfall during south-west monsoon season. The maximum rainfall in study region was in Palghar tahsil 3538 millimeters in Ulhasnagar tahsil 1908 millimeters. The total forest covers 3463 square kilometers. Shahapur tahsil has highest forest 20.62 percent followed by Palaghar (14.09), Jawhar (9.99) percent in study region.

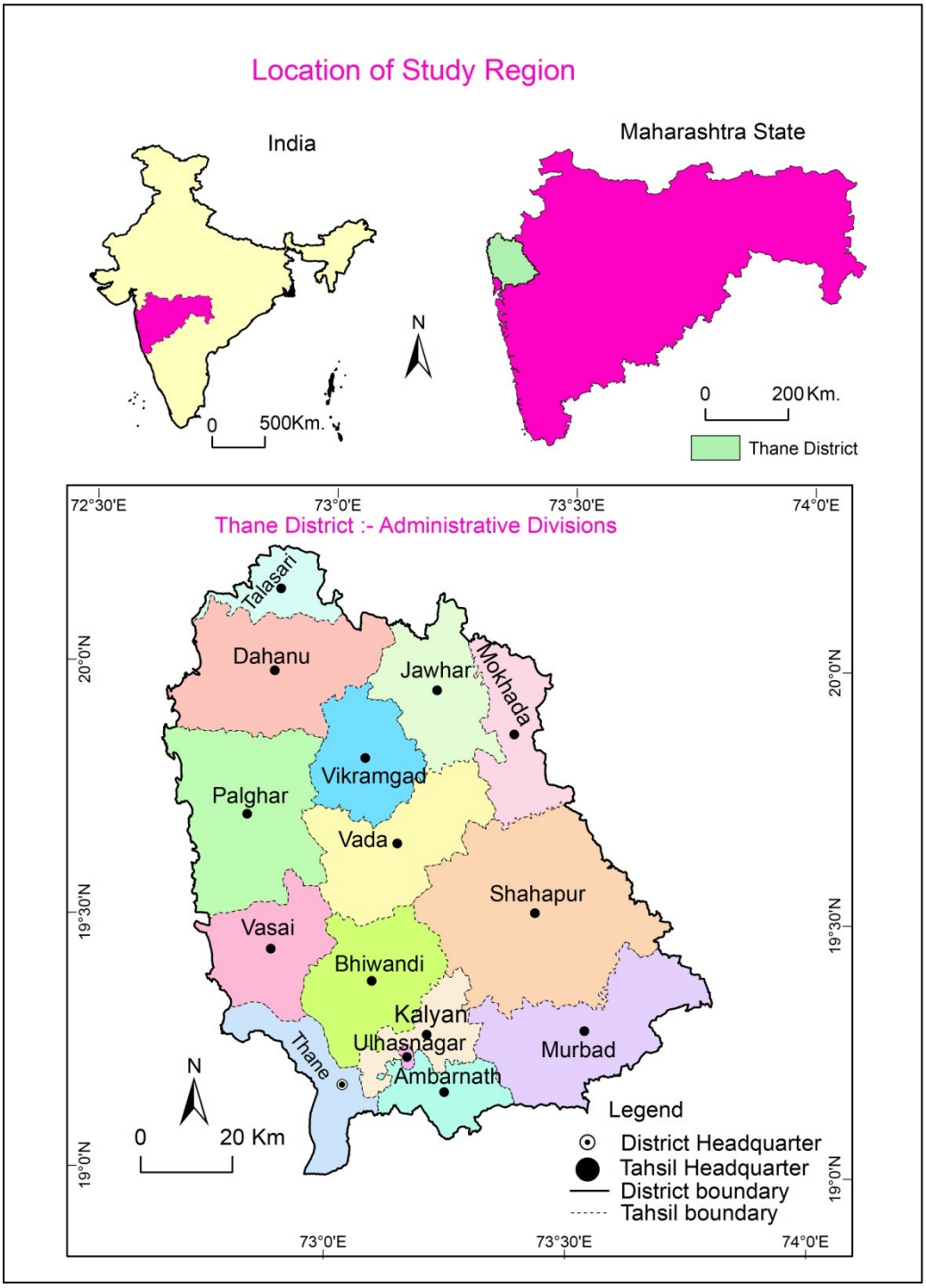

Location of Study Region
India
0
500Km.
N
Maharashtra State
0
200 Km.
Thane District
Thane District :- Administrative Divisions
72°30'E
73°0'E
73°30'E
74°0'E
20°0'N
19°30'N
19°0'N
Talasari
Dahanu
Jawhar
Mokhada
Vikramgad
Palghar
Vada
Shahapur
Vasai
Bhiwandi
Kalyan
Ulhasnagar
Ambarnath
Thane
Murbad
N
0
20 Km
Legend
District Headquarter
Tahsil Headquarter
District boundary
Tahsil boundary

Fig. 1. 1

## 1.5 Objectives

The major objective is to make an assessment of tribal population characteristics in Thane district. This objective can be studied by following sub-objectives as below:

(a) To examine the physical and social background of study region.

(b) To make an assessment of tribal population characteristics in study region.

(c) To evaluate the occupational structure of tribals in study region.

(d) To suggest measures for tribal development in Thane district.

## 1.6 Database and Methodology

The present study has used both analytical and descriptive methods data obtained from primary and secondary data sources.

(a) Secondary Data- have obtained from Statistical Handbook, District Census Handbook, Socio-economic Abstract of Thane District, Tribal Development Office Nashik, Tribal Development Office Thane, Project Office, Rajur, Shahapur, Jawhar and Dahanu, Tribal Research and Tanning Institute, Pune, IIPS, Mumbai and Census of India from 1991 to 2011.

(b) The primary data have collected by using questionnaires for selected villages adopting by purposive sampling method. The questions in questionnaires were on demography, religions, households, health, education, occupation, and income from various sources. Besides this, information has gathered during fieldwork from village Talathi, Village Development Officer and Sarpanch of concerned villages.

Tribal population composition, concentration index, location quotient, child-women ratio, dependency ratio, growth rate have computed. Lorenz curve has employed to find out population space relationship of tribal characteristics and has shown graphically. Besides this, Karl Pearson's Correlation Co-efficient method has computed to identify the relationship between tribal literacy and working population. Factor Analysis has used to compute the relationship between tribal population characteristics and various other variables to search for common variances as a set of new variable. The following formulas have been used in present study.

(a) Concentration Index = $\frac{\text{Tahsil population / Tahsil Area in Square Kilometer}}{\text{District population/ District Area in Square Kilometer}}$

(b) Location Quotient = $\frac{\text{Percentage of Tribal Population to total population in a tahsil}}{\text{Percentage of Tribal Population to total population in a district}}$

(c) Population Growth = $\frac{\text{Population of Current Decade - Population of Previous Decade}}{\text{Population of Previous Decade}} \times 100$

(d) Total Dependency = $\frac{\text{Population Aged (0-14) Years and 60 + Years}}{\text{Population Aged (15-59)}} \times 100$

(e) Index Ageing = $\frac{\text{Population Aged 60 + Years}}{\text{Population Aged (0-14)}} \times 100$

(f) Child Women Ratio = $\frac{P(0\text{-}4)}{F(15\text{-}44)} \times 100$

Whereas:

P 0-4 = The number of children of both sexes under the age of 5 years.

F 15-44 = The number of women between the ages of 15 and 44 years.

K = 1000

(g) General Activity = $\frac{\text{Economically Active Population}}{\text{Population Aged (15-59)}} \times 100$

Later on, collected data have been classified, processed and then presented in the form of tables, charts, maps and graphs by using cartographic techniques and finally interpreted the text.

**1.7 Arrangement of Text**

The present study has been arranged into seven chapters. First chapter presents the introduction of study region which includes introduction of subject, review of literatures, selection of research problem, objectives of study, methodology and tools used for collecting of data and limitations. The second chapter has described the background of Thane district with respect to location, site, physiography, climate, soil types, vegetation, population, irrigation, occupational structure, landuse,

transportation and socio-economic profile of population. Third chapter has examined the tribal population characteristics and has studied the tribal population distribution, concentration, density, sex composition, age-sex composition, literacy, human development index, dependency ratio, migration, caste composition and population change from 1991 to 2011. Chapter fourth has evaluated the occupational structure of tribal population in depth. Chapter fifth has devoted to case study of four sample villages. Chapter sixth has assessed tribals, by using quantitative techniques and suggests the measures for tribal development in Thane district. The seventh chapter outlines the summary, findings and suggestions.

**1.8 Limitations**

Tribal people are less literate and hence, they are not aware about their rights and, therefore, are less interested in any government schemes. Data like house types, number of rooms, use of articles, road types some times may be observational. The data on age composition was not available at tahsil level for the point of comparison. Ambarnath and Vikramgad tahsils have emerged newly in 2001 hence, data of these tahsils were not readily available for study period. The present study, attempts to study spatio-temporal changes for thirteen tahsils in 1991 but data for 2011 lacking hence handicapped to give real picture of tribes and their changes in study region. The researcher studied 15 tahsils, which includes old Thane district, but on 1st August, 2014 new Palghar district were separated from old Thane district which is not separately studied.

## CHAPTER-II

# PHYSICAL AND SOCIO-ECONOMIC CONDITION OF THANE DISTRICT

### 2.1 General Introduction

Population of any region play vital role in the development of region. The study of population includes age composition, sex composition, religion composition, economic status, marital status, education status. Present realistic picture of the society provides solutions to the problems. In order to effective deal with problems and to ensure development of region requires different type of plans. Planning policies are mostly depending up on population in term of quality and quantity of population resource. The demographic analysis reveals true status of population. Growth of population in term of birth rate, death rate and migration. The socio-economic development in any region is reflected by these elements. The distribution of population is largely controlled by geographical as well as cultural factors. It is therefore, necessary to evaluate the geographical background of study region. The objective of this chapter is to examine physical and socio-cultural aspects, namely, physiography, drainage pattern, climate, soil, forest, population, transport, irrigation, occupational structure and landuse in Thane district.

### 2.2 Location, Site and Situation

Thane district is a part of 'Konkan Plain' extending from between $18^0$42' and $20^0$20' north latitudes and between $72^0$ 37' and $73^0$ 45' east longitudes covering 9,558 square kilometers area. Its eastwest spread is 100 kilometers. The northsouth length is 140 kilometers and has population of 1,10,54,131 persons (2011) accounting for 3.11 per cent of total area of state and 9.84 per cent of total population of Maharashtra state. It is most populous district in state. The study region consists of 1727 inhabited villages, 21 uninhabited villages and 37 towns. The study region as divided into fifteen tahsils, namely, Ambarnath, Bhiwandi, Dahanu, Jawhar, Kalyan, Mokhada, Murbad, Palghar, Shahapur, Talasari, Thane, Ulhasnagar, Vada, Vasai and Vikramgad. The name Thane borrowed from headquarter name, "Thane". The available documentary reveals that 'Thane' was formerly known as Shreesthanak and during ancient times, it was an excellent port and commercial centre. From prehistoric times, Thane coast had relation with Egypt, Babylon, Greece and Persia. The carving

Ashokas edicts (225 BC) remain the earliest known fact in the history of Thane. An inscription discovered Kanheri caves showing that King Rudraman ruled North Konkan (Thane and Colaba) during the second Century AD. This area was ruled by Mushervan (531-578) and then by Shilaharas for more than 400 years. The Muslims ruled during the period 1300-1500 AD came Portuguese, Marathas and entered by British in study region.

### 2.3 Physiographic Divisions

The study region has physiographical variations partly because of Sahyadri mountain location, westward flowing river basin and coastal region. The plateaus dissected by hill ranges and rivers valleys slopping towards west. Geographically, east side in study region is made up of volcanic formation of basalt rock and covered Western Ghats. The study region is broadly divided into four major physical divisions namely, coastal region, central region, Sahyadri foothill region and Sahyadri hilly region (Fig.-2.1). To west district of Thane has a fair coastline about 100 kilometers long. The coast part is divided into two parts i.e. north and south (Fig.-2.1). To south, great gulf running from north of Kolaba to Bassein, and might have stretched far further inland than it appears today. The most rugged terrain of the district is a belt about 15-25 kilometers broad that runs parallel to the coast at a distance of 15-20 kilometers from the shore. Its cover part of major part of Thane, Vasai, Palghar, Dahanu and Talasari tahsils and attains height of few meters above mean sea level sloping towards west to the Arabian Sea. In the south of these tracts are the hills of the Salsette island that form the core and rise to the highest elevation of 853 meters at Kanheri and Avaghadand further north in Kamandurg (640 meters) and Tungar hills of Bassein.

The central region located in the central part in study region. Vaitarna Valley includes parts of Vikramgad, Palghar, Vada and Bhiwandi tahsils. The valley slope is towards west and attains height below 100 meters. The surface is relatively smooth in nature and has shallow soil cover. Ulhas river basin also includes Kalyan, Ulhasnagar, Ambarnath and parts of Thane, Bhiwandi, Shahapur Vasai and Murbad tahsils. The height is found below 100 meters, however some hillocks and its upper reaches attain height about 200 meters. Ulhas basin slopes towards west and has an undulation surface. The patches of black soils have more fertile where rice, vegetables and garden crops are grown.

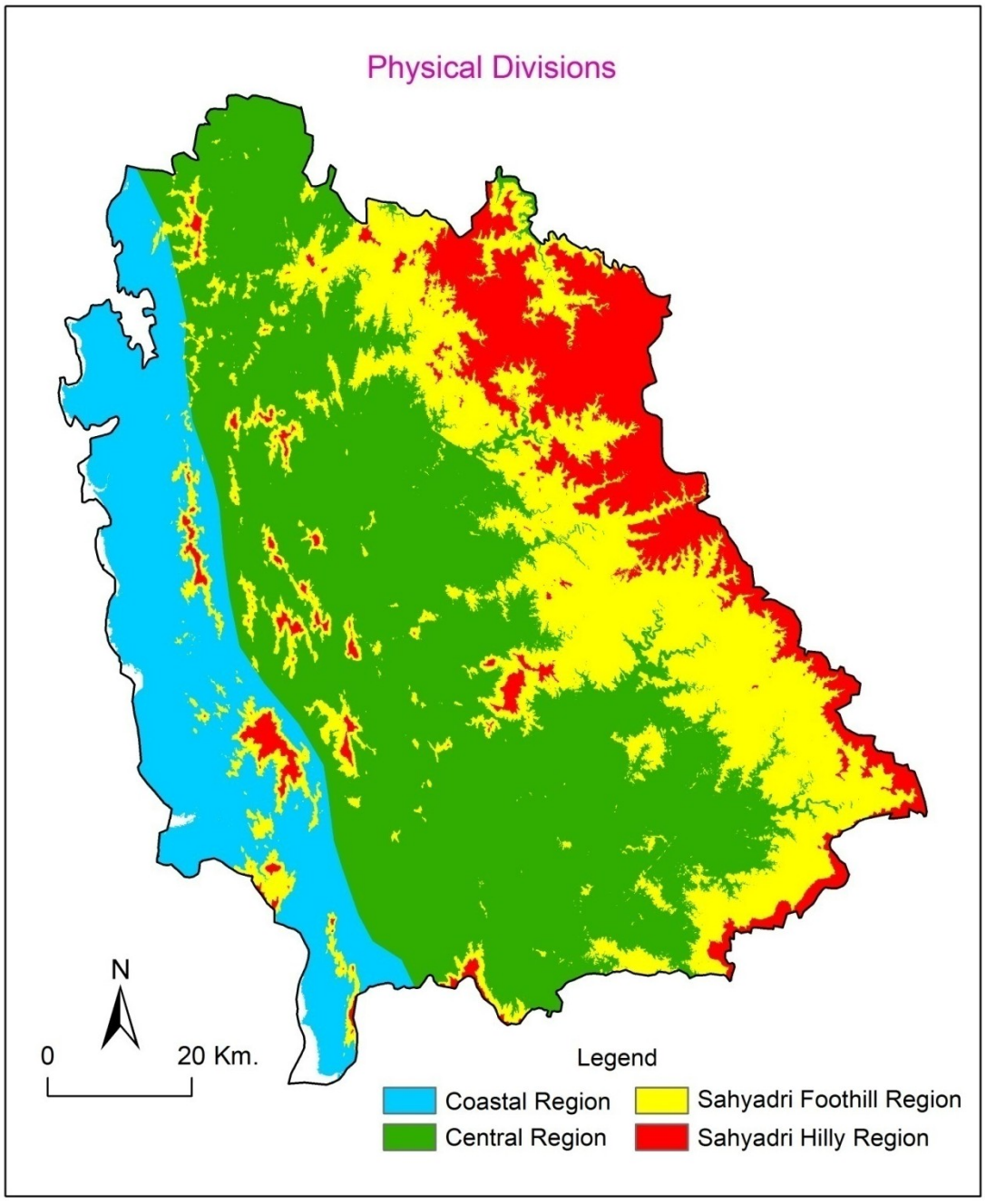

Physical Divisions
N
0
20 Km.
Legend
Coastal Region
Central Region
Sahyadri Foothill Region
Sahyadri Hilly Region

Fig. 2.1

Further inland to north east of Manor is semi-circular hill of Pola having its Adkilla and Asheri peaks. In south of Manor, across the Vaitarna from Keltanand Takmak has fortified hill and river Kohoj rises and is flowing from the plains and visible over considerable distances between rugged terrain and Sahyadri foot hills lying western-most hill in east hill in Wada is Davja with its two spurs. Smaller Kapri, Indagaon in northwest of Ikna and Domkavla hill in southeast border in study region. About seven kilometers northeast of Shahapur the long flat-topped mass of Mahuli peak (849 meters) rises like a great block of masonry. The sides of hills are richly wooded and laterite-capped top has only a poor stunted vegetation mostly of Hirada (Terminalia Chebula) north of this, Bhopatgad is crowned with a fort, which overlooks Kurlod on the north of the Pinjal river and rises about 170 meters. From the east, the ascent is about 170 meters from the west; it is about 500 meters for its slopes form the face of the Mokhada tableland. Sahyadri foothill region appears in east part in study region and it is characterized by number of spurs shoots off within Sahyadri lying westwards in Thane lowlands and plateau. They are narrow and found more than two kilometers wide, with steep slopes on either sides. These spurs found difficult to access. These type of a hill range of this region have intervening deep gorges of stream valleys, in Wada and Jawhar tahsils. The western steep slope of Sahyadri, is from crustal plateaus towards foothills. It covers part of Murbad, Shahapur, Mokhada and Jawhar tahsils. The Sahyadri ranges, have in north south in eastern parts has to spurs appears with main ranges. The heights of the mountains are maximum on the east and diminish gradually westwards. From the northern limits, adjoining the Gujarat border, till reaching the Thal Ghat, the Sahyadri is subdued in relief, and nowhere, elevations exceed 600 meters. There is less physical barrier between Nashik district and Mokhada tahsil in study region and Ghat passes have used as routes between villages in plateau and ranges in study region.

**2.4 Drainage Pattern**

The study region drains by two major rivers namely, Ulhas and Vaitarna, (Fig.-2.2). These main two rivers covers central part in study region and are flowing towards west between Bhor and Thal Ghats. The river Vaitarna rises near Trimbak hills in Nashik district, opposite source of Godavari river and enters in study region at Vihigaon near Kasara after passing through a deep gorge from plateau top to Konkan lowland. The river flows across Shahapur, Vada and Palghar tahsils and enters the Arabian Sea through a wide estuary off Arnala.

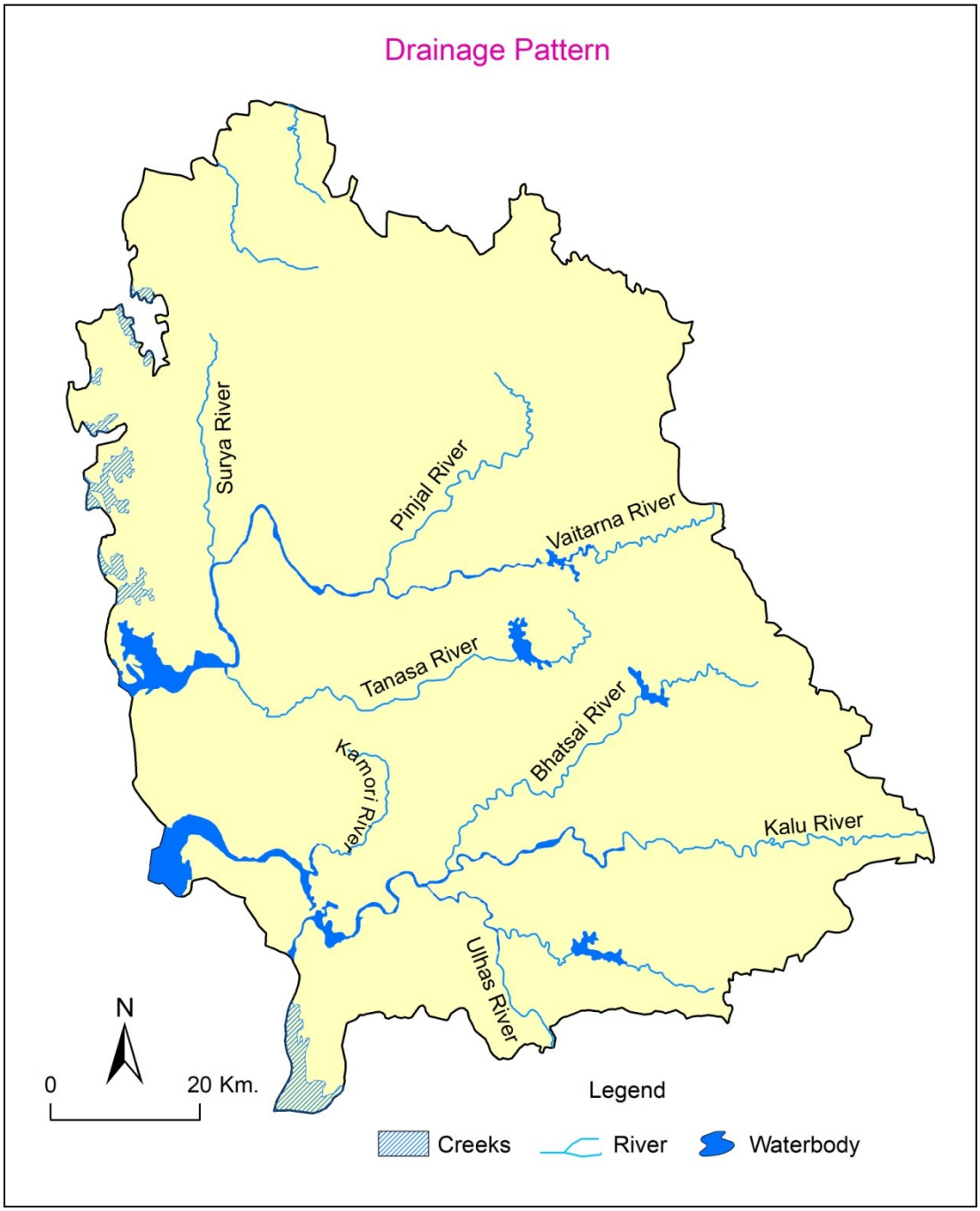

Drainage Pattern
Surya River
Pinjal River
Vaitarna River
Tanasa River
Kamori River
Bhatsai River
Kalu River
Ulhas River
N
0
20 Km.
Legend
Creeks
River
Waterbody

Fig. 2.2

The length of Vaitarna river is 154 km and has a drainage area covering northern part in study region. The major tributaries of this river are Pinjal, Surya and Tansa rivers. The south part in the study region is drained by river Ulhas and its tributaries. The total length of this river is 122 kilometers. Kalu, Barvi, Bhatsai and Kamori are major tributaries of this river. The Ulhas river rises in north of Tungarli near Lonavala at an 600 meters above mean sea level and flows south and then turned towards west for a 37 kilometers distance before it descends scarp slopes of the Sahyadri near Bhor Ghat through a succession of two leaps of waterfalls each about 80 to 90 metres in height. The river flows through Ulhasnagar hence labelled as river Ulhas gives its name. Kalu and Bhasta are the tributaries of Ulhas river are accounts 55.7 percent area of total catchment area of Ulhas.

**2.5 Types of Soils**

Soil types in study region affects on the productivity of crops. Soil is basic factor for agriculture. Texture and thickness of soil determine crops growth in a region. As such, soils are the function of topography, climate and vegetation. The soils in Thane district can be conveniently divides into four categories, namely, saline soil, black shallow soil, black deep soil and coarse soil (Fig. 2.3). It is mainly derived from igneous rocks especially of extrusive origin. The coastal region having saline soils containing quantities of gypsum (CaSO4, 2H2O) in study region. This soil appears 10 to 80 kilometers broad that runs parallel to the coast at a distance of 15 to 20 kilometers from the shore covering the part of Thane, Vasai, Palghar, Dahanu and Talasari tahsils. It is useful for growing fruits like banana, mangoes, guavas and chikoos. Rice cultivation is practiced in coastal saline soil. The black shallow soil found in parts of Bhiwandi, Vada, Palghar, Dahanu and Vikramgad tahsils. It is not very deep but is suitable for rice. The PH of this soil ranges from 7.4 to 8.2 containing less clay and silt but rich in organic matter. This type of soil having the patches of coastal ranges and creeks. The soil thickness varies from 10 to 30 centimeters depending upon slope in study region.

Black deep soil is mainly found in patches in valleys of this soil lying between coastal plains and hilly slopes of Sahyadri. Soil depth of this soil is more than 45 centimeters. Crops with long and deep roots are grown in this type a soil. The soil contains nitrogen, phosphors and calcium carbonate and suitable for cultivation. The average rainfall in this region is 2400 millimeters hence, paddy cultivation is dominant during monsoon season.

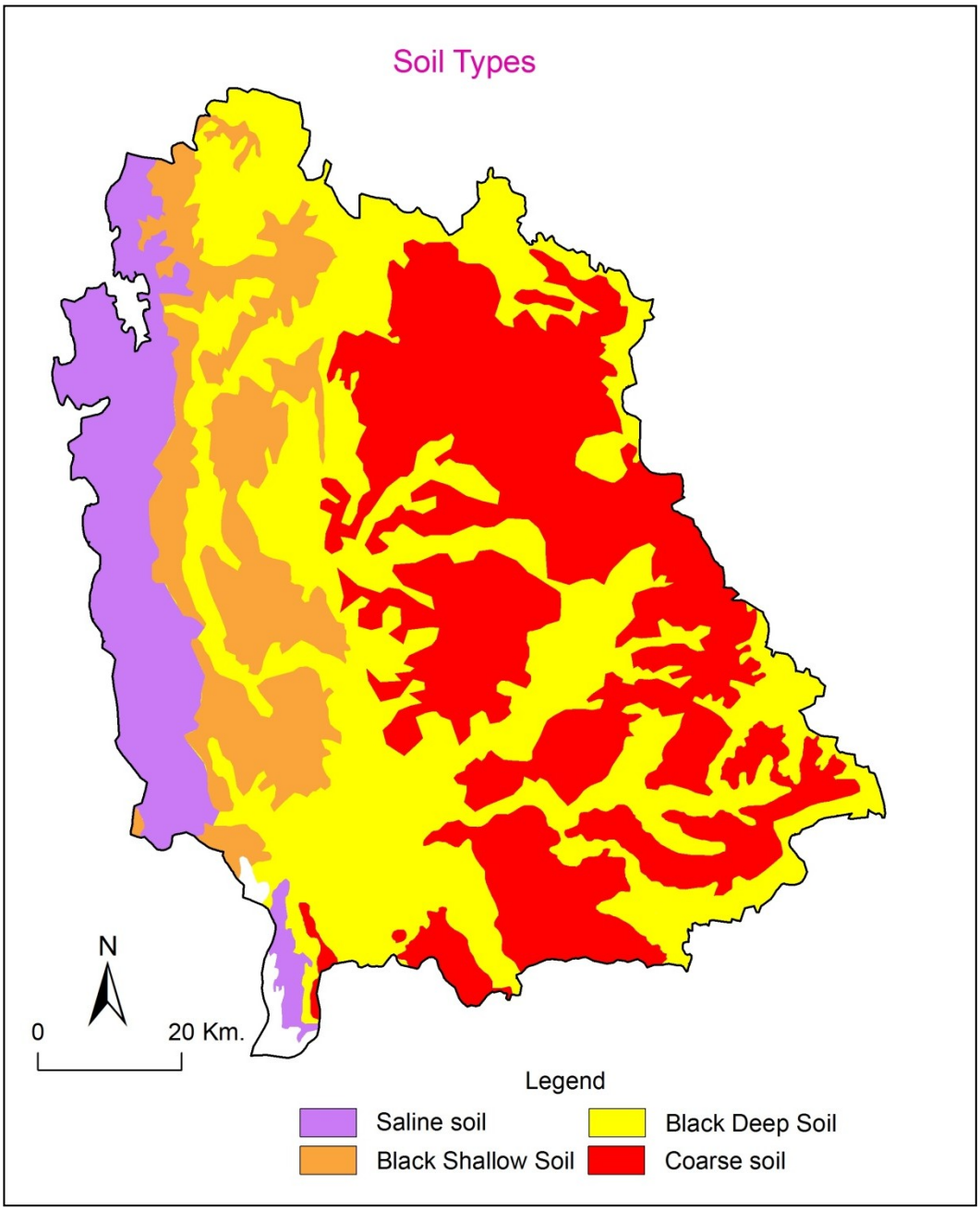

Soil Types
N
0
20 Km.
Legend
Saline soil
Black Deep Soil
Black Shallow Soil
Coarse soil

Fig. 2.3

Vaitarna and Ulhas river basin were deep black soil expensively available their farmers growing cash crops in off monsoon season. Some patches that have small hills were found intensively horticulture. In valleys, there are patches of black soil appearing Bhiwandi, Kalyan, Mokhada and Shahapur tahsils where rice is grown in ample quantity. The course of soil is found in east part in study region particularly in Western Ghats. Further east on the hill-slopes, soil is poor and is used for growing grass, coarse grains, Nagali and Vari. This soil originates from igneous rock and contain mixture of gravels. The heavy rainfall and steep slopes resulting erosion. This heavy soil covers parts of Ambarnath, Murbad, Shahapur, Vada, Mokhada, Jawhar and Vikramgad tahsils in study region.

**2.6 Climate**

The climate of any region depends on geographical location and elevation. Thane experiences high humidity nearly all the year round and oppressive summer season, well-distributed and heavy rainfall during the south-west monsoon season. Climatically, region is divided into four seasons, namely, cold season, summer season, southwest monsoon season and monsoon season. The cold season from December to February is followed by the summer season from March to June. The southwest monsoon season is from June to September. October and November constitute the post monsoon season. The average maximum temperature during the year is 32° centigrades and minimum is 22° centigrades. Maximum temperature is highest in the month of May and it mostly lowest in the month of June. Minimum temperature is lowest in the months of January and December, and high in the month of May (Table-2.1 and Fig.-2.4).

Table- 2.1 Temperature at Thane in 2015.

| Months | Maximum | Minimum | Months | Maximum | Minimum |
|---|---|---|---|---|---|
| January | 30.6 | 16.4 | July | 29.8 | 24.8 |
| February | 31.3 | 17.3 | August | 29.3 | 24.5 |
| March | 32.7 | 20.6 | September | 30.1 | 24.1 |
| April | 33.1 | 23.7 | October | 32.9 | 23.1 |
| May | 33.3 | 26.1 | November | 33.4 | 20.5 |
| June | 31.9 | 25.8 | December | 32.1 | 22.1 |

Source : Indian Meteorological Department, Pune  Note : Temperature is given in degree centigrade

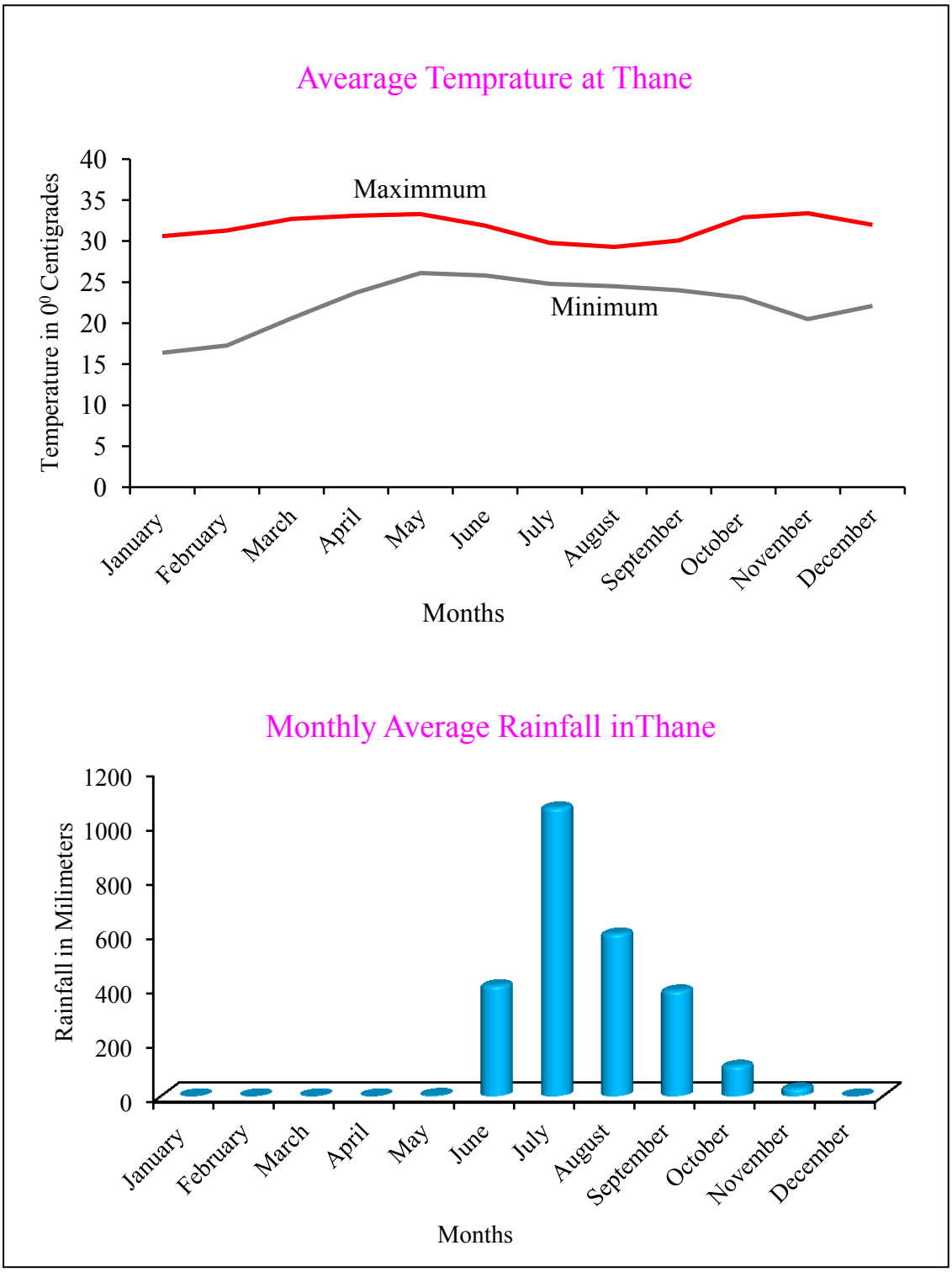

Avearage Temprature at Thane
Temperature in 0⁰ Centigrades
40
35
30
25
20
15
10
5
0
Maximmum
Minimum
January
February
March
April
May
June
July
August
September
October
November
December
Months
Monthly Average Rainfall inThane
Rainfall in Milimeters
1200
1000
800
600
400
200
0
January
February
March
April
May
June
July
August
September
October
November
December
Months

Fig. 2.4

From June to August temperature begins to decreases 2° to 6° centigrades. Being a coastal district the variation of temperature during the day and between three seasons is less. After February temperature progressively increase till May which is the hottest month with the mean daily maximum temperature at 32.9° centigrades. In the summer season and in June before the onset of the monsoon day temperature may sometimes go above 37.0° centigrades in the coastal parts while in the interior it may be a couple of degree higher. The oppressive heat is on most days relieved by cool sea breezes particularly in the coastal regions.

Table- 2.2 : Average Rainfall at Thane

| Months | Rainfall | Months | Rainfall |
|---|---|---|---|
| January | 3.1 | July | 1157.7 |
| February | 1 | August | 593.7 |
| March | 1.5 | September | 357.6 |
| April | 2.3 | October | 103.8 |
| May | 26.1 | November | 19.1 |
| June | 541.3 | December | 2.3 |

Source : Indian Meteorological Department, Pune. Note : Rainfall is given in Millimeters.

Average annual rainfall for study region is 2477.5 millimeters. The rainfall increases from west coast towards the interior in study region (Table-2.2 and Fig.-2.5). It varies from 1730.5 millimeters, 2588.7 millimeters in central part in Tungar hill, Kamdurg and Kanheri hills receives 3200 millimeters. On eastward side of hills have patch of rain shadow near Jambhivali in Vada tahsil receiving 2200 millimeters rainfall monsoon season from June to September receives 94 percent rainfall. July is rainiest month rainfall about 40 percent of the annual total. The variation of the annual rainfall from year to year in the district is not large. Winds are generally moderate except in latter half of summer and stronger in southwest monsoon season. Winds flow May and monsoon months between northwest and southwest and rest of year winds blow from north and east in mornings and west and north in afternoons. On such occasions, study region experiences torrential rains and winds sometimes reaching gale force, particularly, in coastal region. Thunder-storms occur in the latter part of during summer season in October in study region.

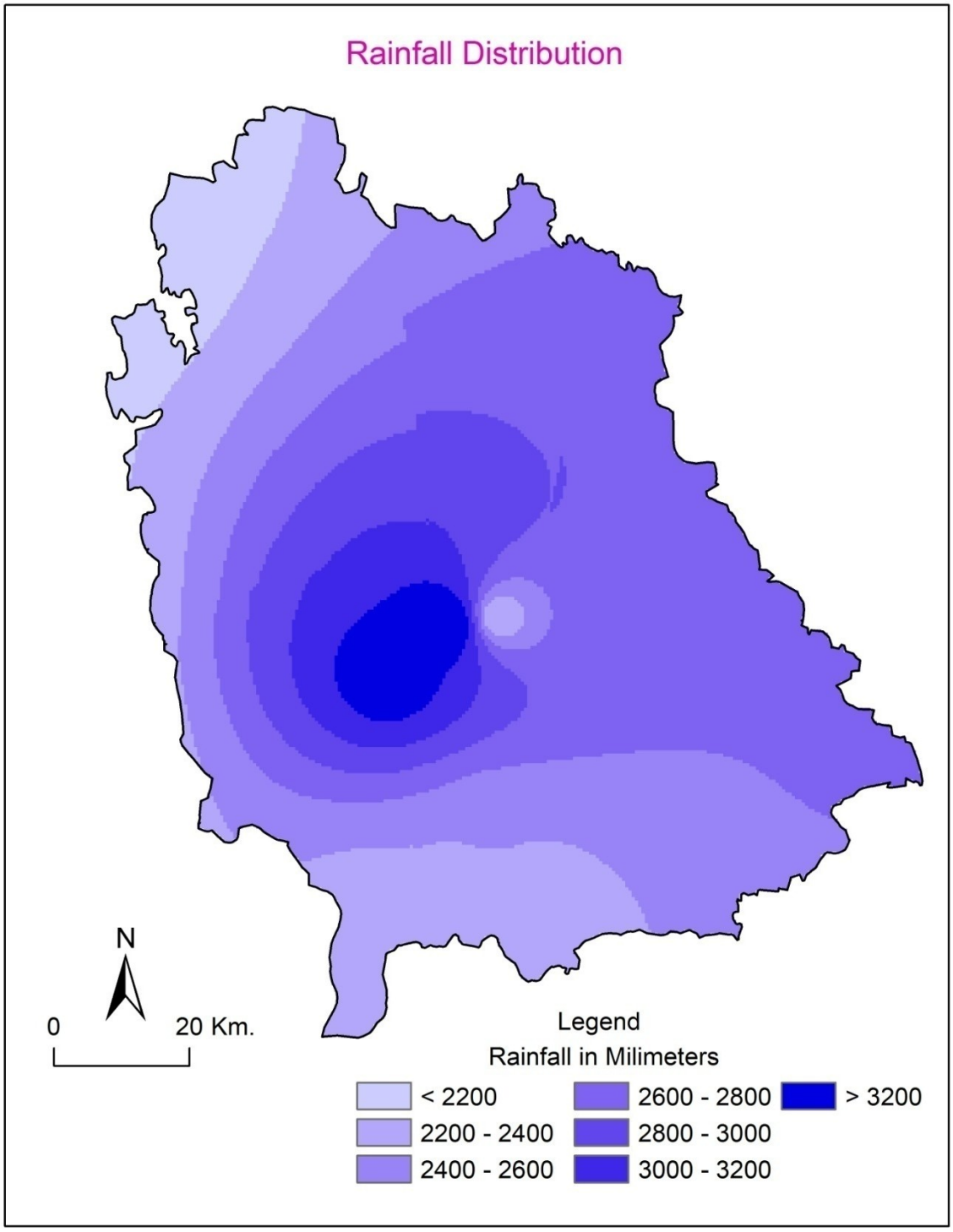

Rainfall Distribution
N
0
20 Km.
Legend
Rainfall in Milimeters
< 2200
2200 - 2400
2400 - 2600
2600 - 2800
2800 - 3000
3000 - 3200
> 3200

Fig. 2.5

## 2.7 Forest

The study region has 3,879.52 kilometers square area under forest accounting 40.58 percent to total geographical area. The total forest is administratively, divided into three categories, namely, Forest Department (3369.69), Maharashtra Forest Development Board (444.84) and Private Forest but acquiring Forest Department (64.30) square kilometer. It is 24.06 per cent of total geographical area of Study region. The forest area under control of forest department consists of reserved forests covering, 2870.28 kilometer square, protected forests covering 987.02 kilometer square and unclosed forests covering 22.22 kilometer square of the total forest area in Study region. The distribution of forest is not uniform due to variations in topography, soil, climate, and rainfall. The east part lying Shahapur, Murbad, Mokhada, and Jawhar tahsils occupies more than 40 percent forest (Fig.-2.6). Vada and Vikramgad tahsils have found 30 to 40 percent forest on hilly where receives more than 2400 millimeters rainfall. “Tropical moist deciduous forest” is found in Shahapur, Mokhada and Murbad tahsils. Dahanu, Palghar, Vasai, Bhiwandi and Ambarnath tahsils have 20 percent deciduous forest. In urban part particularly in Thane city and Ulhasnagar have found less than 10 percent forest and hence has thick population. Sag (Teak) trees are common found in hilly Sahyadri ranges area. Shivan, Dhawada, Hiwar, Palas, Hirada, Behada, Shishum, Jambul trees are in this forest. The patches of Babul and Khair trees appear in Shahapur tahsils. This forest is the source of production of timber and fuel wood in study region. One animal sanctuaries and national park covering 155.73 and 84 square kilometers in study region.

## 2.8 Population

Population influences the economic development and level of utilization and labor force in study region. The study region covers 9558 square kilometers area having 1,10,60148 population (Census of India, 2011) and shares 9.84 percent to total population in Maharashtra state. Thane city is the second urbanized city in Maharashtra state accounting 76.99 percent urban population. (Appendix-A). The decadal population varies from 1991 and 2001 in study region. There was change of 36.01 percent in the population compared to population as per 2001. In the previous Census of India 2001, Thane district recorded increase of 54.92 percent to its population compared to 1991.

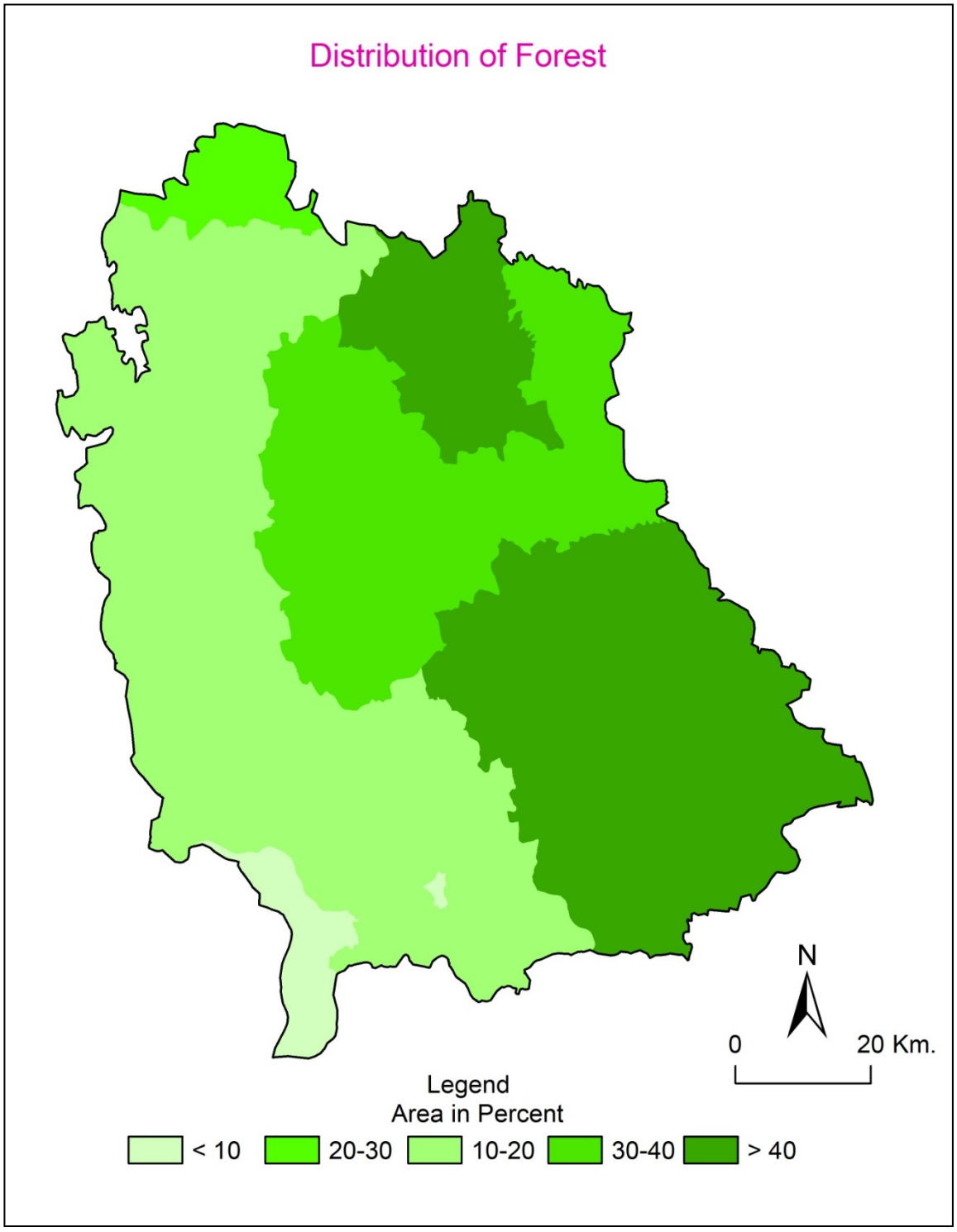

Distribution of Forest
N
0
20 Km.
Legend
Area in Percent
< 10
20-30
10-20
30-40
> 40

Fig. 2.6

Table - 2.3: Density of Population in Thane District

| Name of Tahsils | 1991 | 2011 | Name of Tahsils | 1991 | 2011 |
|---|---|---|---|---|---|
| Ambarnath | N.A. | 1847 | Shahapur | 141 | 193 |
| Bhiwandi | 1011 | 1642 | Talasari | 347 | 532 |
| Dahanu | 276 | 336 | Thane | 3645 | 11125 |
| Jawhar | 166 | 219 | Ulhasnagar | 1329 | 38931 |
| Kalyan | 3344 | 4899 | Vada | 151 | 230 |
| Mokhada | 172 | 170 | Vasai | 1076 | 2371 |
| Murbad | 168 | 203 | Vikramgad | N.A. | 252 |
| Palghar | 401 | 438 | Distract Total | 191 | 1157 |

Source: District Census Handbook, Thane District for 1991 and 2010

Note : N.A. = Data is not available.

According to Census 2011, density of population was 1157 persons per square kilometre and it varies within study region. Ulhasnagar tahsil has found highest density (38931 persons per square kilometre) while Thane shows lowest density (11125 persons per square kilometre). Vasai, Bhiwandi and Ambarnath tahsils have found population density of more than 1000 persons. The remaining tahsils have population density of less thane 1000. Mokhada and Shahapur have recorded 100 to 200 persons density. Fig.-2.7 exhibits that population density increases from 1991 to 2011. East part is study region showing low density in Shahapur, Murbad, Mokhada, Jawhar and Vada tahsils due to dense forest and hilly area. The central and northeast parts in study region have moderate population density whereas southeast part in study region have high population density because of, Thane is head quarter of district, near to Mumbai Metropolitan Region, urban centre, educational and industrial centre, hence in-migration is fast as compared to other tahsils in study region. The study region has rapid population growth (Fig.-2.8). Out of the total Thane population for 2011 census, 76.99 percent lives in urban regions of district. In total 8,514,678 people, lives in urban areas of which males are 4,564,942 and females are 3,949,736. Sex Ratio in urban region of Thane district is 865 as per 2011 Census data (Table-2.3) literacy rate in Thane district as per Census 2011 is 84.53 percent of which males and females are 88.72 percent and 79.77 percent literates respectively. In actual number, 8,227,161 people are 84.53 percent and 85.35 percent literates respectively. In actual number, 6,687,276 people are literate in urban region of which male 3,707,986 and females are 2,979,290.

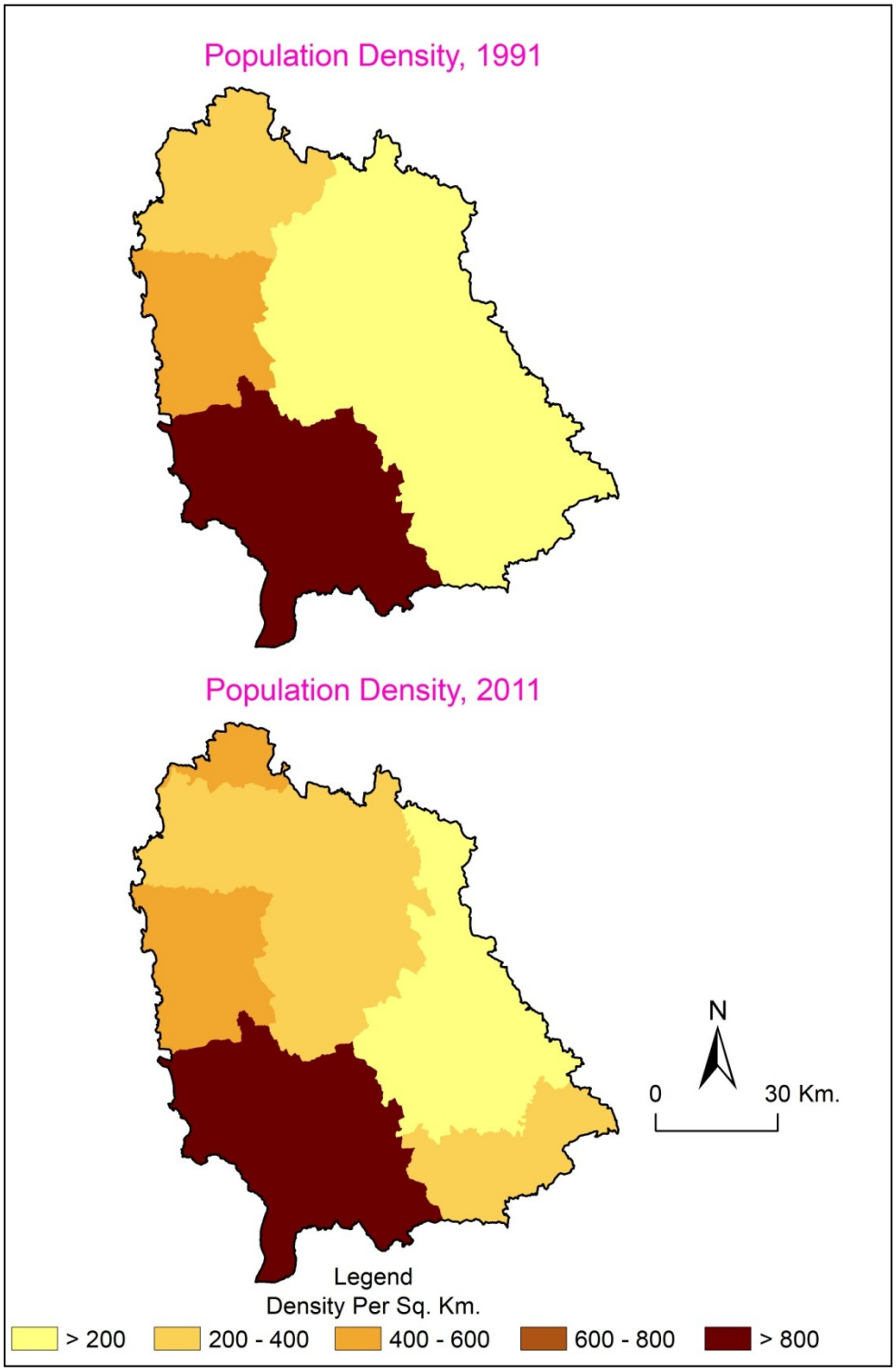

Population Density, 1991
Population Density, 2011
N
0
30 Km.
Legend
Density Per Sq. Km.
> 200
200 - 400
400 - 600
600 - 800
> 800

Fig. 2.7

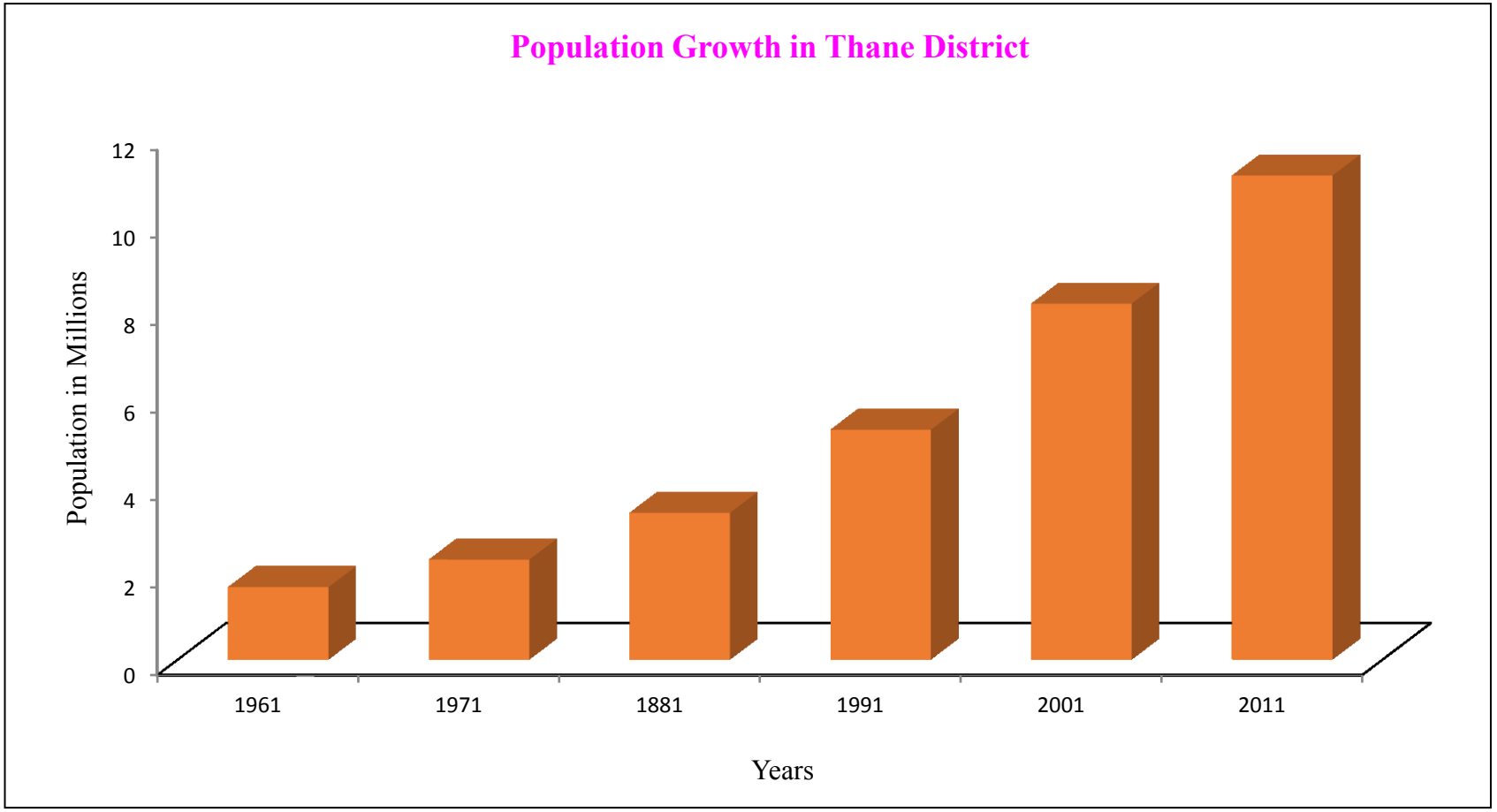

Population Growth in Thane District
Population in Millions
12
10
8
6
4
2
0
1961
1971
1881
1991
2001
2011
Years

Fig. 2.8

Table- 2.4 : Sex-ratio in Thane District and Maharashtra State

| Years | Thane District | | | Maharashtra State | | |
|---|---|---|---|---|---|---|
| | Rural | Urban | Total | Rural | Urban | Total |
| 1961 | 956 | 906 | 945 | 995 | 801 | 936 |
| 1971 | 959 | 902 | 943 | 985 | 820 | 930 |
| 1981 | 945 | 909 | 935 | 987 | 850 | 937 |
| 1991 | 941 | 902 | 922 | 972 | 875 | 934 |
| 2001 | 941 | 828 | 858 | 960 | 873 | 922 |
| 2011 | 958 | 865 | 886 | 952 | 903 | 929 |

Source : District Census Handbook, Thane District, 2011.

As per 2011 Census, 23.01 percent population of Thane districts lives in rural areas. The total Thane district population living in rural areas is 2,545,470 of which males and females are 1,300,136 and 1,245,334 respectively. In rural areas of Thane district, sex ratio is 958 females per 1000 males and population density 1157 persons per square kilometer. Ulhasnagar, Thane, Kalyan, Vasai, Ambarnath and Bhiwandi are the more densely populated tahsils. Literacy rate in rural areas of Thane district is 70.60 percent as per Census data 2011. Gender wise, male and female literacy stood at 79.27 and 61.54 percent respectively. In total, 1,539,885 people were literate of which males and females were 883,410 and 656,475 respectively.

The scheduled caste accounts 6.60 percent and scheduled tribes 13.95 percent together contributing 20.55 percent in study region. The distribution of scheduled tribe population is uneven in study region. It is mainly concentrated in east and northeast parts in five tahsils in Jawhar, Mokhada, Vada, Shahapur, Murbad and Murbad and found of more than 50 percent tribals population, knowing tribal tahsils. Fig.-2.9 exhibits the tribal density for 1991 and 2011 in study region. In 1991, tribal density in Jawhar and Mokhada tahsils have found more than 150 persons per square kilometers, whereas in 2011 tribal density in Talasari, Vikramgad, Mokhada, Thane and Ulhasnagar tahsils have increased more than 150 (Fig.-2.9). It reveals that the tribal density has decreased from east to west in study region. Ulhasnagar has highest tribal population density 506 in southeast parts in study region whereas Murbad tahsil has lowest tribal density (50) in 2011. It is noted that tribal population is mainly concentrated in isolated hilly, forest as well as urban areas area in south and north part tahsils of study region.

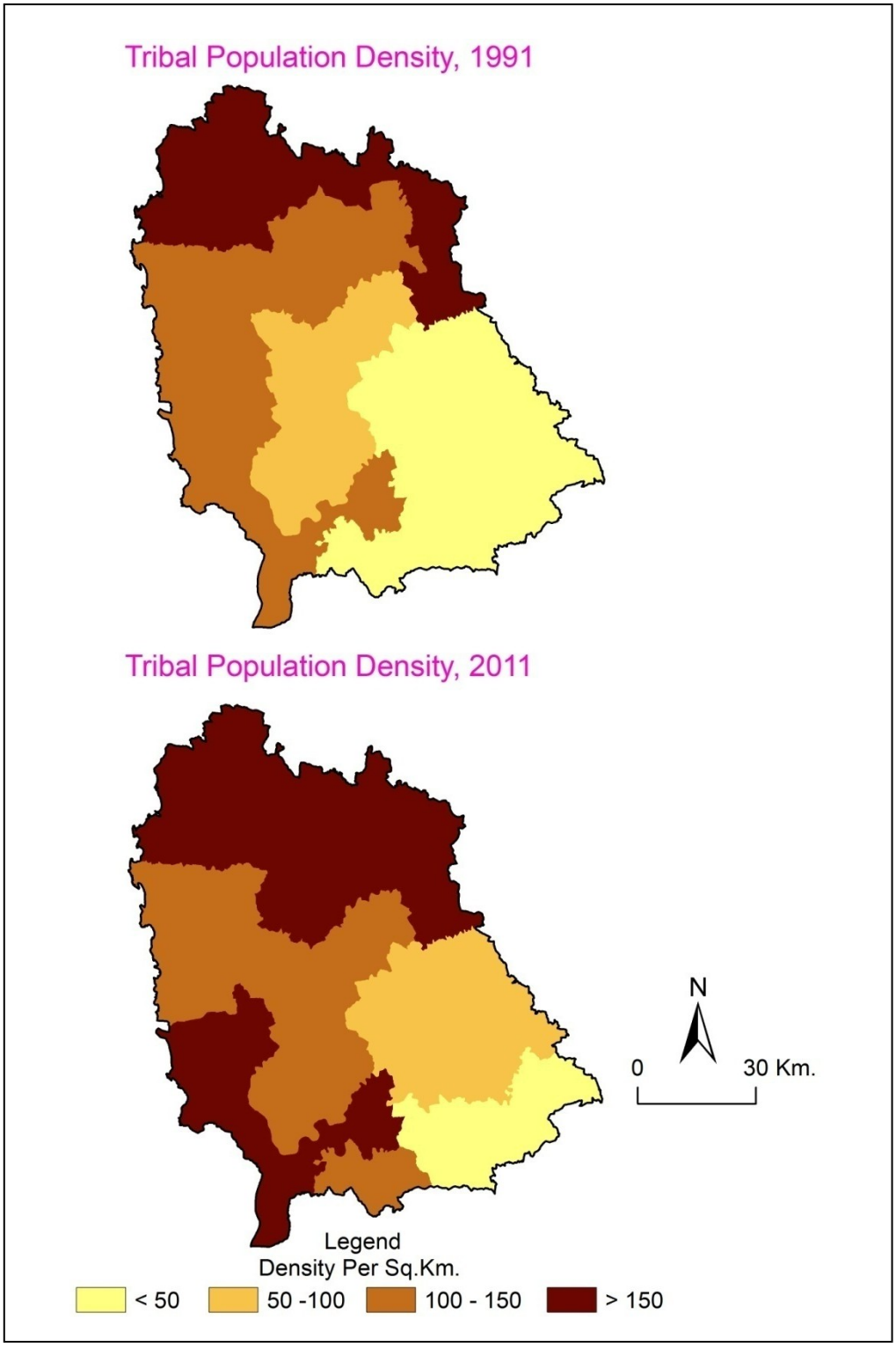

Tribal Population Density, 1991
Tribal Population Density, 2011
N
0
30 Km.
Legend
Density Per Sq.Km.
< 50
50 -100
100 - 150
> 150

Fig. 2.9

## 2.9 Transportation

The role of transport in regional development is of at most significance as it accelerates the socio-economic development of region. In study region transport acts as a nerves system for development. The study region has national highways, state highways, Major State Highways, district roads and village roads. Thane city is well connected with other district headquarters in Maharashtra state and major cities of neighboring states (Fig.-2.10). Total railways length is 345.73 kilometers in study region. Three rail routes, namely, Mumbai CST to Kasara, Pune to CST and Manmad-Secunderabad transverse within study region. The western railway passes through Vasai, Palghar and Dahanu tahsils of the study region and central railway passes through Thane, Kalyan, Ulhasnagar and Shahapur tahsils in study region. There is also new railway connection made from Diva Junction to Vasai. This railway joining central railway ands western railway and its length is 41.96 kilometers continuous local train facilities available in study region. Due to railway facilities in the district, it becomes very easier to get skilled workers from nearby area and to supply finished goods in Mumbai.

The district is well connected by roads with other major cities like Mumbai, Pune, Nashik, Raigad and most of the districts of the State. The study region has 21,297 kilometers road. There are three national highways, namely, Delhi-Mumbai (NH 8), Agra- Mumbai (NH 3) and Kalyan- Nirmal (NH 222). The roads runs parallel to railway routes in study region (Fig.-2.10). Mumbai-Agra national highway connecting Thane, Bhiwandi and Shahapur tahsils and it is well connected to Nashik district so the ratio of immigrants in from this district is high. Similarly Delhi-Mumbai (NH 8) highway is play very crucial role in transportation system in the study region. There are 16 State highways and 2 Major state highways, out of 14 state highways well connect to major three national highways. Other district and village roads connect rural areas and remote settlements. The density of road is found west and southwest part of the study region. Water transport facility is available to the district through navigable creeks such as Bhayander – Vasai Creek, Dativare Creek etc. Through navigable rivers such as Vaitarna and Ulhas, passengers and marine products such as salt, fish and sand etc. are transported in mechanised and non-mechanised boats.

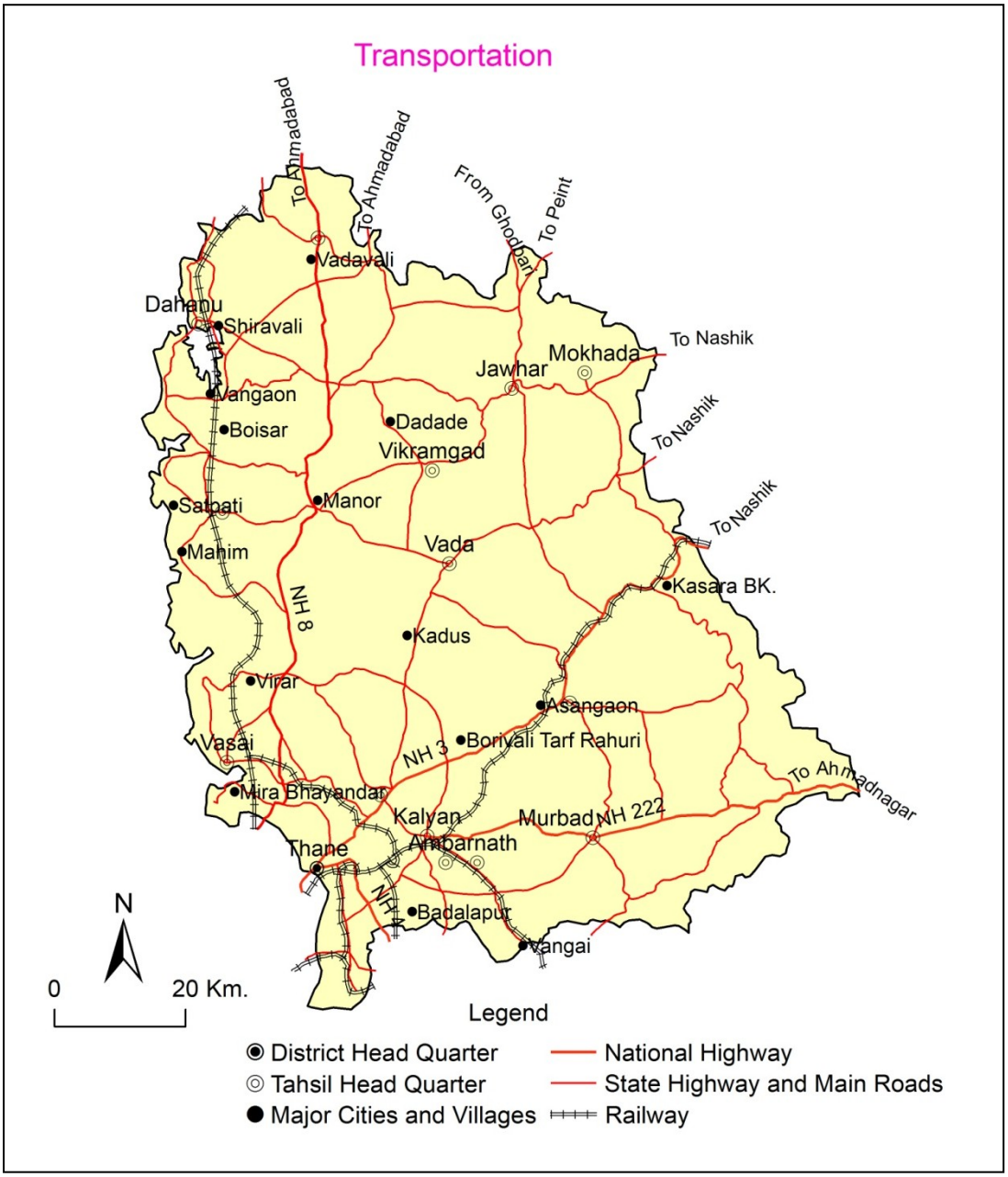

Transportation
To Ahmadabad
To Ahmadabad
From Ghodbar
To Peint
Vadavali
Dahanu
Shiravali
To Nashik
Mokhada
Jawhar
Vangaon
Boisar
Dadade
Vikramgad
To Nashik
To Nashik
Satbati
Manor
Vada
Mahim
Kasara BK.
NH 8
Kadus
Virar
Asangaon
Vasai
NH 3
Borivali Tarf Rahuri
To Ahmadnagar
Mira Bhayandar
Kalyan
Murbad
NH 222
Ambarnath
Thane
NH
Badalapur
Vangai
N
0
20 Km.
Legend
District Head Quarter
Tahsil Head Quarter
Major Cities and Villages
National Highway
State Highway and Main Roads
Railway

Fig. 2.10

Table- 2.5 : Transport in Thane District

| Sr. No. | Category | Length (Km) |
|---|---|---|
| 1 | National Highway-3 | 467 |
| 2 | State Highway-16 | 3349 |
| 3 | District Road | 2217 |
| 4 | Other District Road | 6458 |
| 5 | Village Road | 8788 |
| | Total | 21279 |

Source : District Statistical Abstract, Thane District 2014.

Air Transport facilities have not been developed in the district so far. However, close proximity to Mumbai has made the domestic airport at Santacruz and International Airport at Sahara easily accessible to Thane city and nearing tahsils. Communication facilities like telephones, telex, post offices, fax, E-mail, Web site, E-commerce are pre-requisite for the development of industry in any area. Government has well developed these communication facilities in the district. At the end of March 2014, there were 5,17,920 telephone connections in the district. There are 407 post offices in the district. Mostly telephone facilities are available in all cities of the district.

**2.10 Landuse Pattern**

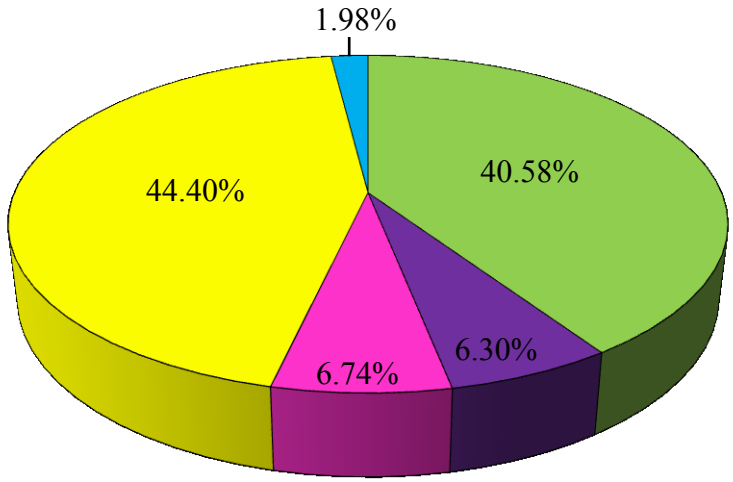
Land is used for different purposes. Use of land shows relationship between people and surrounding condition of region. In study region more than 31 per cent population is engaged in agriculture. Hence, it is important to see land use pattern of district (Fig.-2.11). Area under forest is 40.58 percent, area not available for cultivation is 6.30 percent and fallow land is 6.74 percent, net sown land 44.40 percent and cultivable waste 1.98 percent. This land use pattern shows that more number of peoples are engaged in primary activates.

Table-2.6 : Landuse Pattern in Thane District

| Sr. No. | Land Utilization | Area | Percent |
|---|---|---|---|
| 1 | Area under Forest | 351229 | 40.58 |
| 2 | Area not available for cultivation | 58597 | 6.45 |
| 3 | Fallow land | 33795 | 3.72 |
| 4 | Net sown area | 407393 | 44.87 |
| 5 | Cultivable Waste | 454299 | 50.03 |

Source : District Statistical Abstract, Thane District 2014. Note : Area in hectares.

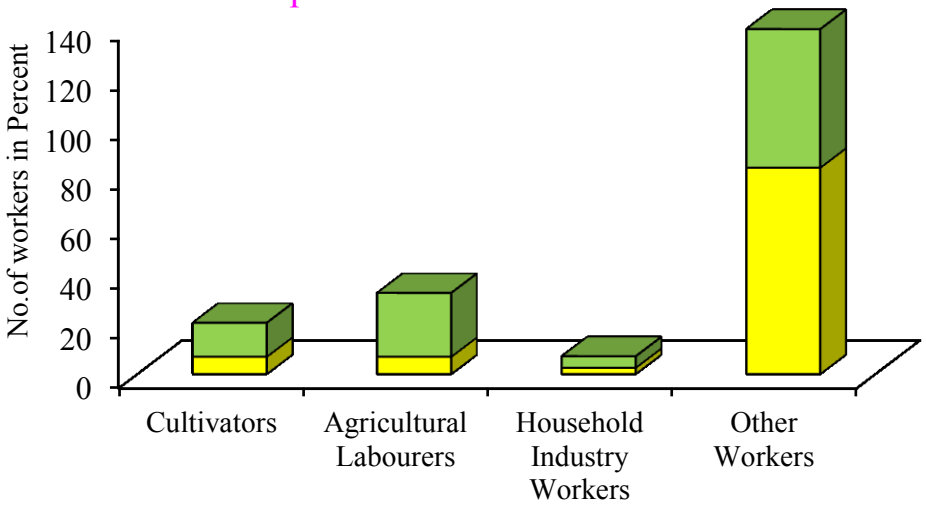
## General Landuse Pattern, 2011




Legend

- Area under Forest
- Area not available for cultivation
- Fallow land
- Net sown area
- Cultivable Waste

## Occupational Structure at Thane




Legend

- Marginal workers
- Main workers

Fig. 2.11

## 2.11 Occupational Structure

The occupational structure can be categorized into two types, namely, main workers and marginal workers. Both these types can be sub-categories as farmers, agricultural labours, household workers, and others workers. Main workers are those who work at least six months in one year preceding. Marginal workers are those who work some time but not for the period more than six months in one year preceding (Census, 2001). The domestic workers are those who are engaged in house work. Other workers are those who are engaged in livestock, forest, fishing, hunting, plantation, mining quarrying, manufacturing, processing, servicing, construction, tread and commerce. Fig.-2.11 exhibits the occupational structure in study region. It is observed that 87.49 percent main worker and 12.51 percent marginal workers in study region. This indicates the prosperity of study region. The farmers account for 20.65, agriculture labours (32.70), other workers (55.89) and marginal it (2.18). Over all, more than 50 percent workers are engaged in agricultural activities in study region.

## 2.12 Irrigation

Wells is the sources of irrigation in study region. Fig.-2.12 shows land irrigation in district. Out of total cultivable area (4,07393 hectare) only 10284 hectare (3.33 percent) area is under irrigation. Surya Major Irrigation Project has two contour canals LBC and RBC of 47 km and 28.51 km length respectively takes off from the Kavadas pickup weir. The project benefits and area of 14696 Irrigable Command Area (ICA), Culturable Command Area (CCA) is 20155 hectare and the ultimate irrigation potential of the project is 27188 hectare. Dahanu and Palghar tahsil has highest area under irrigated land 4060 and 2599 hectare of irrigation from canal irrigation this region. Vasai, Murbad, Jawhar, and Shahapur have 5 to 10 percent irrigated land from Vaitarna, Tansa and Bhatsa river water supply project. However, northeast part of the study region including Talasari and Mokhada tahsils have less than 5 percent of irrigation. Because of this area is located in hilly area and these tribals have not enough capital for turn into irrigated land.

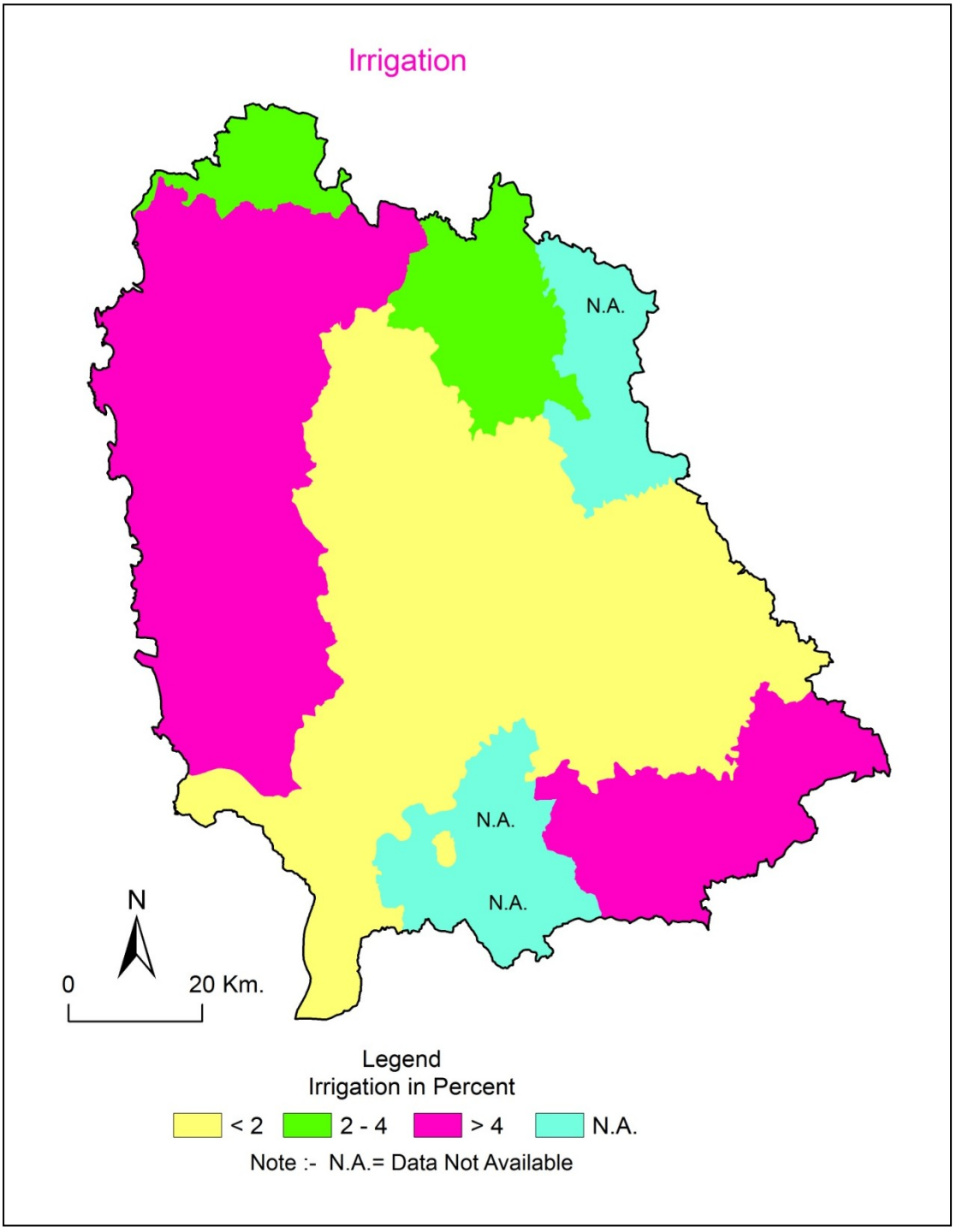

Irrigation
N.A.
N.A.
N.A.
N
0
20 Km.
Legend
Irrigation in Percent
< 2
2 - 4
> 4
N.A.
Note :- N.A.= Data Not Available

Fig. 2.12

## 2.13 Resume

This chapter assessed to physical and socio economic conditions of study region. Vaitarna and Ulhas river are major rivers. Physically saline soil, black shallow soil, black deep soil in valleys and hill slope coarse soil are major soil types in study region. The study region experiences a typical monsoon climate and has found four seasons namely, cold season, summer season, southwest monsoon season and monsoon season. The average rainfall for Study region is 2477.5 millimeters. The average maximum temperature observed in summer season in May and it is $32^0$ centigrades and the average minimum temperature observed in winter season in January, it is $22^0$ centigrades. Some times cyclonic storms in the Arabian sea in latter summer season and post monsoon season either move in a north direction in the vicinity of the coast in this district. Thane has 40.58 percent forest area. The forest is dominated in eastern and south eastern part is "Tropical Moist Deciduous Forests". It has become more thin and open with grass toward west. Sag (Teak) trees are commonly found in hilly Sahyadri ranges in study region. Study region has a total population 1,10,60,148 with 1157 persons per square kilometers density in 2011. Ulhasnagar (38,931), Thane (11125), Kalyan (4899), Vasai (2371), Ambarnath (1847) and Bhiwandi (1642) tahsils have highest density of population (Appendix-A). The percentage of scheduled castes (6.60 per cent) and scheduled tribes (13.95 per cent) is also significant. Tribal population is concentrated in isolated hilly and forest area. The study region has good network of transport with 345.73 kilometers length of railways and 21279 kilometers of various categories of roads. This network is helpful in distribution of agricultural production, travel and trade. The working population of study is classified in to main two categories, namely main workers and marginal workers with special reference to farmers, agricultural labours, domestic workers and other workers. Irrigated land is shown in three categories. Dahanu tahsil has highest 16.2 percent of irrigation in study region.

## CHAPTER-III

# POPULATION CHARACTERISTICS OF TRIBAL POPULATION

### 3.1 General Introduction

Population is creative element and surveyor of resources. The population of any region is described on the basis of number, area and time. It includes qualities and characteristics of population within social or geographic groups and can be studied in term of demography, health status and socioeconomic factors. The demographic composition is statistical interpretation and description of population with reference to distribution, composition or structure. It also studies age, sex, literacy, mortality, fertility, and migration. This data of population are often compared by using to draw population pyramid. Generally, tabulation of age and sex are essential measures related to population change in study region. Age-sex structure is one the most important characteristics of population composition. It is based on age and sex structure of population. Apart from purely demographic concerns, age-sex data structure requires for educational, health services, planning, technical, political and commercial purposes. The dependency ratio is the ratio of economically active to economically inactive persons which depends on age composition. This helps for planning to food production and agricultural development. Sex composition directly affects the proportion of marital status, supply of workers, fertility and migration and indirectly affects the literacy, birth rate and death rate. In case of male time male ratio, it proportion of males in the total population are higher than the females, age of marriage for females decrease and it affects the female's health. The gap between the age of husbands and wife wives increases resulting amount of widow's increase and may change in the sex composition largely reflecting socio-economic and cultural patterns in study region. The cheap labours particularly females are easily available in rural area, whereas in urban area skilled labours are available.

This chapter is an attempt to study the tribal population characteristics in Thane district, namely, demography, health and socio-economic factors. For this study, secondary data of tribal population have collected at tahsil level for years 1991 and 2011. These data have obtained from District Statistical Office, Tribal Development Department, Socio-economic Abstracts and Thane District Census (Handbook 1991, 2001, and 2011). These data were then preceded and represented in

age-sex pyramid. The migration and dependency ratio were computed. Moreover, tribal ratio, proportion, growth rate, density, growth and concentration, age groups, sex ratio, literacy and dependency ratio have calculated by using appropriate formulas. For this study, tahsil was taken as a unit of study for analysis and mapping purpose. Migration was studied for 1991 and 2011 and represented by flows maps. The density and distribution of tribal population were shown by using concentration and dispersion index. The tribal density has measured by population ratio in study region. The density can measured by three ways namely, arithmetic, agricultural and physiological density. The tribal population concentration has computed and were interpreted by cause of effect. Tribal population density, distribution growth and concentration have applied for identifying the changes in tribal population in study region.

**3.2 Tribal Population Distribution**

Tribal population has found into pockets since times immemorial and has restricted to certain areas in forest and hilly parts in study region. The major tribals in study region are, namely, Kathodi, Katkari, Kokana, Koli Mahadeo, Koli Malhar, Warli, Thakar, Thakur, Dubala, Koli, Dhor and Tokre Koli. Their location differs owing to racial and social characteristics. The distribution of tribal population in study region is shown in Fig.-3.1 for 1991 and 2011. There was 18.23 percent tribal population in study region (1991). More than 60 percent tribal population was observed in east, north and southeast parts in study region. The highest tribal population percent was observed in Mokhada tahsil (93.46) followed by Talasari (91.53), Jawhar (89.30) and Dahanu (65.99) tahsils. It was observed that tribals are mainly found in isolated pockets and particularly in hilly and forest area. 60 to 40 percent tribal populations were observed in Vada and Palghar tahsils accounting 53.63 and 35.57 percent respectively. The less than 40 percent tribal population was found in Shahapur (31.76) followed by Vasai (23.54), Murbad (23.26), Bhiwandi (8.64) Kalyan (3), Ulhasnagar (3.24) and Thane (3.15) tahsils. These tahsils are located at central and west parts in study region. This region is plain and has less percent of forest has agriculture, industries, transport, and education and urban area. The distribution of tribal population in study region is uneven due to vast variations in topography, climate and soil types. The distribution of tribal population is shown in Fig.-3.1 for 2011. The percent of tribal population in 2011 was slightly decreased to 18.23 from 13.95 percent.

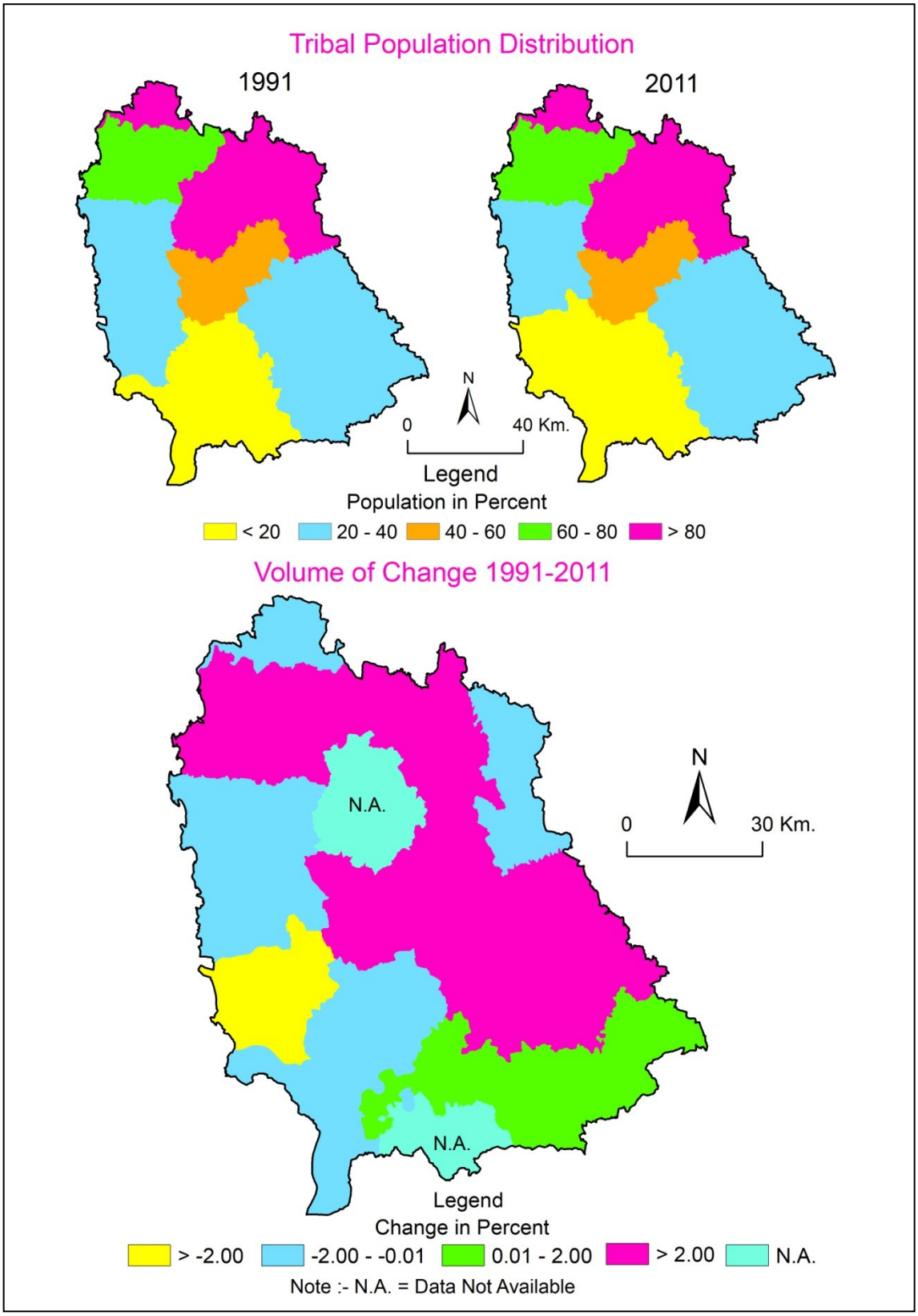

Tribal Population Distribution
1991
2011
N
0
40 Km.
Legend
Population in Percent
< 20
20 - 40
40 - 60
60 - 80
> 80
Volume of Change 1991-2011
N.A.
N
0
30 Km.
N.A.
Legend
Change in Percent
> -2.00
-2.00 - -0.01
0.01 - 2.00
> 2.00
N.A.
Note :- N.A. = Data Not Available

Fig. 3.1

Though, there was total 13.95 percent tribal population in study region. The tribal populations of more than 60 percent are located in east and north southeast parts in study region. The highest tribal population percent was observed in Mokhada tahsil (92.08) followed by Vikramgad (91.82) Jawhar (91.64), Talasari (90.61) and Dahanu (69.11) tahsils. 60 to 40 percent tribal populations have observed in Vada tahsil accounting 57.02 percent in study region (Table-3.1).

Table-3.1 : Percent of Tribal Population in Thane District

| Tahsils | 1991 | 2011 | Volume of Change | Tahsils | 1991 | 2011 | Volume of Change |
|---|---|---|---|---|---|---|---|
| Ambarnath | N.A. | 6.41 | N.A. | Shahapur | 31.76 | 35.72 | 3.96 |
| Bhiwandi | 8.64 | 8.12 | -0.52 | Talasari | 91.53 | 90.61 | -0.92 |
| Dahanu | 65.99 | 69.11 | 3.12 | Thane | 3.15 | 1.98 | -1.17 |
| Jawhar | 89.30 | 91.64 | 2.34 | Ulhasnagar | 3.24 | 1.30 | -1.94 |
| Kalyan | 3.24 | 3.48 | 0.24 | Vada | 53.63 | 57.02 | 3.39 |
| Mokhada | 93.46 | 92.08 | -1.38 | Vasai | 23.54 | 7.32 | -16.22 |
| Murbad | 23.26 | 24.83 | 1.57 | Vikramgad | N.A. | 91.82 | N.A. |
| Palghar | 35.57 | 30.56 | -5.01 | District Total | 18.23 | 13.95 | -4.28 |

Source: District Census Handbook, Thane District for 1991 and 2011
Note: (i) N.A.= Data not available, (ii) Figure indicates the percent.

The less than 40 percent tribal population was found in Shahapur tahsil (35.72) followed by Palghar (30.56), Murbad (24.83), Bhiwandi (8.12), Vasai (7.32), Ambarnath (6.4), and Kalyan (3.48), Thane (1.98) and Ulhasnagar (1.30) tahsils. These tahsils are located in central and southwest parts in study region in plain and coastal region having less vegetation cover, urbanization, industries, transport and education.

The growth of tribal population during study period (1991-2011) is shown in Fig.-3.1 and Table-3.2. The tribal population percent has decreased to 18.23 from 13.45 during study period. It was decreased by-4.28 percent whereas tribal population percent has found decrease in Vasai (16.22 percent), Palghar (5.01), Ulhasnagar (1.94), Mokhada (1.38), Thane (1.17), Talasari (0.92) and Bhiwandi (0.52) tahsils. Thane tahsil has decreased tribal because of separation of Vikramgad tahsil from Thane. Ambarnath, Murbad, Shahapur, Vada and Vasai tahsils decreased tribal population due to out-migration, decreasing birth rate and high death rate. Thane district has reduced tribal population whereas Thane (1.17), Vasai (16.22) and Palghar (5.01) found declining percent of tribal population during study period.

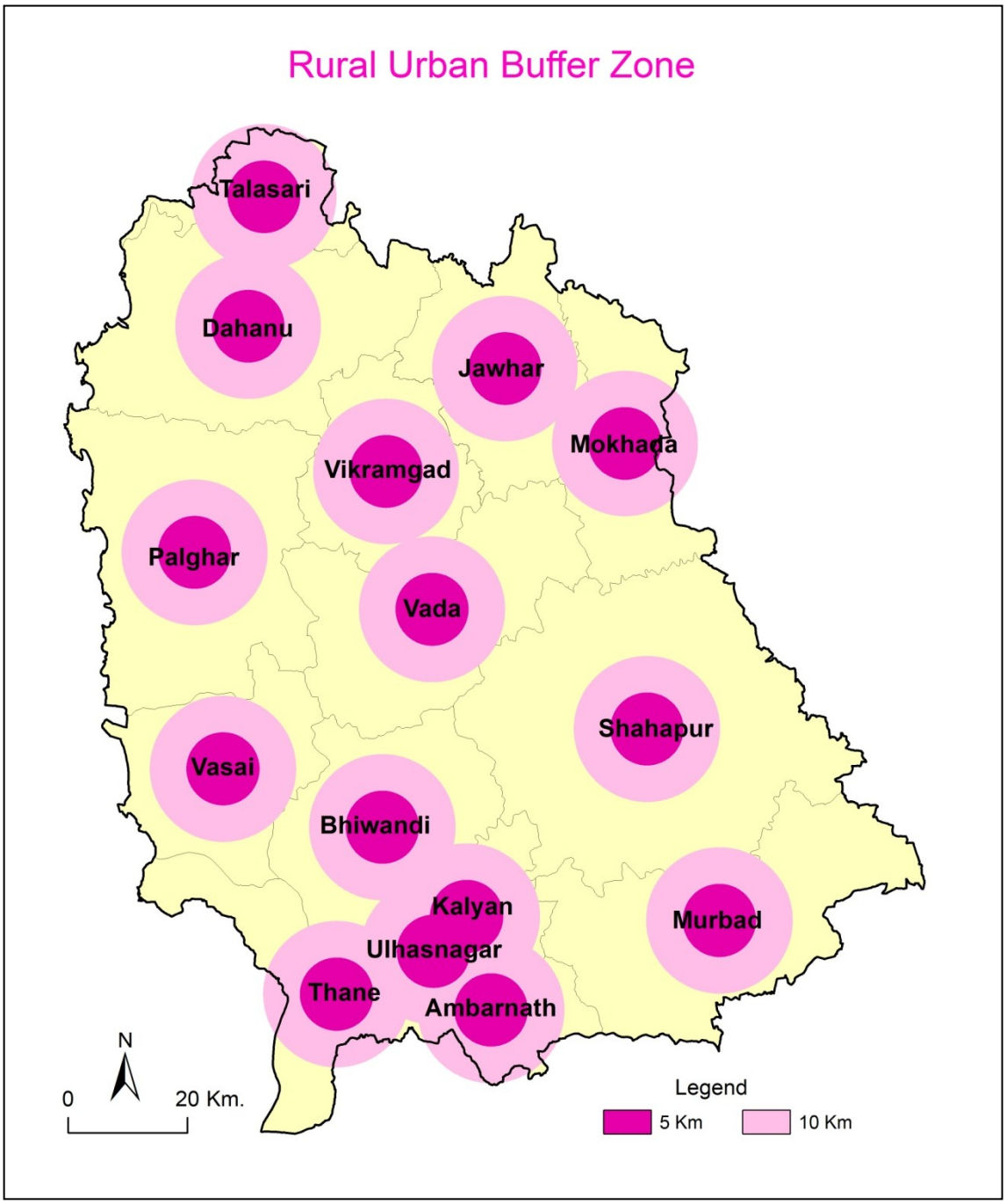

Rural Urban Buffer Zone
Talasari
Dahanu
Jawhar
Mokhada
Vikramgad
Palghar
Vada
Shahapur
Vasai
Bhiwandi
Kalyan
Murbad
Ulhasnagar
Thane
Ambarnath
N
0
20 Km.
Legend
5 Km
10 Km

Fig. 3.1

The percent of tribal population in each tahsil and the areas of tahsils as percent of total area of district were computed and then presented into cumulative percent from the lowest percent area to highest percent in order to give the coordinates for construction Lorenz Curve. Here, each pair of value was plotted as coordinates with cumulative population on 'X' axis and cumulative area on 'Y' axis. Fig.-3.2 exhibits population space relationship by Lorenz curve. The actual trace line is compared against the theoretical distribution. Actual trace line differs from the theoretical or trace of perfect equal line.

Table-3.2: Area and Tribal Population, 2011.

| Tahsils | Percent of Total Area | Percent of Total Tribal Population | Tahsils | Percent of Total Area | Percent of Total Tribal Population |
|---|---|---|---|---|---|
| Ambarnath | 3.06 | 2.2 | Shahapur | 74.69 | 65.02 |
| Bhiwandi | 10.01 | 8.32 | Talasari | 77.6 | 73.97 |
| Dahanu | 21.96 | 26.26 | Thane | 81 | 78.03 |
| Jawhar | 28.36 | 34.59 | Ulhasnagar | 81.13 | 78.32 |
| Kalyan | 31.55 | 37.5 | Vada | 88.88 | 84.59 |
| Mokhada | 36.47 | 42.58 | Vasai | 94.54 | 91.37 |
| Murbad | 45.85 | 45.79 | Vikramgad | 100 | 100 |
| Palghar | 58.41 | 57.52 | - | - | - |

Source: District Census Handbook, Thane District, 2011. Note: Figures indicates percent.

It shows higher the coefficient means tribal population is distributed unevenly in study region. There is a clear concentration of tribal population in Vikramgad tahsil due to hilly area and forest cover resulting isolation of tribals. Actual trace line shows high concentration of tribal population in study region as it appears below the $45^0$ of theoretical trace line.

**3.3 Tribal Population Density**

The density is the ratio between population and area within a region. This ratio can be expressed in three ways, namely, arithmetic, agricultural and physiological density. Arithmetic density is the total population divided by total area. Fig.-3.3 exhibits the tribal population density in Thane district for 1991 and 2011. It is observed that density of tribal population in study region was 111 persons per square kilometer in 1991. However and is found variations in density of tribal population in study region.

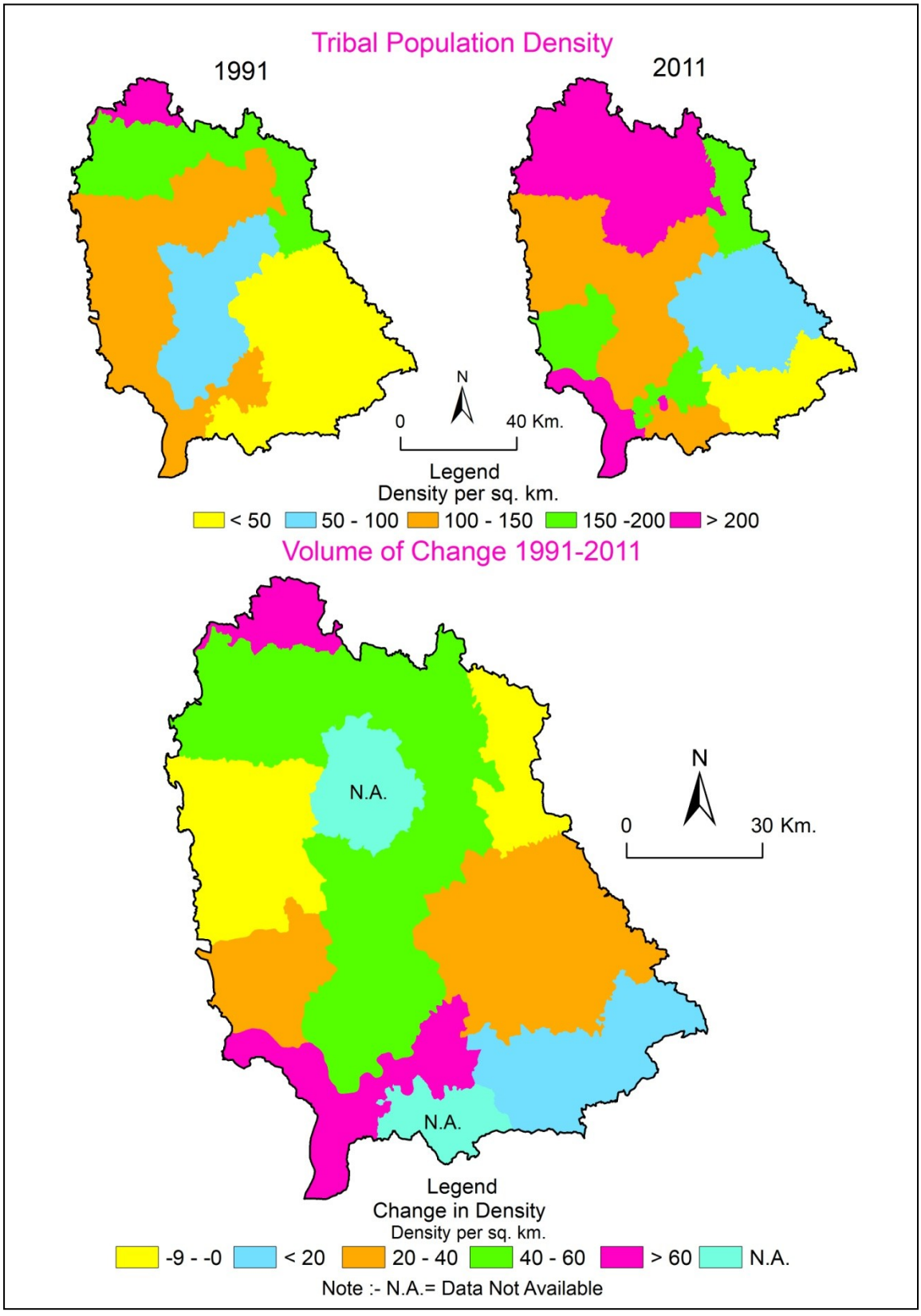

Tribal Population Density
1991
2011
N
0
40 Km.
Legend
Density per sq. km.
< 50
50 - 100
100 - 150
150 -200
> 200
Volume of Change 1991-2011
N.A.
N.A.
N
0
30 Km.
Legend
Change in Density
Density per sq. km.
-9 - -0
< 20
20 - 40
40 - 60
> 60
N.A.
Note :- N.A.= Data Not Available

Fig. 3.2

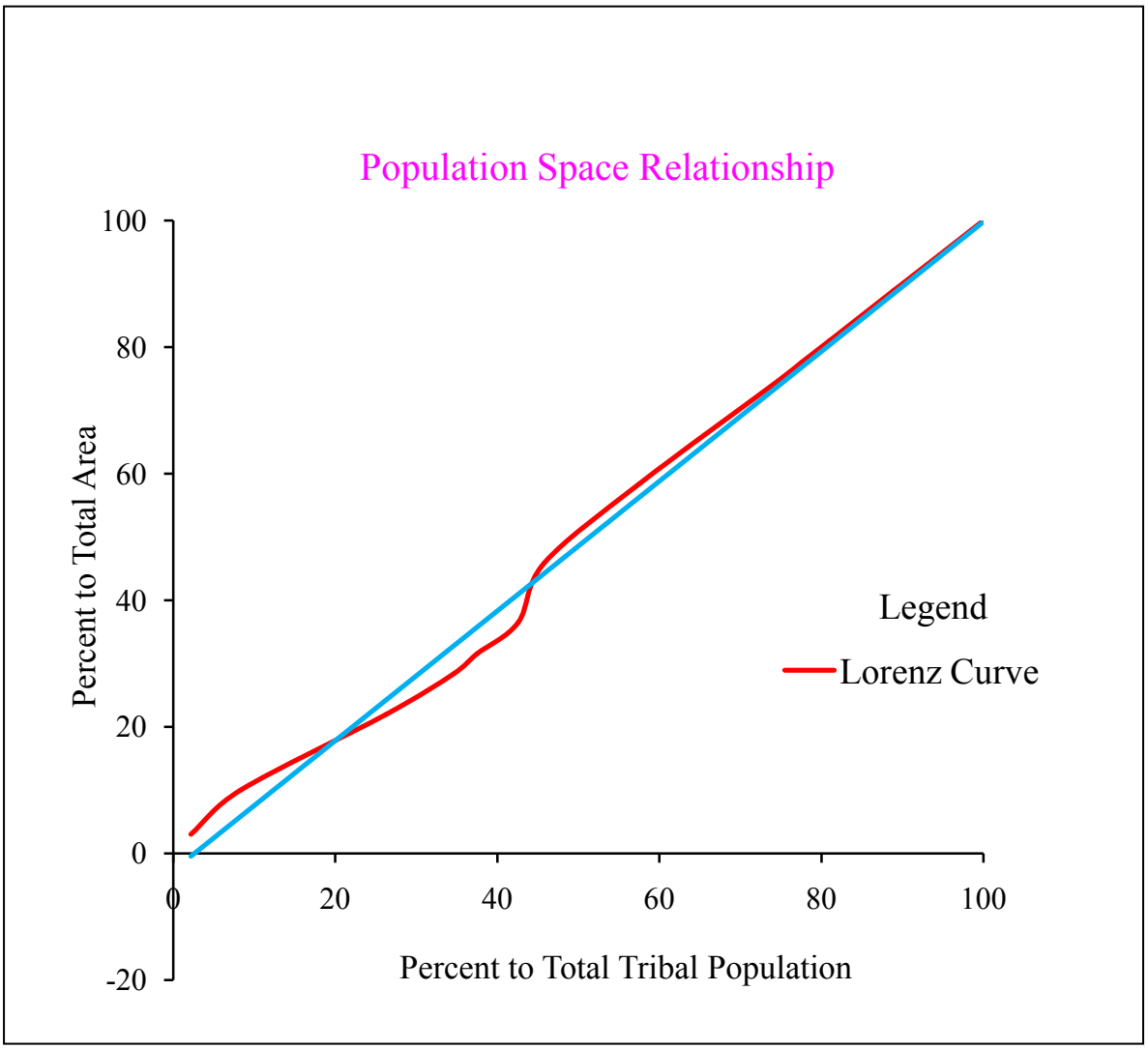

Population Space Relationship
100
80
60
40
20
0
-20
Percent to Total Area
0
20
40
60
80
100
Percent to Total Tribal Population
Legend
Lorenz Curve

Fig. 3.3

The highest density was recorded in Talasari tahsil (318) followed by Dahanu (182) tahsil lying in northwest part in study region due to hilly area, dense forest cover, less urbanization and less industrialization, poor transport and remote area. The moderate density between 100 to 150 persons per square kilometer was identified in Mokhada (160), Jawhar (148), Vasai (146), Palghar (143), Thane (115), Kalyan (105) tahsils. The less tribal population density in study region was found in Bhiwandi (87), Vada (81), Murbad (39), Shahapur (45) and Ulhasnagar (43) tahsils. These tahsils lying in central and southwest parts in study region. The density of tribal population decreases from west to east part due to increasing urban population in study region.

Table-3.3: Arithmetic Density of Tribal Population in Thane District

| Tahsils | 1991 | 2011 | Volume of Change | Tahsils | 1991 | 2011 | Volume of Change |
|---|---|---|---|---|---|---|---|
| Ambarnath | N.A. | 118 | N.A. | Shahapur | 45 | 69 | 24 |
| Bhiwandi | 87 | 133 | 46 | Talasari | 318 | 482 | 164 |
| Dahanu | 182 | 232 | 50 | Thane | 115 | 220 | 105 |
| Jawhar | 148 | 201 | 53 | Ulhasnagar | 43 | 506 | 463 |
| Kalyan | 105 | 171 | 66 | Vada | 81 | 131 | 50 |
| Mokhada | 160 | 156 | -4 | Vasai | 146 | 174 | 28 |
| Murbad | 39 | 50 | 11 | Vikramgad | N.A. | 231 | N.A. |
| Palghar | 143 | 134 | -9 | District Total | 111 | 154 | 43 |

Source: District Census Handbook of Thane District for 1991 and 2011.

Note: (i) Density is given in person per square kilometer, (ii) N.A.= Data not available.

It is observed that density of tribal population in study region was 154 persons per square kilometer in 2011. The variations in tribal density have found within study region. The highest density was recorded in Ulhasnagar (506), Talasari (482), Dahanu (232), Vikramgad (231), Thane (220), Jawhar (201) tahsils. These tahsils lie in northeast and southwest parts in study region. This has attributed to hilly, forest and remote area except Ulhasnagar and Thane tahsils. The tribals in-migration in search jobs and small business in Ulhasnagar and Thane city. In Ulhasnagar city, more multinational companies were established require more unskilled labour, hence tribals have found migrant from his hilly region. The moderate density has observed in Mokhada (156), Palghar (134), Bhiwandi (133), Vada (131) and Ambarnath (118) tahsils. These tahsils are located at central and south parts in study region. The lowest tribal population density was found in Shahapur (69) and Murbad (50) tahsils. These tahsils are located south part in study region. This area is undulating, dense forest and

hilly area. The decline trend is observed in 1991 and it decreases from east to west in study region. The change in tribal density during 1991 to 2011 is positive. The growth of total population density for 1991 to 2011 was 154 persons per square kilometer. The density of tribal population has increased during study period (43) and east lying tahsils have recorded growth of tribal density. The highest volume of growth of tribal density was recorded in Ulhasnagar tahsil (463) because of larger industrial development proximity of district headquarter and ample job availability. The growth of tribal density was observed high in Talasari (164), Thane (105) and Kalyan (66) tahsils. The lowest tribal density was observed in Murbad (11), Shahapur (24), Vasai (28), Bhiwandi (46) and Vada (50). These tahsils belong to tribal belt and these tribals migrated from rural to urban area for searching job and employment.

**3.4 Tribal Population Concentration**

The concentration of tribal population has computed by using location quotient method. The formula of this method is as below:

$$\text{Population Concentration Index} = \frac{TP/TA}{DP/DA}$$

Whereas :

TP = Tahsil population

TA = Tahsil area in square kilometer

DP = District population

DA = District area in square kilometre

The concentration index (1.00) is considered as average concentration of tribal population. It means that tribal population concentration is similar to district where value is 1. A particular tahsil has shown high level of concentration where the value of location quotient is above 1, the concentration of population would be less and dispersed in the area where the value is less than 1 and where the value is exactly 1, then it is balanced one. In present study, it is considered that index value is greater than 1.2 indicating high concentration. In order to understand the absolute concentration, percent of tribal population to total tribal population has computed. The index of concentration is computed by using the location quotient method as given below:

$$\text{Location Quotient Index} = \frac{\text{Percent of Tribal Population to Total Population in a Tahsil}}{\text{Percent of Tribal Population to Total Population in the District}}$$

The concentration of tribal population for each tahsil in study region is computed (Fig.-3.4) for 1991 and 2011. The high concentration of tribal population was recorded in Talasari tahsil (2.87) followed by Dahanu (1.65) Mokhada (1.45), Jawhar (1.34), Vasai (1.32) and Palghar (1.29) tahsils indicating more tribal concentration than the district average in 1991. The remaining tahsils, namely, Thane (1.04), Kalyan (0.95), Bhiwandi (0.79), Vada (0.73), Ulhasnagar (0.39) and Murbad (0.35) have value less than 0.8 showing less tribal concentration. In 2011 discrete tribal population concentration trend is observed in study region. The high concentration was recorded in Ulhasnagar tahsil (3.28) followed by Talasari (3.13), Dahanu (1.51), Vikramgad (1.50), Thane (1.43) and Jawhar (1.30) tahsils present very high tribal concentration and Vasai (1.13), Kalyan(1.11) and Mokhada (1.01) indicate moderate tribals concentration in study region. Palghar, Bhiwandi, Ambarnath, Vada, Shahapur and Murbad tahsils have found value less than 0.8 showing less concentration than the district. It is found slight increase of tribal concentration in Thane, Talasari, Kalyan, Bhiwandi and Shahapur tahsils accounting 0.39, 0.25, 0.15, 0.07 and 0.04 values respectively. Mokhada, Palghar, Vasai, Kalyan and Dahanu tahsils have decreased tribal concentration from 1991 to 2011 due to tribal population is highly concentrated in south and southeast parts in study region (Table-3.4 and Fig.-3.4).

Table- 3.4 : Tribal Population Concentration in Thane district

| Tahsils | Years | | Volume of Change | Tahsils | Years | | Volume of Change |
|---|---|---|---|---|---|---|---|
| | 1991 | 2011 | | | 1991 | 2011 | |
| Ambarnath | N.A. | 0.77 | N.A. | Shahapur | 0.41 | 0.45 | 0.04 |
| Bhiwandi | 0.79 | 0.86 | 0.07 | Talasari | 2.87 | 3.13 | 0.25 |
| Dahanu | 1.65 | 1.51 | -0.14 | Thane | 1.04 | 1.43 | 0.39 |
| Jawhar | 1.34 | 1.30 | -0.04 | Ulhasnagar | 0.39 | 3.28 | 2.89 |
| Kalyan | 0.95 | 1.11 | 0.15 | Vada | 0.73 | 0.85 | 0.12 |
| Mokhada | 1.45 | 1.01 | -0.44 | Vasai | 1.32 | 1.13 | -0.19 |
| Murbad | 0.35 | 0.33 | -0.03 | Vikramgad | N.A. | 1.50 | N.A. |
| Palghar | 1.29 | 0.87 | -0.42 | District Total | 1.00 | 1.00 | 0.00 |

Source: District Census Handbook of Thane District for 1991 and 2011
Note: (i) N.A.= Data not available, (ii) Computed by Researcher.

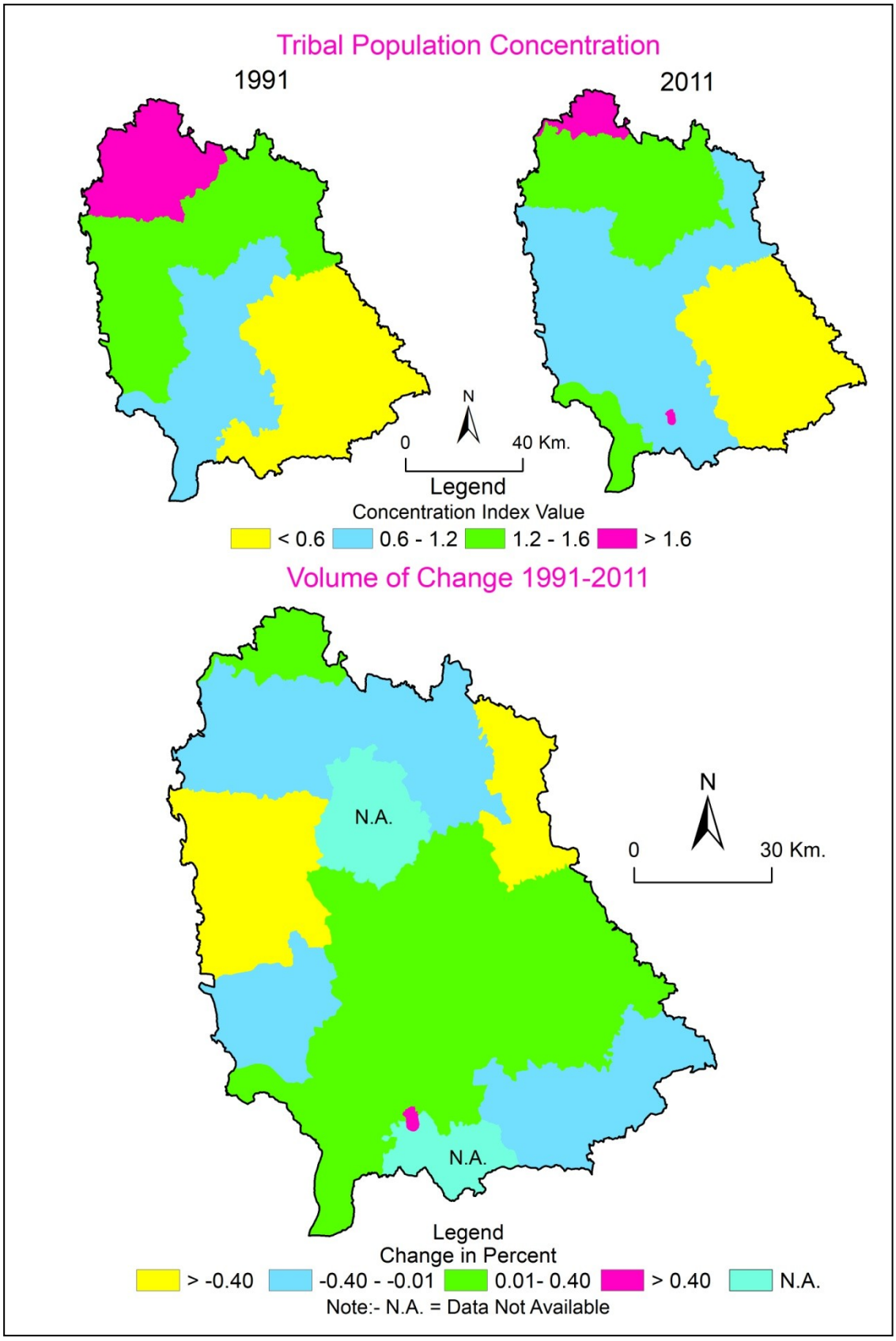

Tribal Population Concentration
1991
2011
N
0
40 Km.
Legend
Concentration Index Value
< 0.6
0.6 - 1.2
1.2 - 1.6
> 1.6
Volume of Change 1991-2011
N.A.
N.A.
N
0
30 Km.
Legend
Change in Percent
> -0.40
-0.40 - -0.01
0.01- 0.40
> 0.40
N.A.
Note:- N.A. = Data Not Available

Fig. 3.4

Ulhasnagar, Thane, Talasari and Kalyan tahsils have slightly increased tribal concentration during 1991 to 2011 in study region. Ulhasnagar tahsil has recorded high increase of tribal concentration during study period. The growth in tribal concentration is more than zero is found in Vada (0.12), Kalyan (0.15), Bhiwandi (0.07), and Shahapur (0.04), tahsils whereas Dahanu, Vasai, Mokhada, and Murbad tahsils have declined from 1991 to 2011. The highest tribal concentration has declined in vasai (0.19) because of political pressure and urbanization in Vasai city. It is found that in-migration of population from surrounding Thane. Vasai and Palghar tahsils have declined concentration in study region.

**3.5 Decadal Growth of Tribal Population**

Population growth is another important aspect in population study. The growth of population describe as sum of total birth rate, death rate and migration. The physical and social conditions of study region determine growth of population. The growth of population both positive and negative does reflect man's response to the environment of region (Mandal, 2007). The decadal growth rate can be computed by using following formula:

$$\text{Decadal Growth Rate} = \frac{P2 - P1}{P1} \times 100$$

Whereas :

P1 = Population of previous decade, and

P2 = Population of current decade.

Tribal population growth rate is computed for 1991-2001 and 2001-2011 in present study. Fig-3.5 exhibits growth of tribal population in study period indicates rapid population growth for 1991-2001 as compared to further decade (2001-2011). It is found that rural population is very high as compared to urban population. Hence, rural population shared more percent to total population. Table-3.5 presents the growth rate of population in study region (84 percent) in 1991 (Appendix-D).

Table- 3.5: Rural Urban Growth in Thane District

| Category | Decadal Growth Rate (%) | | Volume of Change |
|---|---|---|---|
| | 1991-2001 | 2001-2011 | |
| Rural | 33.03 | 20.75 | 12.28 |
| Urban | 84 | 82.93 | 1.07 |
| Total | 50.97 | 62.18 | 13.35 |

Note: Computed by Researcher.

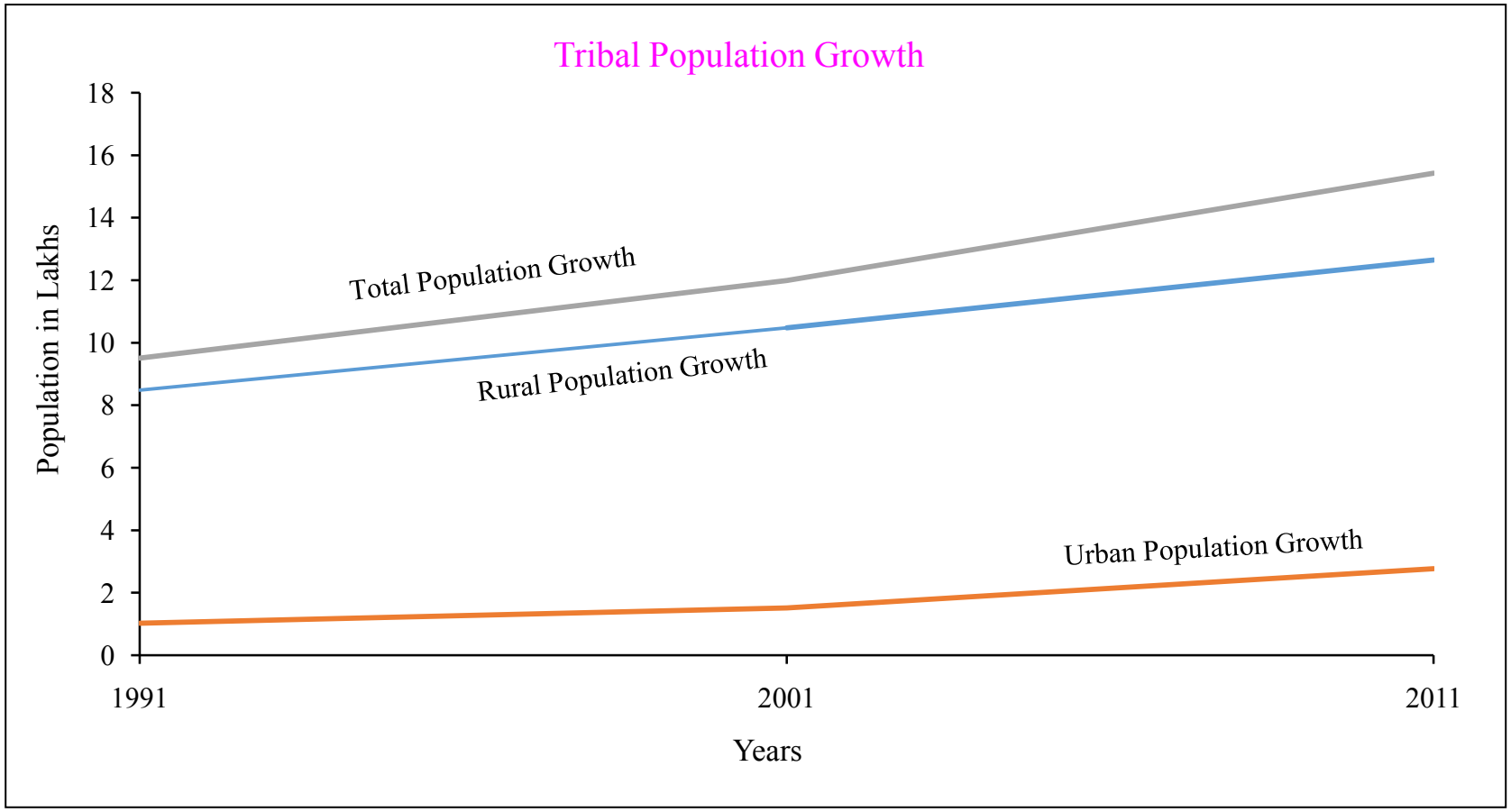

Tribal Population Growth
Population in Lakhs
18
16
14
12
10
8
6
4
2
0
Total Population Growth
Rural Population Growth
Urban Population Growth
1991
2001
2011
Years

Fig. 3.5

This increase in growth rate has been due towards urban centers for getting employment, educational facilities and other services causing migration in study region. The rural growth rate is found declining from 2011 to 2011. The urban growth rate has increased slightly by 1.07 percent. This has attributed to the increase of literacy and awareness in urban region. The birth rate has found decline resulting in control the growth of tribal population in urban area.

Table -3.6: Tribal Population Growth Rate in Thane District

| Tahsils | 1991-2001 | 2001-2011 | Volume of change | Tahsils | 1991-2001 | 2001-2011 | Volume of change |
|---|---|---|---|---|---|---|---|
| Ambarnath | N.A. | 37.51 | N.A. | Shahapur | 29.25 | 24.65 | -4.60 |
| Bhiwandi | 35.77 | 26.21 | -9.55 | Talasari | 26.21 | 30.63 | 4.43 |
| Dahanu | 20.28 | 29.16 | 8.88 | Thane | 19.24 | 53.76 | 34.51 |
| Jawhar | -20.45 | 28.55 | 49.00 | Ulhasnagar | -74.72 | 86.13 | 160.85 |
| Kalyan | 4.44 | 56.23 | 51.80 | Vada | 22.94 | 35.28 | 12.34 |
| Mokhada | -20.66 | 26.04 | 46.70 | Vasai | 38.59 | 20.95 | -17.64 |
| Murbad | 13.81 | 22.91 | 9.10 | Vikramgad | N.A. | 22.42 | N.A. |
| Palghar | 18.09 | 19.48 | 1.40 | District Total | 26.08 | 28.61 | 2.53 |

Source: District Census Handbook, Thane District for 1991 and 2011

Note: Note: (i) N.A.= Data is not available (ii) Computed by Researcher.

Table-3.6 exhibits the growth of tribal population in study region during 1991-2011 accounting 26.08 percent which reached to 28.61 percent during 1991-2001 showing increasing growth rate by 2.53 percent. From 1991 to 2011, highest growth of tribal population was observed in Vasai (38.59) followed by Bhiwandi (35.77), Shahapur (29.25) and Talasari (26.21), tahsils which is above the average of study region. The growth rate in Vada (22.91), Dahanu (20.28), Thane (19.24), Palghar (18.9) and Murbad (13.81) percent is shown in Fig.-3.6 is low. Ulhasnagar, Mokhada and Jawhar found negative growth rate of -74.72, 20.6 and -2.45 percent respectively. During 2001 to 2011 highest growth of tribal population was identified in Ulhasnagar tahsil (86.13) followed by Kalyan (56.23), Thane (53.76), Ambarnath (37.51), Vada (35.28) and Talasari (30.63) tahsils in study region. Dahanu, Bhiwandi, Mokhada, Shahapur, Murbad, Vikramgad, Vasai and Palghar having less than 30 percent growth rate. It is found that 36.01 percent positive growth for total population in study region and tribal population also found positive growth (2.53) percent during study period.

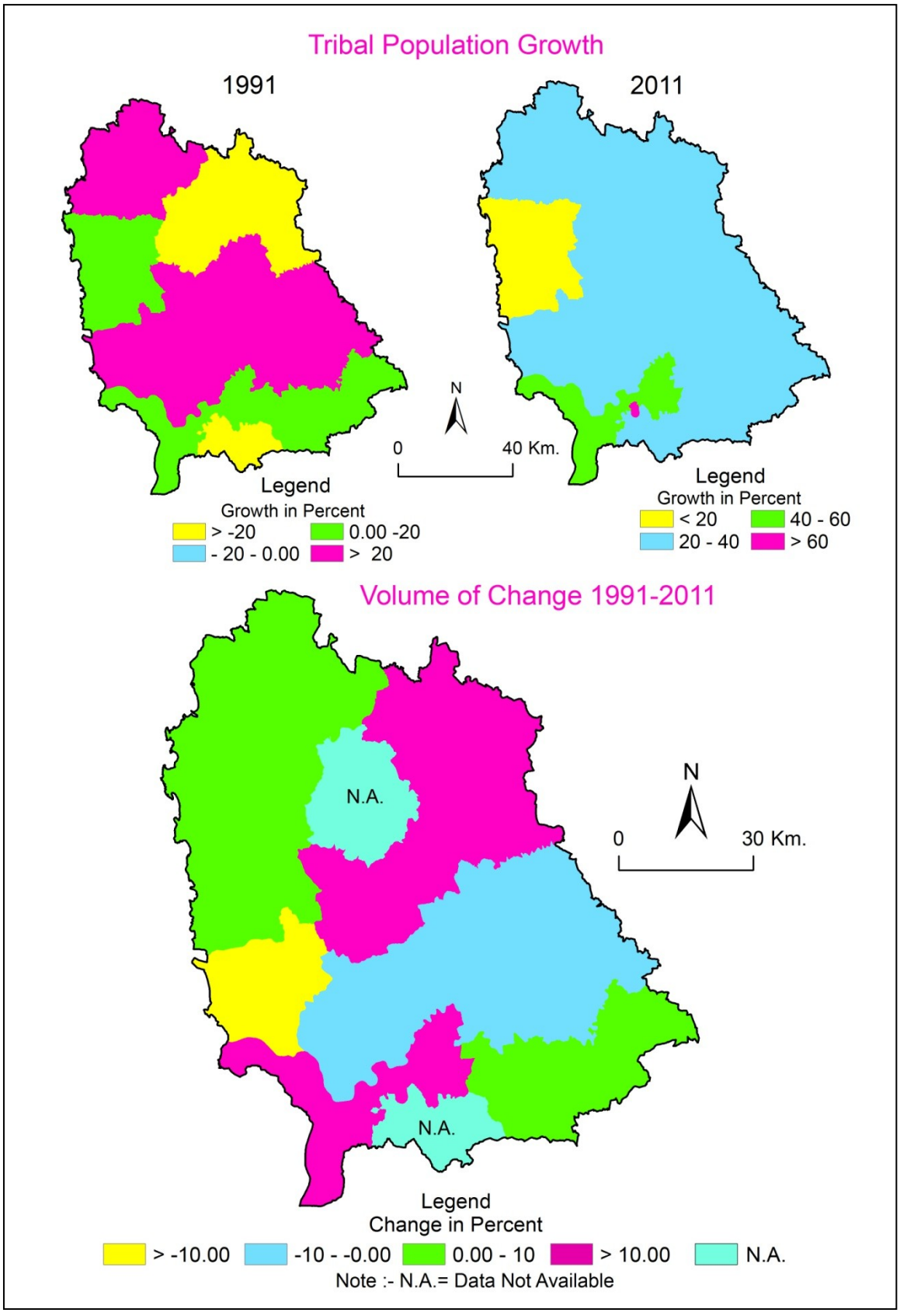

Tribal Population Growth
1991
2011
N
0
40 Km.
Legend
Growth in Percent
> -20
0.00 -20
- 20 - 0.00
> 20
Legend
Growth in Percent
< 20
40 - 60
20 - 40
> 60
Volume of Change 1991-2011
N.A.
N
0
30 Km.
N.A.
Legend
Change in Percent
> -10.00
-10 - -0.00
0.00 - 10
> 10.00
N.A.
Note :- N.A.= Data Not Available

Fig. 3.6

The highest growth of tribal population was observed at Ulhasnagar (160.85) followed by Kalyan (51.80) and Jawhar (49.00), Mokhada (46.70) and Thane (34.51) tahsils (Fig.-3.6). The reaming tahsils except Shahapur, Bhiwandi and Vasai in study region have observed less than 10 percent tribal population growth. Vasai, Bhiwandi, and Shahapur tahsils have recorded negative tribal population growth that of 17.64, 9.55 and 4.60 respectively. This is due to urbanization, better education facility and job opportunity.

### 3.5.1 Tribal Population Projection

Projection of population is the conditional statements regarding growth for future period. This refers mostly to exercises of extrapolation of past trends into the future. This does not take into account changes in the policy parameters. Population is a constant state of change in term of number and characteristics. For practical and planning purposes, it is necessary to understand the number and characteristics of population. Population projections are estimated the population for future period. The annual growth rate can be projected by following formulas:

(a) Crude Method : $R = 1/_n * ((P_n - P_o)x\text{^}2) / (P_o) \times 100$

(b) Compound Method : $R = [(P_n/P_o)^{1/n} - 1] \times 100$

Whereas :

R = Annual rate of growth

Pn = Population in the current year

Po = Population in the base year

n = Number of intermediary years.

R = 50.97 is the decadal growth rate from 1991 to 2001.

The annual growth rate can be simply obtained by dividing the decadal rate of growth by 10. By assuming this growth rate would continue in the future. Tribal population figures have obtained for 2011 and 2021 year by crude method of projection. It shows that tribal projected population is 1542451 persons in 2011 (Appendix-B) and 1720675 persons in 2021. The compound growth rate method is slightly improved method use to project the population. In which R = 2.53 is annual growth rate has taken for the year 2001 and 2011. It is found that population may increase than crude method and will reach upto 15,31,753 persons and 19,62,687 persons in 2011 and 2021 respectively. Fig.-3.5 exhibits difference between crude and compound projection method. The provisional tribal population (15,64,369) is very

close to compound method projected (15,31,753). However, it is considered that tribal population may increase faster and therefore it needs to change the family planning policies, family health programmes and education policies among tribal population in study region.

**3.6 Tribal Sex- Ratio**

The population exhibits certain inhabitant characteristics in term of sex composition. The change in sex composition largely reflects the underlying socio-economic conditions and cultural patterns of the society. The ratio between male and female is called sex ratio. In India, sex ratio is defined as the number of females per 1000 males' population and this useful indicator to measure the gender equity in region at a given point of time. The primary sex ratio is the ratio at the time of conception, secondary sex ratio is the ratio at time of birth and tertiary sex-ratio is the ratio of mature organisms. The changes in gender compositions largely depend on social, economic conditions and cultural pattern of the society. Moreover, sex ratio measures the prevailing equality between males and females and has an outcome of interplay of sex differentials mortality, sex selective migration, sex ratio at time of birth, sex differential in population enumeration (Census of India, 2011). The sex ratio influences the economic conditions, migration, occupation structure, marriage status, fertility, mortality and growth of rate population. Table-3.7 presents tribal sex ratio in study region for 1991 and 2011. According 1991 Census, total tribal population sex ratio in study region was 977 females. Talasari tahsil accounts for 1010 females and has ranked first in study region and Jawhar tahsil has second ranked accounting 1007 females (Appendix-C). The sex ratio of more than 930 females has observed in all tahsils in study region except Thane and Kalyan tahsils. The sex ratio between 950 to 1000 was found in Dahanu (996) followed by Vasai (990), Mokhada (985), Vada (965), Palghar (973), and Shahapur (950) tahsils. Kalyan tahsil exhibits lowest sex ratio (906) in study region. Fig.-3.7 reveals high sex ratio in north, northeast and central parts and moderate sex ratio in south part in study region. This has attributed to tribal women prefer to live their our home land and are not involve the development process as having less of education and gap between general people and tribal people. Language is the main barrier in tribals development. In south part in study region has found low tribal sex ratio because of urbanization and education facilities. In case of sex ratio in 1991 represents no gender discrimination, no son preference and ignorance of pornography.

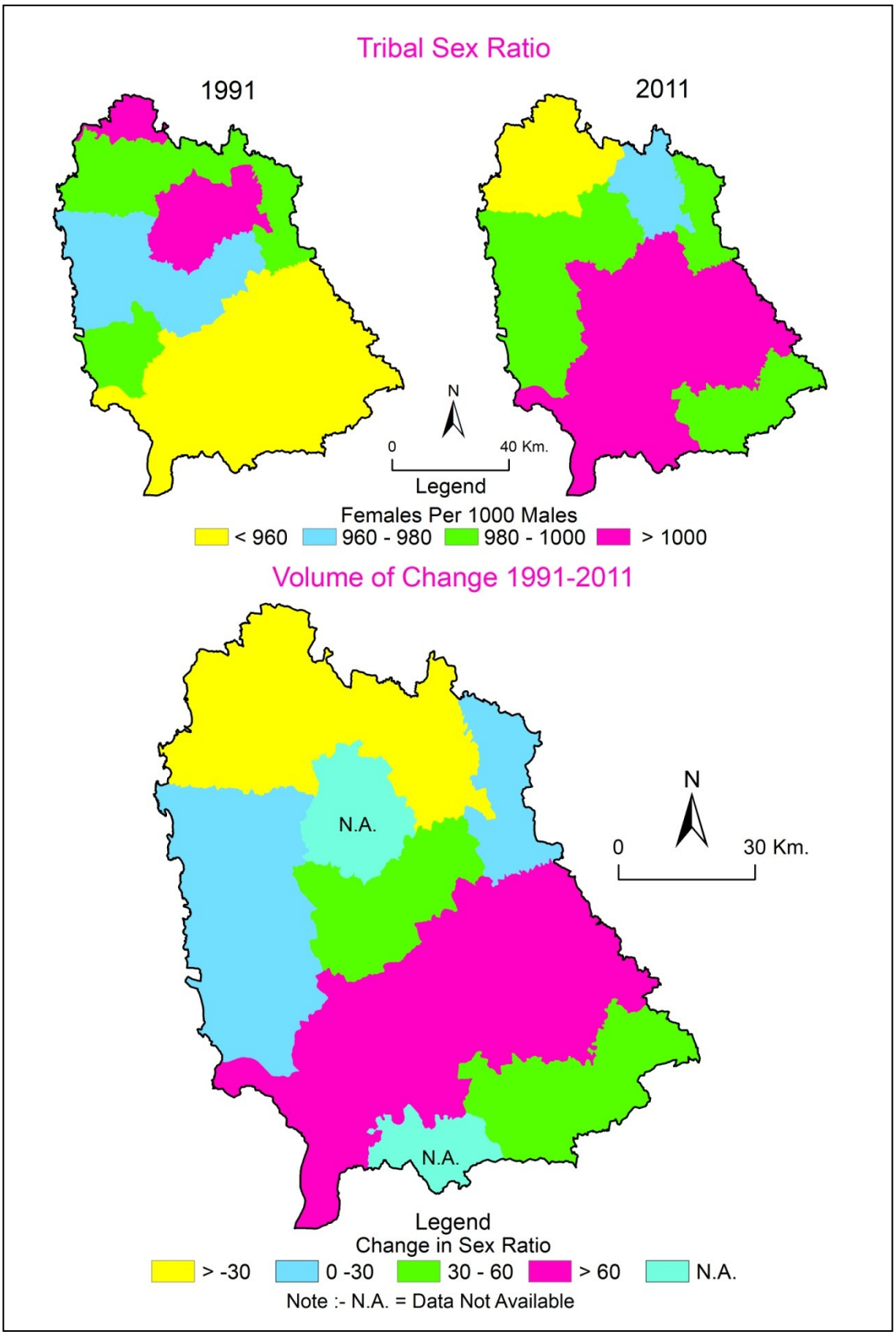

Tribal Sex Ratio
1991
2011
N
0
40 Km.
Legend
Females Per 1000 Males
< 960
960 - 980
980 - 1000
> 1000
Volume of Change 1991-2011
N.A.
N.A.
N
0
30 Km.
Legend
Change in Sex Ratio
> -30
0 -30
30 - 60
> 60
N.A.
Note :- N.A. = Data Not Available

Fig. 3.7

Table-3.7: Tribal Sex Ratio in Thane District

| Tahsils | 1991 | 2011 | Volume of Change | Tahsils | 1991 | 2011 | Volume of Change |
|---|---|---|---|---|---|---|---|
| Ambarnath | - | 1045 | - | Shahapur | 950 | 1018 | 68 |
| Bhiwandi | 938 | 1058 | 120 | Talasari | 1010 | 960 | -50 |
| Dahanu | 996 | 956 | -40 | Thane | 915 | 1081 | 166 |
| Jawhar | 1007 | 971 | -36 | Ulhasnagar | 948 | 1147 | 199 |
| Kalyan | 906 | 1066 | 160 | Vada | 965 | 1012 | 47 |
| Mokhada | 985 | 991 | 6 | Vasai | 990 | 991 | 1 |
| Murbad | 954 | 999 | 45 | Vikramgad | - | 983 | - |
| Palghar | 973 | 985 | 12 | District Total | 977 | 1018 | 41 |

Source : District Census Handbook, Thane District for 1991 and 2011.

Note : Figures indicate females per thousand males.

In 2011, tribal sex ratio was 1018 in study region. The lowest sex ratio was found in Dahanu tahsil (956) due to change of administrative boundary of Dahanu tahsil, urbanization, industrialization and male in-migration in Dahanu city for jobs, education and other services. The highest tribal sex ratio was observed in Ulhasnagar (1147) followed by Thane (1081), Kalyan (1066), Bhiwandi (1058), Ambarnath (1045) and Shahapur (1018) tahsils.

The sex ratio between 960 to 1000 was found in Murbad (999), Mokhada (991), Vasai (991), Palghar (985), Vikramgad (983) and Talasari (960) tahsils Fig.-3.7 presents high tribal sex ratio in central and south parts, moderate sex ratio in north and northeast parts in study region. Tribal sex ratio in 1991 was 977 and it increased to 1018 in 2011 are remarkable in tribals. The sex ratio has found increasing by 41 during study period in study region. Urban area like Ulhasnagar, Thane, Kalyan, Bhiwandi, Shahapur and Vada tahsils have increased tribal sex ratio during study period. Again proved it tribals are not having gender discrimination.

Fig.-3.8 exhibits that rural sex ratio in study region for 1991 was 985. The highest tribal rural sex ratio was recorded in Talasari tahsil (1010) followed by Jawhar (1009) and Dahanu (997) and lowest was observed in Murbad (955) tahsil. In 2011, study region has recorded 998 females per 1000 males in rural tribal population. The highest tribal rural sex ratio was recorded in Kalyan tahsil (1064) followed by Ambarnath (1041), Bhiwandi (1024), Shahapur (1017) and Vada (1012) tahsils. The lowest sex ratio was observed at Dahanu tahsil (957). It was noticed that rural tribal sex ratio is higher in urban tahsils from 1919 to 2011 and has increased to 13 in study region.

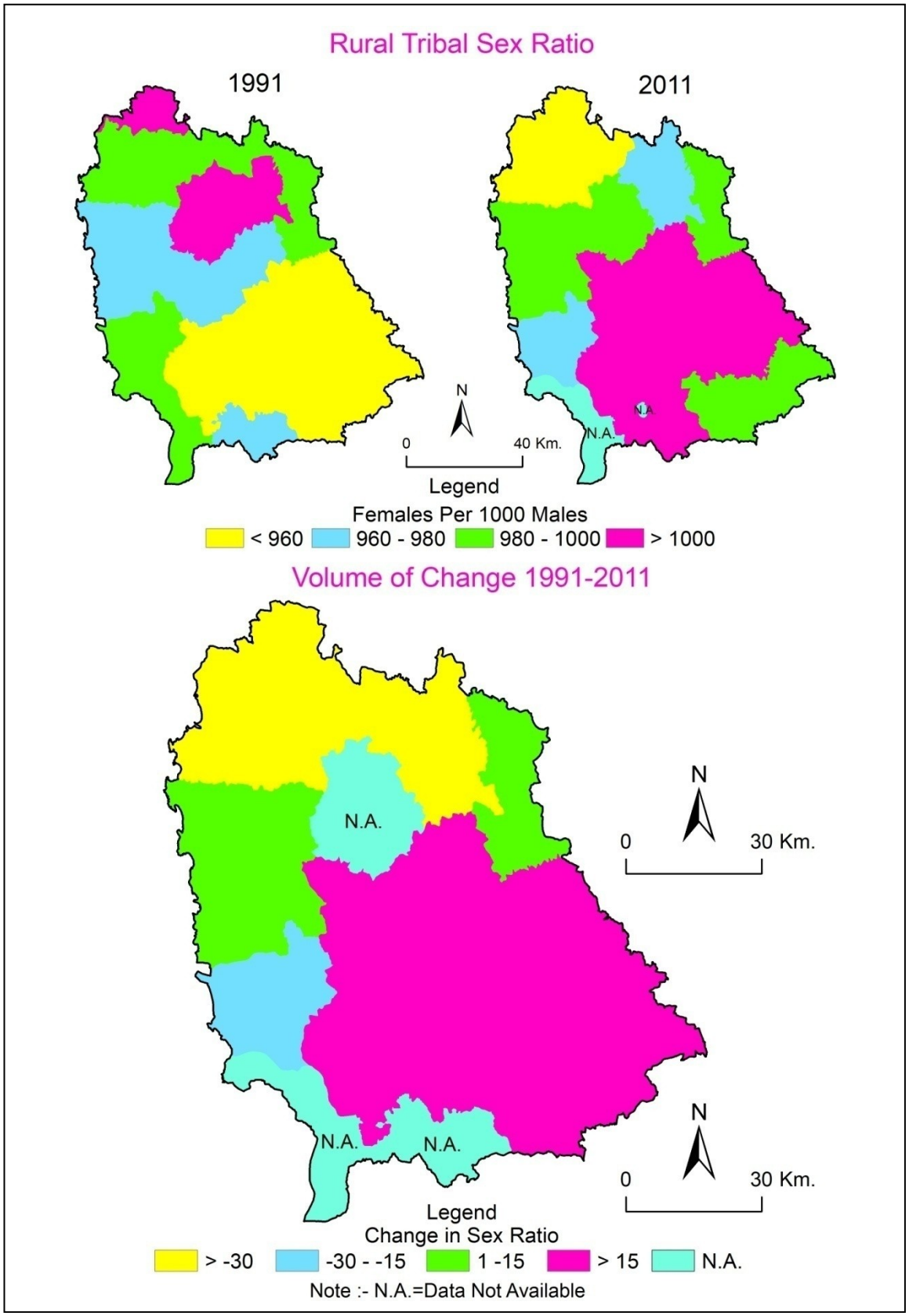

Rural Tribal Sex Ratio
1991
2011
N
0
40 Km.
N.A.
Legend
Females Per 1000 Males
< 960
960 - 980
980 - 1000
> 1000
Volume of Change 1991-2011
N.A.
N
0
30 Km.
N.A.
N.A.
N
0
30 Km.
Legend
Change in Sex Ratio
> -30
-30 - -15
1 -15
> 15
N.A.
Note :- N.A.=Data Not Available

Fig. 3.8

Talasari tahsil has decreased by 50 followed by Dahanu (40), Jawhar (38) and Vasai (19) tahsils. Kalyan, Bhiwandi, Shahapur, Murbad and Vada tahsils have found increase tribal rural sex ratio during study period (Appendix-C).

Table-3.8: Rural Tribal Sex Ratio in Thane District

| Tahsils | Year | | Volume of Change | Tahsils | Year | | Volume of Change |
|---|---|---|---|---|---|---|---|
| | 1991 | 2011 | | | 1991 | 2011 | |
| Ambarnath | - | 1041 | - | Shahapur | 949 | 1017 | 68 |
| Bhiwandi | 956 | 1024 | 68 | Talasari | 1010 | 960 | 50 |
| Dahanu | 997 | 957 | 40 | Thane | 981 | - | - |
| Jawhar | 1009 | 971 | 38 | Ulhasnagar | 963 | - | - |
| Kalyan | 956 | 1064 | 108 | Vada | 965 | 1012 | 47 |
| Mokhada | 985 | 991 | 6 | Vasai | 996 | 977 | 19 |
| Murbad | 955 | 996 | 41 | Vikramgad | - | 985 | - |
| Palghar | 974 | 983 | 9 | District Total | 985 | 998 | 13 |

Source: District Census Handbook, Thane District for 1991 and 2011.
Note: Figures indicate females per thousand males.

The urban tribal sex ratio in study region was 912 in 1991 and has decreased by 5 in 2011. Shahapur tahsil has recorded highest urban tribal sex ratio (998) whereas Bhiwandi has lowest sex ratio 777 in 1991. Three tahsils, namely, Kalyan, Ulhasnagar and Palghar have found rural population and is less urban sex ratio (Fig.-3.9). In 2011, Bhiwandi tahsil has recorded highest (1220) and Dahanu reported lowest (949) urban tribal sex ratio. Ulhasnagar, Murbad, Kalyan, Thane, and Palghar tahsils have increased tribal urban sex ratio (246), (182), (172), (167) and (83) respectively. There is significant increase of tribal urban sex ratio in Bhiwandi (1220) and Ulhasnagar (1147) tahsils. The urban tribal sex ratio is found less as compared to rural sex ratio due to continuous in-migration of females in urban centers for imparting education and jobs. Hostel facility available for female students in urban area therefore for the last two decade more females trend settled in urban areas with their families. The literacy trends among the tribals were significantly increased due to awareness. It education and positive policy of government was also observed that urban sex ratio is high than the rural sex ratio in urban tahsils namely, Bhiwandi, Ulhasnagar, Murbad and Thane in 2011. It was noted that both tribal and total population sex ratio in study region has increased by 37 and whereas the district has tribal sex ratio of 41.

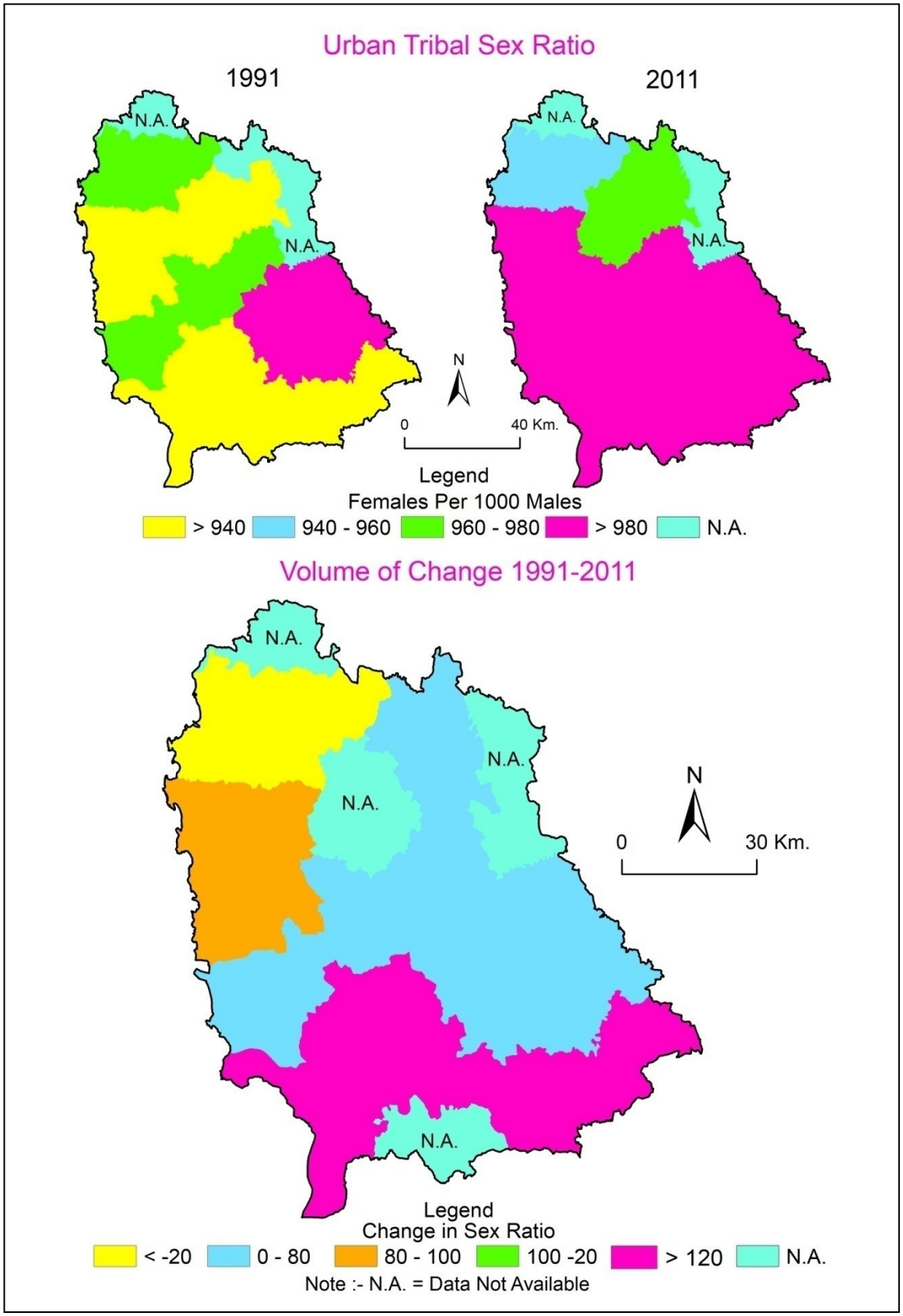

Urban Tribal Sex Ratio
1991
2011
N.A.
N.A.
N.A.
N.A.
N
0
40 Km.
Legend
Females Per 1000 Males
> 940
940 - 960
960 - 980
> 980
N.A.
Volume of Change 1991-2011
N.A.
N.A.
N.A.
N.A.
N
0
30 Km.
Legend
Change in Sex Ratio
< -20
0 - 80
80 - 100
100 -20
> 120
N.A.
Note :- N.A. = Data Not Available

Fig. 3.9

It was also observed that tribal population sex ratio in rural, urban and was higher than the total population sex ratio in study region. Male have migrate in urban areas resulting increase in sex ratio in rural area.

Table- 3.9: Urban Tribal Sex Ratio in Thane District

| Tahsils | 1991 | 2011 | Volume of Change | Tahsils | 1991 | 2011 | Volume of Change |
|---|---|---|---|---|---|---|---|
| Ambarnath | N.A. | 1048 | N.A. | Shahapur | 998 | 1025 | 27 |
| Bhiwandi | 777 | 1220 | 443 | Talasari | - | - | - |
| Dahanu | 963 | 949 | -14 | Thane | 914 | 1081 | 167 |
| Jawhar | 925 | 970 | 45 | Ulhasnagar | 901 | 1147 | 246 |
| Kalyan | 894 | 1066 | 172 | Vada | 968 | 1009 | 41 |
| Mokhada | - | - | - | Vasai | 963 | 1001 | 38 |
| Murbad | 931 | 1113 | 182 | Vikramgad | N.A. | 979 | - |
| Palghar | 909 | 992 | 83 | District Total | 912 | 907 | -5 |

Source: District Census Handbook, Thane District for 1991 and 2011.
Note: Figures indicate females per thousand males.

### 3.7 Tribal Age-Sex Composition

The socio-economic conditions and way of living within community affects considerably by relative numbers of population in each age. The age structure of population is presented by sex in the form of age-sex pyramid. This base pyramid presents the low age i.e. zero. The top of pyramid indicates the maximum age above 80 years. The pyramid becomes conic when it moves upward indicting region is in developing stage (Jhingan and Others, 2006). The developing countries are passing through this second stage. Populations are increasing rapidly and the expectancy of life and dependent ratios have found increasing. The population age can be categorized in three broad age groups, namely, young (0-14), adult (15-59) and old (60 and above). The social and economic condition of the region reflects in these three age groups (Clarke, 1972).

Fig.-3.10 exhibits age-sex pyramid of tribal population for 2011 showing conical in shape of broad base and narrow top (Fig.-3.10). It clearly indicates that tribals are in developing stage. It was found that tribals below 14 years accounts 40.42 percent representing high fertility rate. Between 0 to 14 age group tribal females are slightly less in percent as compared to males whereas 15-59 age group is found fluctuation and females are more as compared to males working population in study region. Old age group accounts for 3.72 per cent population. The percent of old age tribals reduces falls up age increase as life expectancy among tribals.

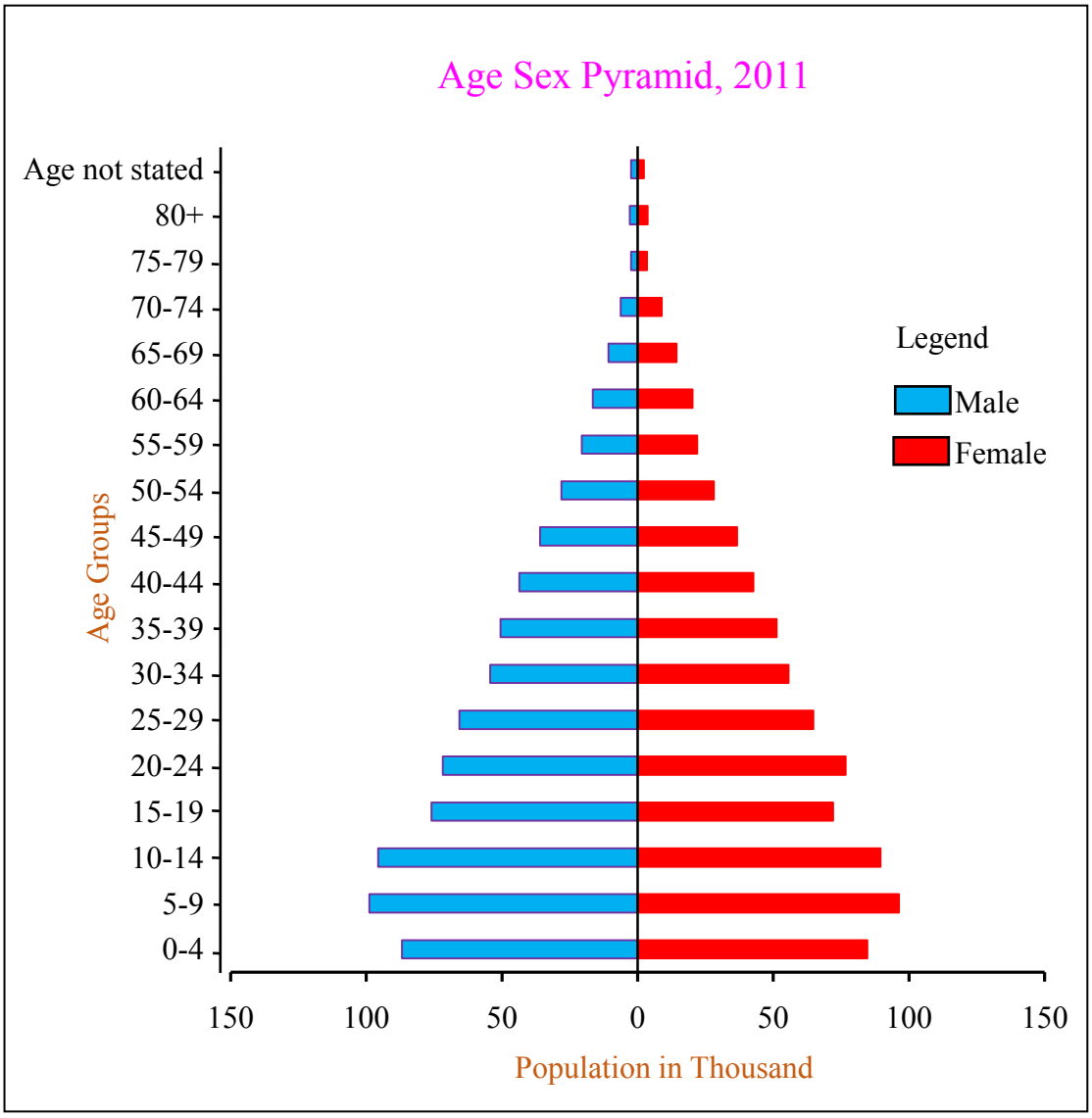

Age Sex Pyramid, 2011
Age not stated
80+
75-79
70-74
65-69
60-64
55-59
50-54
45-49
40-44
35-39
30-34
25-29
20-24
15-19
10-14
5-9
0-4
Age Groups
Legend
Male
Female
150
100
50
0
50
100
150
Population in Thousand

Fig. 3.10

Table-3.10: Age-sex Structure of Tribal Population in Thane District

| Age Groups | Sex Percent | | | Age Groups | Sex Percent | | |
|---|---|---|---|---|---|---|---|
| | Male | Female | Total | | Male | Female | Total |
| 00-04 | 5.63 | 5.49 | 11.11 | 50-54 | 1.82 | 1.83 | 3.64 |
| 05-09 | 6.41 | 6.25 | 12.66 | 55-59 | 1.33 | 1.43 | 2.76 |
| 10-14 | 6.20 | 5.80 | 12.01 | 60-64 | 1.08 | 1.31 | 2.39 |
| 15-19 | 4.92 | 4.67 | 9.59 | 65-69 | 0.70 | 0.93 | 1.63 |
| 20-24 | 4.66 | 4.97 | 9.63 | 70-74 | 0.41 | 0.57 | 0.98 |
| 25-29 | 4.26 | 4.20 | 8.45 | 75-79 | 0.16 | 0.23 | 0.38 |
| 30-34 | 3.52 | 3.60 | 7.13 | 80+ | 0.18 | 0.24 | 0.42 |
| 35-39 | 3.28 | 3.32 | 6.60 | Not Stated | 0.16 | 0.15 | 0.31 |
| 40-44 | 2.82 | 2.77 | 5.59 | District Total | 49.87 | 50.13 | 100 |
| 45-49 | 2.33 | 2.38 | 4.71 | | | | |

Source : District Census Handbook, Thane District, 2011.

The tribal female proportion is found high as compared to male in above 60 age group resulting less life expectancy among male and widow women in study region. Fig.-3.10 reveals urban and rural age sex pyramid for 2011. The population structure of rural area differs from urban area. Younger and older people are equally proportionately found in rural area. Hence, both pyramid shape are triangular whereas urban pyramid's is slime shape and population have decrease as age increases at faster rate. The proportion of tribal females is more in old age group in rural area under study.

**3.8 Literacy of Tribal Population**

Literacy is an indispensable mean for acquiring skills and improves economic condition. From demographic point of view, literacy is the variable affecting fertility, mortality and migration. Literacy supports for development and population control too (Singh, J., 2006). According to Census of India, 2011, children age (7 years or below) is treated as illiterate even though they may be going to school and can read and write to same extent. A person of 7 years and above who can both read and write with understanding in any language is considered as literate. A person who can only read but cannot write is not literate. It is not necessary that to be considered as literate, a person should have received any formal education or passed any minimum educational standard. Literacy could also have been achieved through adult literacy class or through any non-formal educational system. (District Census Handbook, Thane, 2011) and even who are blind and can read in Braille script are treated as literate. Literacy rate of population is defined as the percent of literate in the age

group seven years and above. Literacy rate directly affects services, health, economy, standard of living and overall development of study region (Appendix-H).

Table-3.11: Tribal Population Literacy in Thane District

| Tahsils | 1991 | 2011 | Volume of Change | Tahsils | 1991 | 2011 | Volume of Change |
|---|---|---|---|---|---|---|---|
| Ambarnath | N.A. | 68.93 | N.A. | Shahapur | 24.03 | 58.19 | 34.16 |
| Bhiwandi | 25.71 | 57.00 | 31.29 | Talasari | 19.41 | 54.84 | 35.43 |
| Dahanu | 18.11 | 47.41 | 29.30 | Thane | 62.44 | 81.98 | 19.54 |
| Jawhar | 21.33 | 54.83 | 33.50 | Ulhasnagar | 29.35 | 82.55 | 53.2 |
| Kalyan | 44.34 | 77.96 | 33.62 | Vada | 30.63 | 60.91 | 30.28 |
| Mokhada | 22.33 | 54.08 | 31.75 | Vasai | 33.15 | 64.59 | 31.44 |
| Murbad | 27.12 | 58.20 | 31.08 | Vikramgad | N.A | 61.45 | N.A. |
| Palghar | 25.11 | 61.92 | 36.81 | District Total | 25.84 | 58.87 | 33.03 |

Source: District Census Handbook, Thane District, 1991 and 2011.

Note: (i) Literacy for 1991 includes children below 7 years (ii) Figures are in percent.

Table.-3.11 reveals total tribal population literacy in study region. It was 25.84 percent in 1991 and 58.87 percent in 2011. This indications tribal literacy rate is slow. Though, literacy rate of tribal population has increased but it has increased, as the change of literacy definition and excluding children below 7 years in 2011. Tribal literacy is very less as compared to literacy in study region (84.53). In 1991, Thane tahsil has found highest tribal literacy (62.44) followed by Kalyan (44.34), Vasai (33.15) and Vada (30.63) tahsil percent (Fig.-3.11). Whereas, other tahsils in study region has literacy from 10 to 30 percent. In 2011, literacy has increased particularly in central and south parts (Above 50 percent) and decreased towards north east in study region. Tribal literacy has increased mainly in tribal concentrated area and decrease in towards non-tribal tahsils as cities of these tahsil provide education opportunity. The volume of change in literacy can be grouped into three south and southwest parts have found more than 50 percent literacy in Thane, Ulhasnagar and Vasai tahsils. The central part tahsils have literacy between 20 to 30 percent. The north and east tahsils have less literacy (Table-3.11). It is observed that tribal concentrated tahsils has less in literacy and urban areas have high tribal literacy in study region. Among the tribal male, literacy is much higher than the female literacy in study region (Table-3.12). In 1991, it was 36.82 for male and 14.53 percent literacy for female in study region. Literacy among female is less and it critically influencing birth rate, infant mortality, nutrition and health, services, per capita income and socio-economic condition of tribal society.

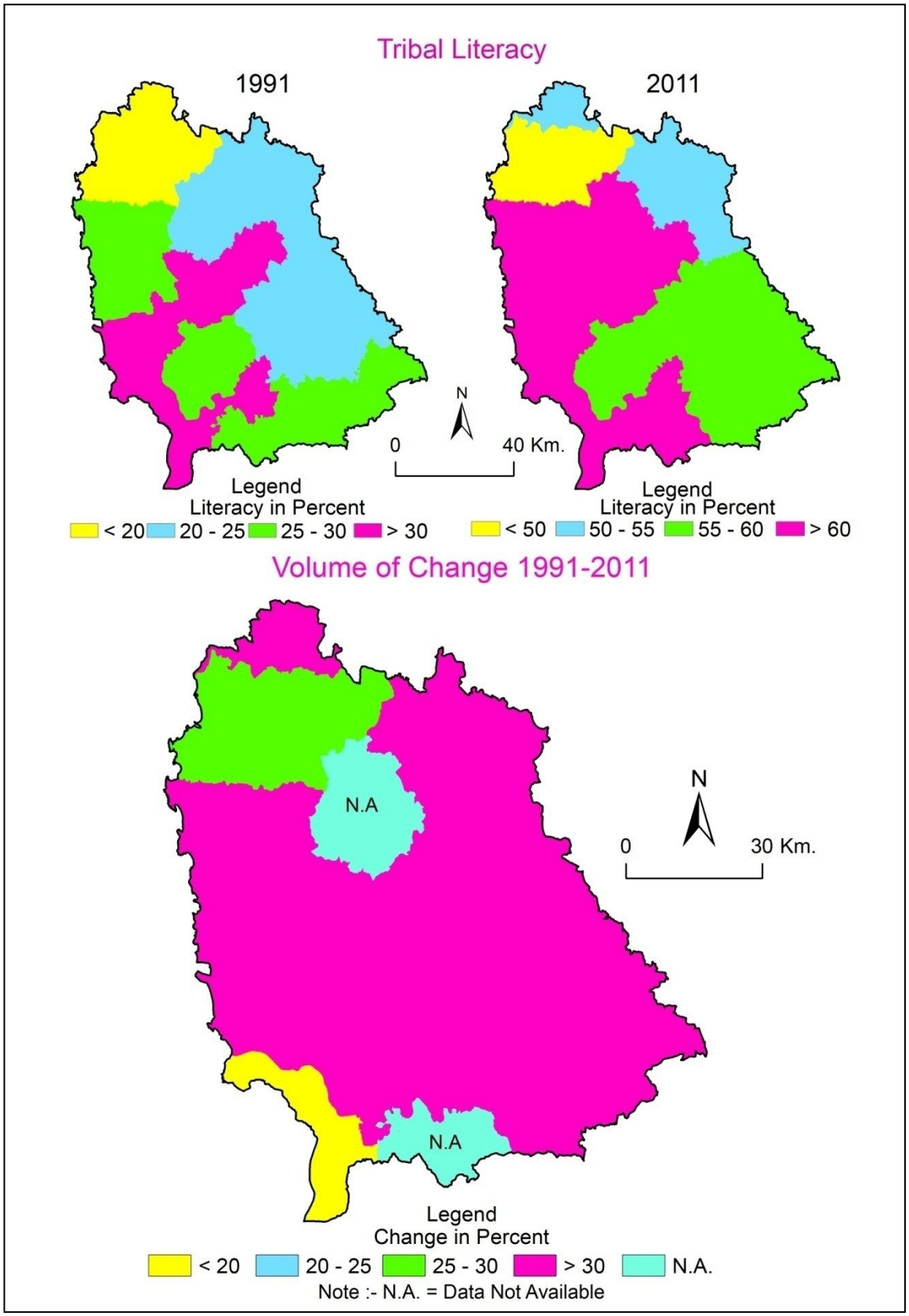

Tribal Literacy
1991
2011
N
0
40 Km.
Legend
Literacy in Percent
< 20
20 - 25
25 - 30
> 30
Legend
Literacy in Percent
< 50
50 - 55
55 - 60
> 60
Volume of Change 1991-2011
N.A
N.A
N
0
30 Km.
Legend
Change in Percent
< 20
20 - 25
25 - 30
> 30
N.A.
Note :- N.A. = Data Not Available

Fig. 3.11

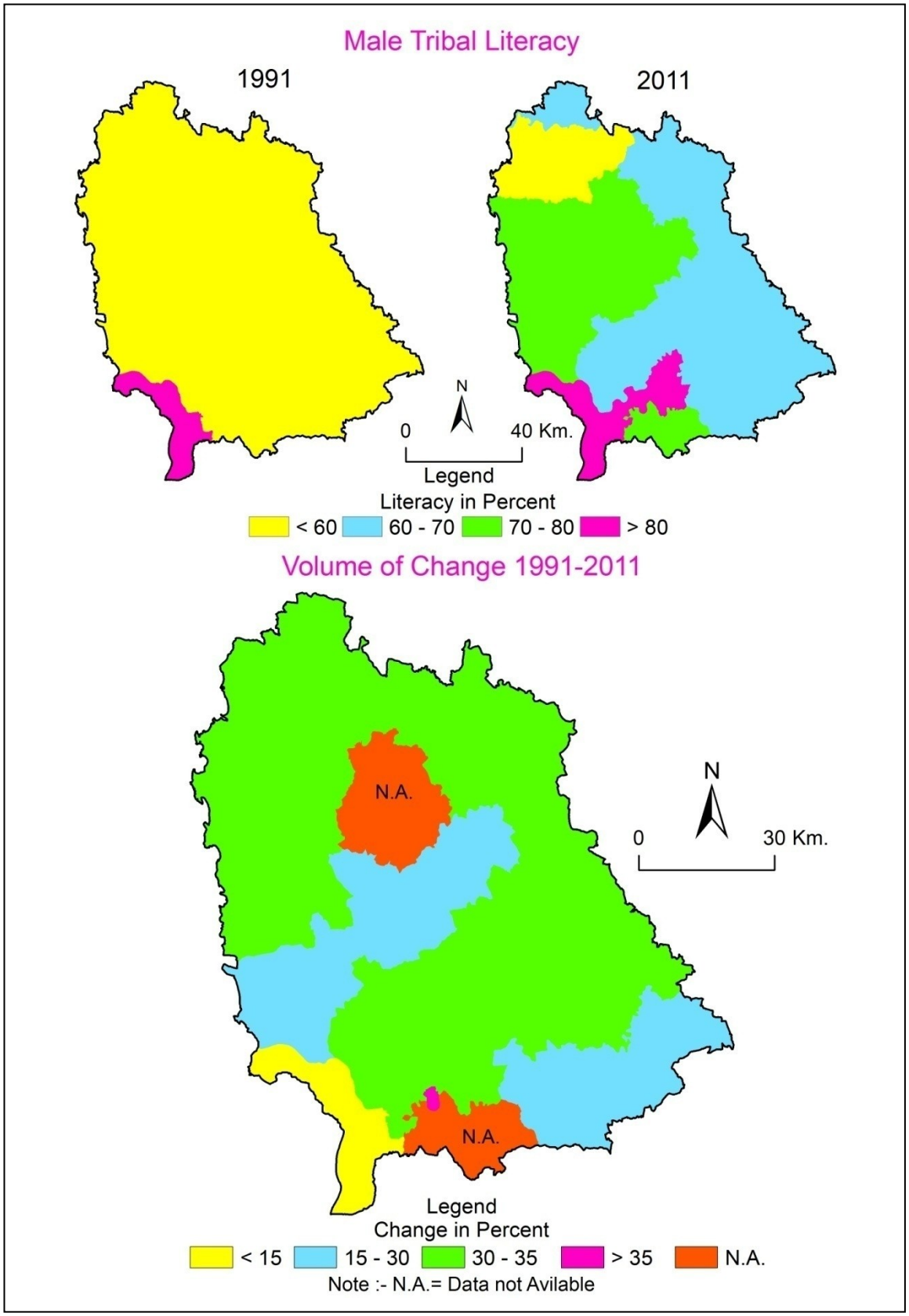

Male Tribal Literacy
1991
2011
N
0
40 Km.
Legend
Literacy in Percent
< 60
60 - 70
70 - 80
> 80
Volume of Change 1991-2011
N.A.
N.A.
N
0
30 Km.
Legend
Change in Percent
< 15
15 - 30
30 - 35
> 35
N.A.
Note :- N.A.= Data not Avilable

Fig. 3.12

In 2011, literacy for both male and female have found increase upto 68.52 and 49.32 percent respectively. Ulhasnagar and Thane tahsil has highest literacy (87.08) due availability of education facility (Fig.-3.13).

Table-3.12 : Male Tribal Literacy in Thane District

| Tahsils | 1991 | 2011 | Volume of Change | Tahsils | 1991 | 2011 | Volume of Change |
|---|---|---|---|---|---|---|---|
| Ambarnath | N.A. | 71.3 | N.A. | Shahapur | 35.03 | 68.4 | 33.37 |
| Bhiwandi | 35.29 | 65.55 | 30.26 | Talasari | 32.15 | 67.36 | 35.21 |
| Dahanu | 28.17 | 58.7 | 30.53 | Thane | 73.75 | 87.08 | 13.33 |
| Jawhar | 31.88 | 63.18 | 31.30 | Ulhasnagar | 37.57 | 87.88 | 50.31 |
| Kalyan | 51.99 | 82.59 | 30.60 | Vada | 43.65 | 70.77 | 27.12 |
| Mokhada | 31.79 | 63.21 | 31.42 | Vasai | 44.17 | 72.44 | 28.27 |
| Murbad | 39.32 | 69.16 | 29.84 | Vikramgad | N.A. | 70.96 | N.A. |
| Palghar | 36.67 | 72.09 | 35.42 | District Total | 36.82 | 68.52 | 31.70 |

Source: District Census Handbook, Thane District for 1991 and 2011.

Note: (i) Literacy for 1991 includes children below 7 years (ii) Figures are given in percent.

South part in study region has high male literacy as compared to north in 1991 due to availability of education facilities at Thane, Ulhasnagar, Vasai and Shahapur tahsils. Moreover, these tahsils are well connected by roads and railway. In 2011, male literacy has increased above 80 percent in Thane, Ulhasnagar, Vasai and Shahapur tahsils and remaining tahsils have between 50 to 75 percent literacy. The volume of literacy in Ulhasnagar, Palghar, Talasari, Shahapur and Mokhada tahsils have recorded growth of male tribal literacy (Fig.-3.12) and it decreases towards west in study region.

Table-3.13 : Female Tribal Literacy in Thane District

| Tahsils | 1991 | 2011 | Volume of Change | Tahsils | 1991 | 2011 | Volume of Change |
|---|---|---|---|---|---|---|---|
| Ambarnath | N.A. | 56.29 | N.A. | Shahapur | 12.25 | 47.8 | 35.55 |
| Bhiwandi | 15.38 | 47.9 | 32.52 | Talasari | 6.88 | 42.87 | 35.99 |
| Dahanu | 8.1 | 36.74 | 28.64 | Thane | 49.02 | 76.45 | 27.43 |
| Jawhar | 10.88 | 46.77 | 35.89 | Ulhasnagar | 20.59 | 76.46 | 55.87 |
| Kalyan | 35.77 | 73.02 | 37.25 | Vada | 17.14 | 50.97 | 33.83 |
| Mokhada | 12.7 | 45.15 | 32.45 | Vasai | 22.06 | 56.84 | 34.78 |
| Murbad | 14.18 | 47.37 | 33.19 | Vikramgad | N.A. | 52.18 | N.A. |
| Palghar | 13.12 | 51.97 | 38.85 | District Total | 14.53 | 49.32 | 34.79 |

Source: District Census Handbook, Thane District for 1991 and 2011.

Note: (i) Literacy for 1991 includes children below 7 years (ii) Figures are in percent.

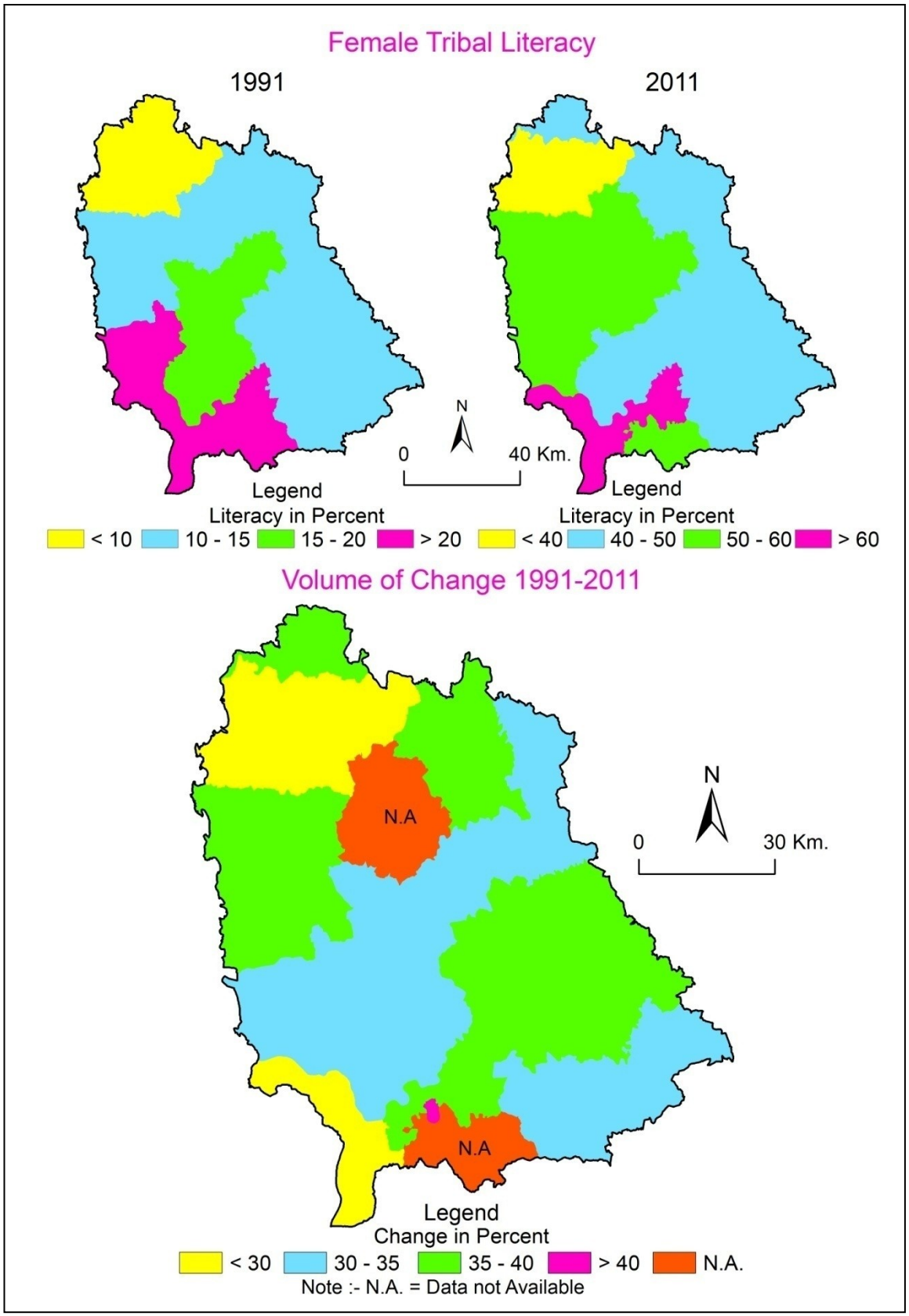

Female Tribal Literacy
1991
2011
N
0
40 Km.
Legend
Literacy in Percent
< 10
10 - 15
15 - 20
> 20
Legend
Literacy in Percent
< 40
40 - 50
50 - 60
> 60
Volume of Change 1991-2011
N.A
N.A
N
0
30 Km.
Legend
Change in Percent
< 30
30 - 35
35 - 40
> 40
N.A.
Note :- N.A. = Data not Available

Fig. 3.13

Literacy among tribal female is 14.53 and 49.32 for 1991 and 2011 respectively. It was increased by four fold during study period in study region. Ulhasnagar tahsil has recorded highest female literacy (76.46 percent) followed by Thane (76.45 percent) in 2011 (Fig.-3.13). Thane and Kalyan tahsils have found female literacy between 30 to 50 percent and remaining tahsils have less than 30 per cent in 1991. Whereas Vasai and Ulhasnagar tahsils have identified more than 20 percent female literacy (1991). Female literacy has declined towards northeast in study region. Dahanu, Talasari and Shahapur tahsils have increased female literacy and it is found that it decreases towards north and west parts in study region. The high literacy among tribals is found in urban tahsils and less in tribal. Low literacy among tribal females has attributed to that less preference to female education in study region.

**3.9 Tribal Dependency Ratio in Thane District**

The dependency ratio is the ratio of economically active to economically inactive persons which depend on age composition. This indicator gives insight into the amount of people of non-working age compared to number of those of working age. A high ratio means those of working age and the overall economy face a greater burden in supporting the aging population. The sex composition directly affects proportion of marital status, supply of workers, fertility, migration and indirectly affects literacy, birth rate and death rate. The imbalance in dependency ratio is harmful social structure. If proportion of males to total population is higher than the females, age of marriage for female decreases and this affects the female's health. The gap between age of husbands and wife wives increases the number of widows. It changes sex composition largely reflect in socio-economic and cultural condition in study region. In present study, young age dependency ratio, old age dependency ratio, total dependency ratio, and index of ageing have computed for tribal population by using following formulas:

(a) $$\text{Young Age Dependency Ratio} = \frac{\text{Population Aged (0- 14) Years}}{\text{Population Aged (15-59)}} \text{ X } 100$$

(b) $$\text{Old Age Dependency Ratio} = \frac{\text{Population Aged 60+ Years}}{\text{Population Aged (15-59)}} \text{ X } 100$$

$$\text{(c) Total Dependency Ratio} = \frac{\text{Population Aged (0- 14) Years and 60+ Years}}{\text{Population Aged (15-59)}} \text{ X } 100$$

$$\text{(d) Index of Ageing} = \frac{\text{Population Aged 60+ Years}}{\text{Population Aged (0-14)}} \text{ X } 100$$

Table-3.14: Dependency Ratio in Thane District, 2011

| Sr. No. | Tribal Population | Dependency ratio | Sr. No. | Tribal Population | Dependency ratio |
|---|---|---|---|---|---|
| 1 | Young Age | 61.58 | 3 | Total | 72.1 |
| 2 | Old Age | 10.53 | 4 | Index of ageing | 17.72 |

Source : Computed by Researcher. Note : Figures are given in percent.

Total dependency of tribal population is 72.1 in study region showing high due to tribal poverty and backwardness in study region. Young age dependency ratio accounted for 61.58 and old age dependency is 10.53. The index of ageing is used to measure the relative number of old persons to total tribal population. Index of ageing is low among tribal population (17.72) indicating developing stage. The high population growth and high mortality in old age, ageing index of tribal is found low as compared to total population (ageing index = 21.41) in study region.

**3.10 Composition of Tribal Caste**

Caste is one of identity of population in any region. The composition of caste in study region is shown in Table-3.15 (Appendix-F).

Table-3.15 : Tribal Composition and Caste in 2011

| Tribal Caste | Population | Percent | Tribal Caste | Population | Percent |
|---|---|---|---|---|---|
| Varli | 707494 | 45.87 | Dubla etc. | 13485 | 0.87 |
| Koli Malhar | 230593 | 14.95 | Gond etc. | 12424 | 0.81 |
| Thakur, Thakar etc. | 173331 | 11.24 | Bhil etc | 11789 | 0.76 |
| Kathodi etc. | 124507 | 8.07 | Dhodia | 10877 | 0.71 |
| Koli Mahadev etc. | 97917 | 6.35 | Other Tribes | 58543 | 3.80 |
| Kokna etc. | 84980 | 5.51 | Total | 1542451 | 100 |
| Koli Dhor etc. | 16511 | 1.07 | | | |

Source: District Census Handbook, Thane District, 2011

Note: Other tribes include reaming tribes out of 45 tribal communities.

The scheduled tribes population in study region consists of 13.95 percent in 2011. The distribution of scheduled tribe population is uneven and these castes have spreaded over in study region. There are 45 castes of trade in study region. Among them, Varli, Koli Malhar, Thakur/Thakar, Kathodi, Koli Mahadev, Kokana, Koli

Dhor, Dubla, Gond Bhil, and Dhodia are major tribes in study region (Table-3.15 and Fig.-3.14). The percent of Varli is highest accounting 45.87 percent followed by Koli Malhar (14.95), Thakur/Tahkar (11.24), Kathodi (8.07), Koli Mahadev (6.35), Kokna (5.51), Koli Dhor (1.07) and others (3.80). Dubala, Gond, Bhil Dhodia, Pardhi and other castes tribes are also found in study region but their proportion are very less.

**3.11 Tribal Education**

Table-3.16 gives education status among males and females of tribal population in study region. It is found that education status is very poor. Out of 15,42,451 persons only 3,81,574 persons have educated accounting 24.74 percent having educated (2011) and (Appendix-G and H). Out of total attainment 53.69 percent males and 46.31 percent female are attending education. The proportion of male is found more in education than female. Table-3.15 exhibits that 0-6 age group has high percent male and female attending education but percent of education declined rapidly in high age groups. The age group of 6-14 have high total percentage of education attending because the age group population going near primary and Ashram schools in the study region. It decreases with increasing age group. This proportion is high among tribal female due to forced marriages, male education is given preference and has unequal treatment etc.

Table -3.16 : Age-sex and Education in Tribal Population, 2011.

| Age Groups | Male | Female | Total |
|---|---|---|---|
| 0-5 | 2.47 | 2.39 | 4.86 |
| 6-14 | 36.22 | 32.47 | 68.69 |
| 15-19 | 9.39 | 6.85 | 16.24 |
| 20-24 | 3.22 | 1.97 | 5.19 |
| 25+ | 2.36 | 2.60 | 4.96 |
| Age Not stated | 0.04 | 0.03 | 0.06 |
| All age groups | 53.69 | 46.31 | 100.00 |

Source : District Census Handbook, Thane District, 2011.

Note: (i) Computed by Researcher (ii) Figures indicate percent.

It has been observed that highest attainment is found in school level upto primary and secondary school. The education among male tribal is comparatively better than female in study region (Table-3.17 and Fig.-3.15).

Out of 7,69,192 tribal male only 7,73,259 attain education (28.57 percent) and 20.78 percent female among tribal population in study region. Fig.-3.15 and Table-3.17 presents education of tribal population in study region.

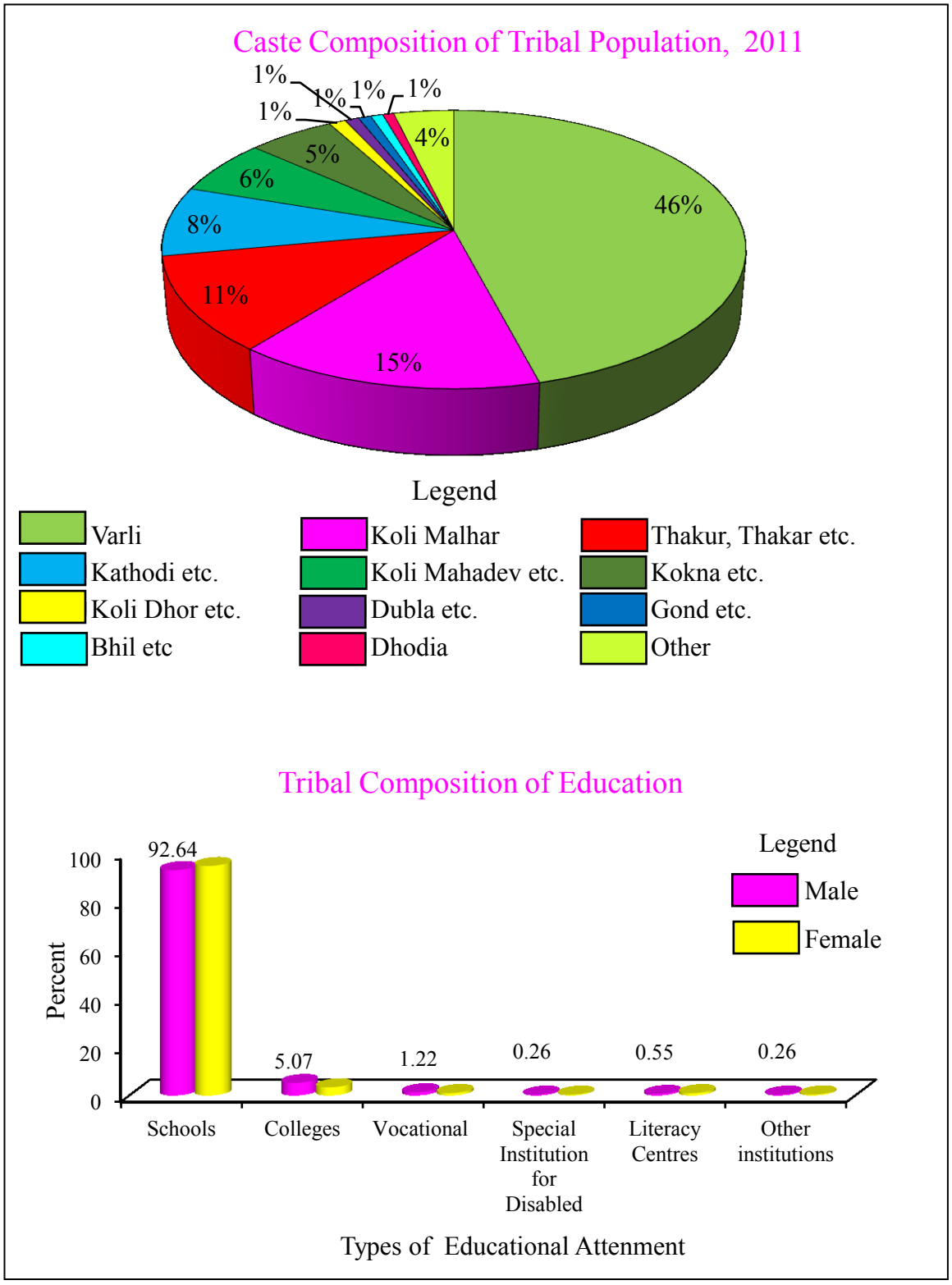



Fig. 3.14

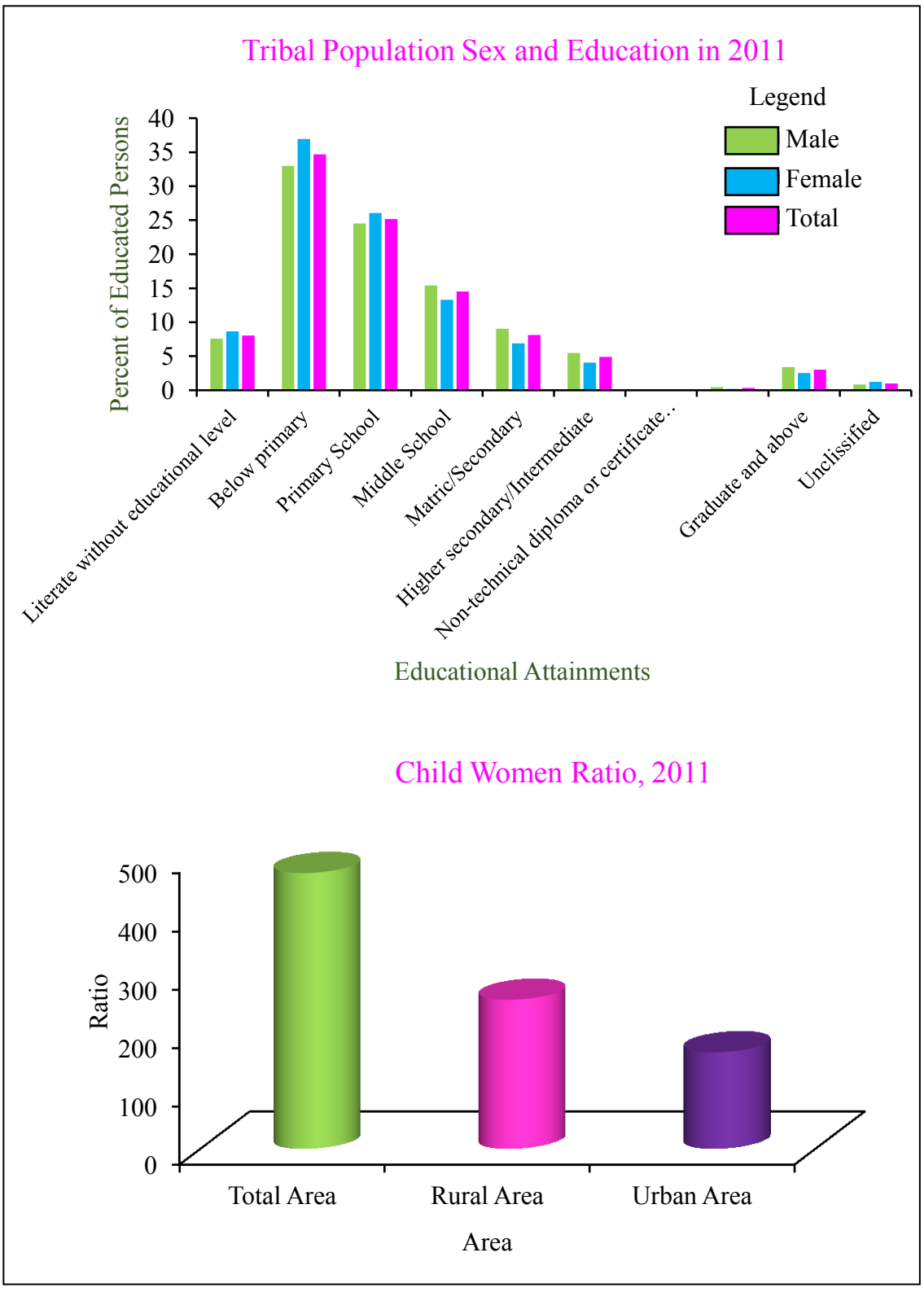

Tribal Population Sex and Education in 2011
Legend
Male
Female
Total
Percent of Educated Persons
40
35
30
25
20
15
10
5
0
Literate without educational level
Below primary
Primary School
Middle School
Matric/Secondary
Higher secondary/Intermediate
Non-technical diploma or certificate..
Graduate and above
Unclissified
Educational Attainments
Child Women Ratio, 2011
Ratio
500
400
300
200
100
0
Total Area
Rural Area
Urban Area
Area

Fig. 3.15

The persons at below primary level ranks highest among male and female due to nutritious food supply at 'Anganwadi' as tribals look towards this as source of food. After primary education particularly drop rate is found increase by 10.7. At graduate level, it is 3.1 and among female it was 2.53 percent. Education reduces among female tribal population after primary due to tradition of child marriages.

Table-3.17 : Sex and Education in Tribal Population, 2011

| Sr. No. | Educational Attainments | Male | Female | Total |
|---|---|---|---|---|
| 1 | Literate without educational level | 7.61 | 8.66 | 8.1 |
| 2 | Below primary | 33.00 | 36.95 | 34.7 |
| 3 | Primary School (Class 4) | 24.53 | 26.06 | 25.2 |
| 4 | Middle School (Class 4-7) | 15.44 | 13.32 | 14.5 |
| 5 | Matric / Secondary (Class 7-10) | 9.06 | 6.92 | 8.2 |
| 6 | Higher secondary/Intermediate (Class 10-12) | 5.52 | 4.08 | 4.9 |
| 7 | Technical diploma or certificate not equal to degree | 0.49 | 0.23 | 0.4 |
| 8 | Non-technical diploma or certificate not equal to degree | 0.03 | 0.02 | 0.0 |
| 9 | Graduates and above | 3.46 | 2.53 | 3.1 |
| 10 | Unclassified | 0.86 | 1.23 | 1.0 |
| | Total | 100.00 | 100.00 | 100.00 |

Source: District Census Handbook, Thane District, 2011.

Note: (i) Computed by Researcher (ii) Figures indicate percent.

It is found that number of tribal persons imparting technical, non-technical diploma and degree education are very less. This has measured socio-economic development among tribal population and therefore, attempt should be made to push tribal for education from primary to higher education in study region.

**3.12 Tribal Health**

The traditional healers and healing techniques based on a close understanding of nature and her healing powers have been de-legitimized by 'modern medicine'. However, the 'Bhagat' or 'Vaidu', who combines dispensing of herbal medicine along with the occult to effectively handle many ailments, still continues to be the first choice for most tribal patients. Their involvement in the public health system would have given health praxis a strong foundation. Forest degradation and consequent unavailability of herbs is contributing to the ineffectiveness of the traditional tribal health practices. The situation is further confounded with the mushrooming of unqualified practitioners of allopathy, indulging in unethical medical practices. Due to illiteracy and extreme poverty among tribal people, avoid

approaching hospital facility for day to day illness. Even they neglect to the healthcare of the pregnant woman as well as the children. Yet most of women are committing the delivery at home with the help of local old woman that is called 'dai'. In study region has 78 Primary Health Centers (PHC's) and 492 sub centers, 15 Community Health Centers (CHC's), 5 sub divisional hospitals and one district hospital located at Thane and 26 PHC are located in non tribal areas (Fig.-3.16). It is noticed that tribals are adopting traditional herbal medicine system in stead of modern medical system. Their religious stories also revolve around the nature. Their religious marks and rituals establish Mhsoba, Yetal, Mhsha, Kalsubai, Hirva Dev, Vaghya and Mawlaya are the Gods of tribals. Tribals believe that dissatisfaction of God Mhsoba is causing diseases and infections. In order to his satisfy God tribal gift animals, roti with sweets and mohas wine. There is a tradition any thakars that roti and food grains are given to God Vaghoba (tiger) who protects their habitat from various evils.

**3.13 Tribal Fertility**

Fertility is occurrence of birth with reference to the reproductive capacity of women during their entire reproductive period. The growth of population depends entirely on human fertility. Fertility can be measured as crude birth rate, general fertility rate, age specific fertility rate, total fertility rate, sex-age adjusted birth rate and child-women ratio. The secondary data regarding birth for one year is not available hence tribal fertility is measured by considering Census of India obtaining from Census of India regarding age distribution to compute child women ratio in present study.

$$\text{Child Women Ratio} = \frac{P\ (0\text{-}4)}{F\ (15\text{-}44)} \times K$$

Whereas:

i) P 0-4 = The number of children of both sexes under the age of 5 years.

ii) P 15-44 = The number of women between the ages of 15 and 44 years.

iii) K= 1000

**3.14 Tribal Migration**

The migration is another factor of population change in terms of geographical mobility. It plays vital role in determining population growth, distribution, structure and further migration with in particular community and therefore, migration aspect was studied by government, economists, sociologists, politicians and planners and demographers (Jhingan, Bhatt and Desai, 2006) for framing policy of the region.

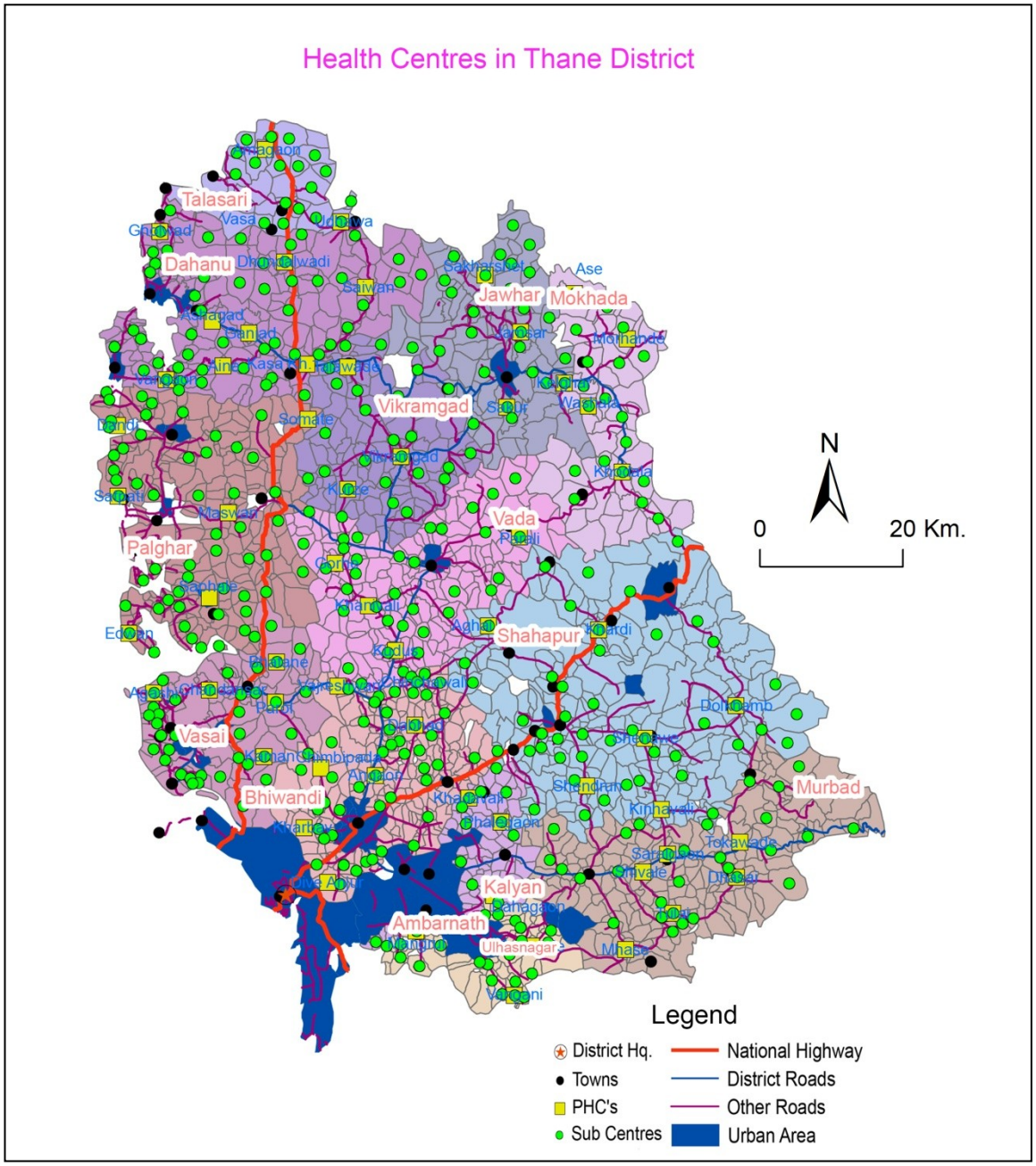

Health Centres in Thane District
Talasari
Dahanu
Jawhar
Mokhada
Vikramgad
Palghar
Vasai
Bhiwandi
Vada
Shahapur
Murbad
Kalyan
Ambarnath
Ulhasnagar
N
0
20 Km.
Legend
District Hq.
Towns
PHC's
Sub Centres
National Highway
District Roads
Other Roads
Urban Area

Fig. 3.16

The study region has 472.34 child-women ratio in 2011 representing children under the age of 5 per 1000 women in 15 to 44 age groups. Fig.-3.15 exhibits high child-women ratio in tribal area. The child-women ratio is more in rural area (255) than urban area (165) whereas high relative fertility is found more in rural than urban. The fertility among tribals reflects to poverty and low quality of life in study region. Person is measured as migrant by place of birth. (Census of India,1991). There are direct and indirect measures for estimating migration. In present study, the indirect measures of migration are used for computing net migration by using following formula.

$$M = ( p1 – p0 ) - (B – D)$$

Whereas:

M = is the net migration.

p0 = is the population at the earlier census.

p1= is the population at the later census.

B = is the number of the birth in that area during the inter censual period.

D = is the number of death which occurred in that area the same period.

Here, p1 is population of 2011 and p0 is population of 2001 is taken in to consideration.

Fig.-3.17 exhibits district wise in-migration trend of tribal population in study region. It is clearly identified that nearest districts have large influence on in-migration. In-migration is more from Nashik, Mumbai and Ahmednagar districts followed by Pune, Raigarh, Jalgaon, and Nagapur districts. It is noticed that there is inverse proportion between in-migrants and distance and vice versa. From Kolhapur, Gadchiroli, Gondiya, and Hingoli districts very less in-migrations have found of as these districts lying far away from study region. The percent of immigrant is decreasing as distance increases from study region. During 2001 to 2011, total inmigrant tribals were 44938, out of which 22056 male and 22882 female from rural and urban area within Maharashtra State (Appendix-L). It is observed that female percent in-migrants have found high after marriage in rural and urban migration.

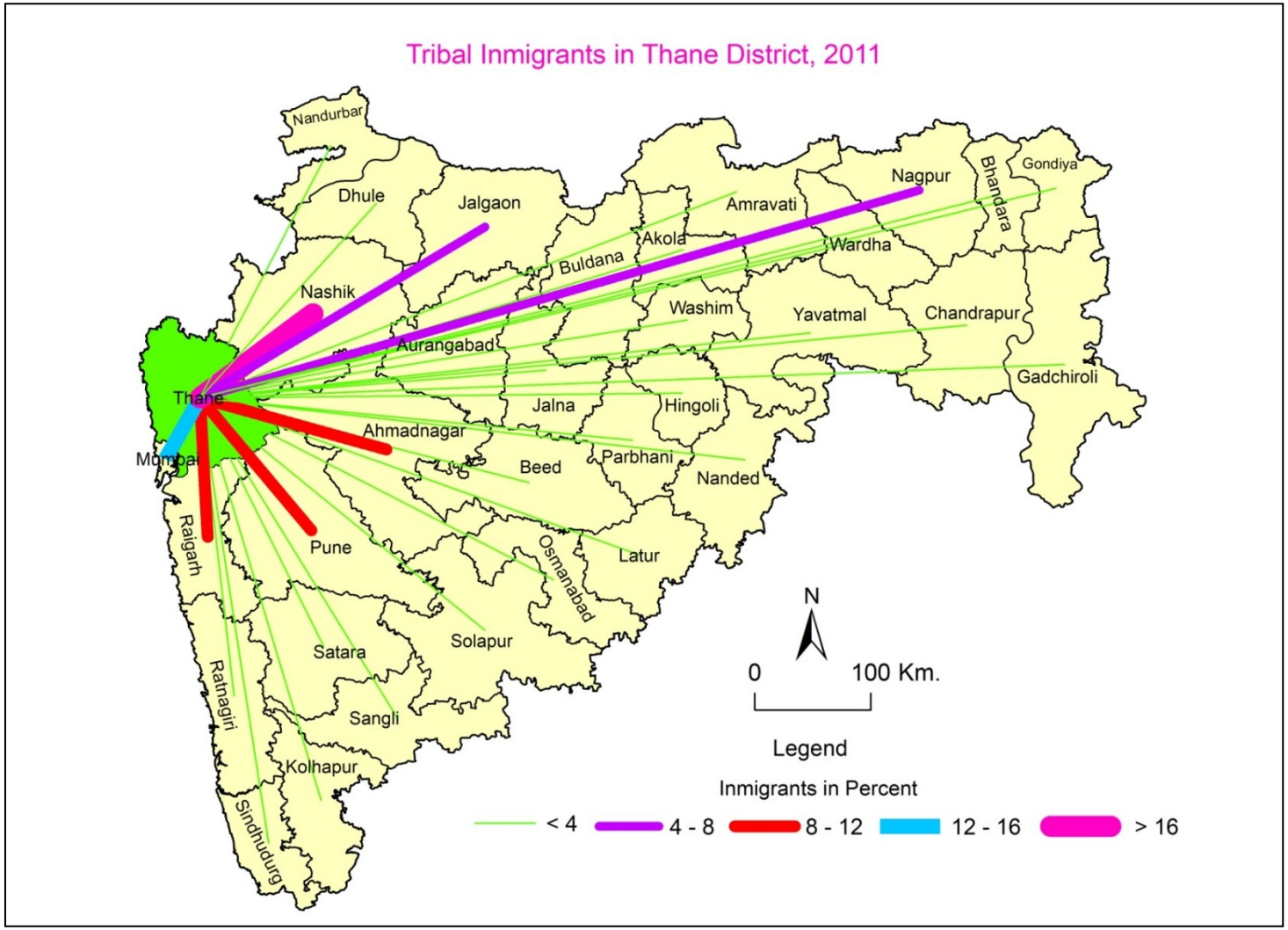

Tribal Inmigrants in Thane District, 2011
Nandurbar
Dhule
Jalgaon
Amravati
Nagpur
Bhandara
Gondiya
Akola
Wardha
Buldana
Nashik
Washim
Yavatmal
Chandrapur
Aurangabad
Gadchiroli
Thane
Jalna
Hingoli
Ahmadnagar
Mumbai
Beed
Parbhani
Nanded
Raigarh
Pune
Latur
Osmanabad
Solapur
Satara
Ratnagiri
Sangli
Kolhapur
Sindhudurg
N
0
100 Km.
Legend
Inmigrants in Percent
< 4
4 - 8
8 - 12
12 - 16
> 16

Fig. 3.17

### 3.15 Human Development Index (HDI) of Tribals in Thane District

The Human Development Index (HDI) is a summary measure of average achievement in key dimensions of human development that is a long and healthy life, being knowledgeable and have a decent standard of living. The HDI is the geometric mean of normalized indices for each of the three dimensions.

The health dimension is assessed by life expectancy at birth, the education dimension is measured by mean of years of schooling for adults aged 25 years and more and expected years of schooling for children of school entering age. The standard of living dimension is measured by gross national income per capita. The HDI uses the logarithm of income, to reflect the diminishing importance of income with increasing GNI.

Table-3.18: Human Development Index of Tribals in Thane District, 2011

| Tahsils | HDI | Tahsils | HDI |
|---|---|---|---|
| Ambarnath | 0.746 | Shahapur | 0.640 |
| Bhiwandi | 0.629 | Talasari | 0.476 |
| Dahanu | 0.522 | Thane | 0.851 |
| Jawhar | 0.456 | Ulhasnagar | 0.860 |
| Kalyan | 0.654 | Vada | 0.602 |
| Mokhada | 0.458 | Vasai | 0.680 |
| Murbad | 0.629 | Vikramgad | 0.461 |
| Palghar | 0.619 | District Total | 0.800 |

Source: (i) District Census Handbook, Thane District, 2011
(ii) Maharashtra, Human Development Report, 2012

Table 3.2 depicts the HDI of the different tahsils of Thane district in year 2011. In the table the districts are categories in low, Medium, high and very high HDI tahsils. The HDI of tribal population for each tahsil in study region is computed for 2011 year. The high HDI is found Ulhasnagar (0.860) and Thane (0.851) tahsil followed by Ambarnath (0.746), Shahapur (0.640) and Bhiwandi (0.629) tahsils indicating high Human Development Index (HDI) due better medical facilities, availability of school and higher education facilitates, improvement in literacy and better job availability in government as well as privet sectors and multinational companies. Jawhar (0.456), Mokhada (0.458), Talasari (0.476) and Vikramgad (0.461) found low HDI because low life expectancy, poor educational facilities, less job grantee during non-harvesting period in isolated parts in study region.

### 3.15 Resume

This chapter has assessed the spatio-temporal analysis of tribal characteristics in Thane district. The density of tribal population was 157 persons per square kilometre in 2011. The high tribal density was found in northeast and south urbanised tahsils in study region. The density of tribal population has decreased from east to west parts. It was observed that tribals have been living in isolated pockets in forested hilly tahsils. Lorenz curve shows population space relationships in which higher coefficient represents tribal population and it is distributed unevenly in study region. The high concentration was recorded in Ulhasnagar tahsils (3.28) followed by Talasari (3.13), Dahanu (1.51) and Jawhar (1.30) tahsils in 2011. The growth rate of tribal population found increasing in study region from 50.97 to 62.18 percent during study period. The highest growth from 2001 to 2011 of tribal population was observed in Ulhasnagar tahsil (160.85 percent). According to Census 1991 and 2011, tribal sex ratio in study region was 977 and 1018 respectively. The sex ratio is high in rural area than urban. Age-sex pyramid for 2011 reveals conical in shape with wide base indicating large number in 5.9 age group. Literacy among tribal female is 14.53 in 1991 and 49.32 in 2011 respectively. The total dependency of tribal population is 72.1. Index of ageing is low (17.72). There are 45 tribes in study region. Among them, Warli ranks first accounting 45.87 percent tribal in study region. It was observed that 3,81,574 persons accounting 24.73 percent and child-women ratio is 472.34 in 2011. The tribals have found migrated mainly in Nashik, Ahmednagar, Pune, Raigad districts and Mumbai for job estimating and further education.

## CHAPTER-IV

# OCCUPATIONAL STRUCTURE OF TRIBAL POPULATION

### 4.1 General Introduction

Food, shelter and clothes are the basic need of human being and in order to fulfill these needs, human being involves in various occupations. The economically active population actually takes part in the process of goods and services (Henry, 1971). During ancient time, need of food were fulfilled by hunting and collected materials from forest. The increasing purchasing power of human has resulted the growth of industrial and service sectors. Hence, study of occupational structure hold a key position. The socio-economic development of any region depends on number of persons who are economically active with quality and regularity of work. This also indicates the economic profile of society. The nature and variety of physical resource base lays down basic foundation for availability of land for agriculture, fishing, forestry and mining (Chandana, 1986). If more people are engaged in primary activity means that the region is undeveloped, if more people are engaged in secondary activity means that region is process of developing and if more people engaged in tertiary activity means the region is developed. The occupation structure has considered this person in the form of employment, unemployment and underemployment in industrial and others activities. Such study provides the base for social and economic development for policy makers and planners. This chapter has attempted to evaluate the occupational structure of tribal population in Thane district. The data pertaining scheduled tribe population has obtained from District Census Handbook Thane District for 1991 and 2011. These data were then converted into percent and were represented by Choropleth method. The relationship between workers and literacy has computed using Lorenz curve. In addition to this, bar graphs and pie charts have drawn to represent different characteristics of occupational structure in study region.

### 4.2 Occupational Division

The occupation means doing a certain type of work. The term ‘work’ is used in special sense in Census of India (1991) as “The work is defined as a participation in economically productive activity. This participation is physical and mental in nature. However, person doing any economically productive activity is considered as worker.

Thus, work involved actual work, effective supervision and direction of work. The distribution of population in different types of occupations is referred to as occupational structure. It can be categorized into two types, namely, main workers and marginal workers. Main workers consist of farmers, agricultural labours, domestic and other workers. Main workers are those who work at least six months in one year preceding. The marginal workers are those who work some time but not for the period more than six months in one year preceding. Fig.-4.1 reveals the occupational structure of tribals study from 1991 to 2011 in study region.

Table -4.1: Occupational Structure in Thane District

| Years | Main Workers | Marginal Workers | Non Workers | Total |
|---|---|---|---|---|
| 1991 | 47.76 | 5.52 | 46.72 | 100.0 |
| 2011 | 34.65 | 13.16 | 52.19 | 100.0 |
| Volume of Change | -13.11 | 7.63 | 5.47 | - |

Source: District Census Handbook of Thane District for 1991 and 2011.

Note: Figures are given in percent.

The study the occupational structure and socio-economic conditions of scheduled tribes are necessary. In 1991 tribal population in Thane district was 9,51,205 persons. Among them 47.76 percent were main workers, 5.52 percent marginal workers whereas 46.72 percent accounts non-workers. In 2011, tribal population in study region was 15,42,451 persons. Among them, 34.65 percent were main workers, 13.16 percent marginal workers and non-workers 52.19 percent (Table-4.1). Fig.-4.1 shows that there is a decrease in tribal main workers and increased in marginal and non-workers during study period. Main workers have decreased by 13.11 percent. The percent of marginal workers have increased rapidly. Non-workers percent have found increasing by 5.47 indicating positive change of tribal population. It is found that there were 47.76 percent main workers in 1991 (Appendix-L). These have declined to 21.55 percent in 2011.

Table -4.2: Category of Tribal Workers in Thane District

| Category | year 1991 | year 2011 | Volume of Change |
|---|---|---|---|
| Cultivators | 49.18 | 27.63 | -21.55 |
| Agricultural Laboures | 32.20 | 39.77 | 7.57 |
| Household Industrial Workers | 0.57 | 1.27 | 0.70 |
| Other Workers | 18.05 | 31.32 | 13.28 |
| Total | 100 | 100 | |

Source: District Census Handbook of Thane District for 1991 and 2011.

Note: Figures are given in percent.

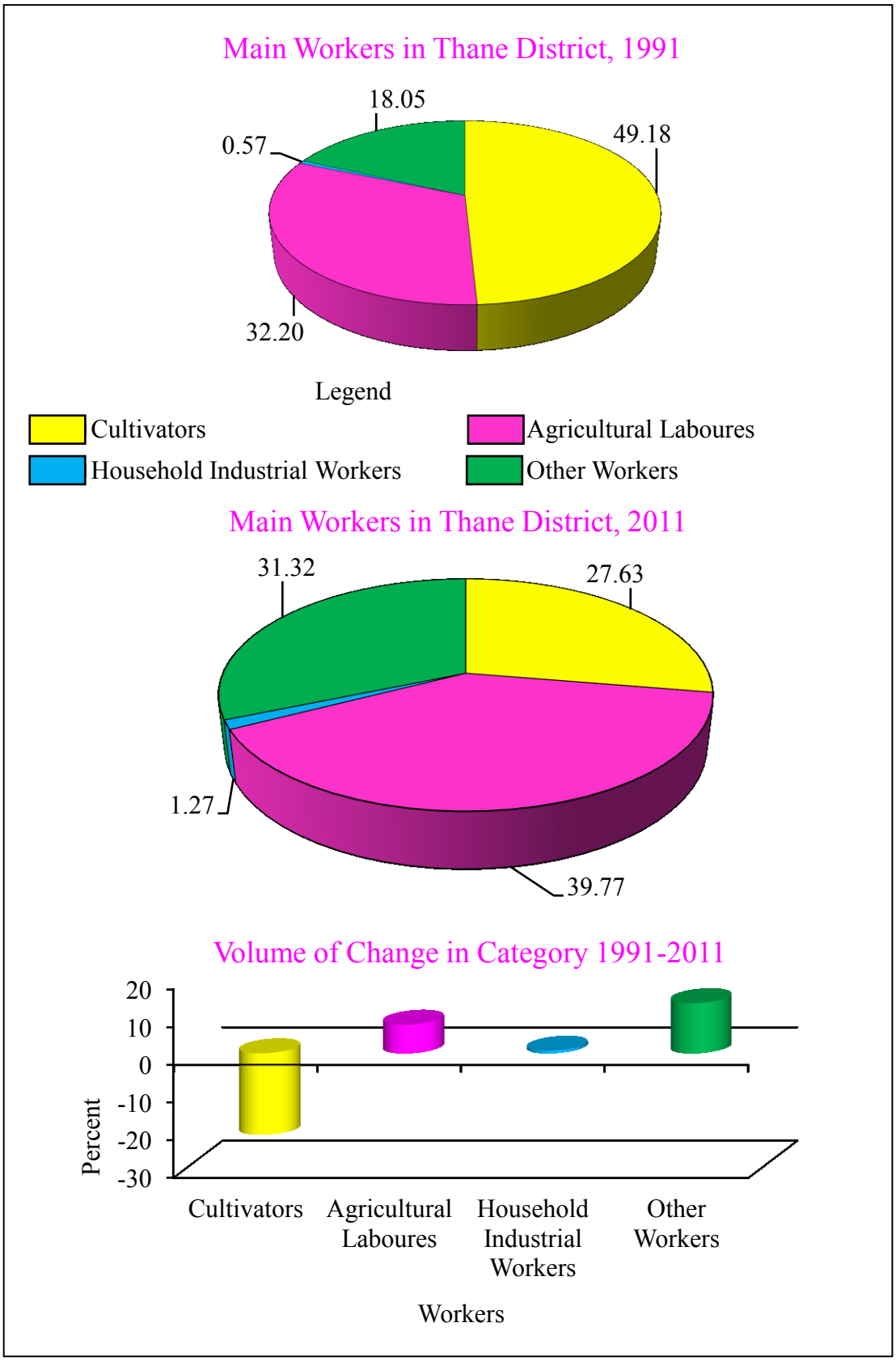

Main Workers in Thane District, 1991
18.05
49.18
0.57
32.20
Legend
Cultivators
Agricultural Laboures
Household Industrial Workers
Other Workers
Main Workers in Thane District, 2011
31.32
27.63
1.27
39.77
Volume of Change in Category 1991-2011
20
10
0
-10
-20
-30
Percent
Cultivators
Agricultural Laboures
Household Industrial Workers
Other Workers
Workers

Fig. 4.1

This indicates that during last two decades 29.12 percent main workers have found decrease in agriculture sector. The main workers percent in household industry and other workers have increased during study period. Other workers percent have increased significantly by 13.28 percent (Fig.-4.1) showing that study region is passing through developing stage. The social and economic changes is transforming the occupational structure over the time in study region.

**4.3 Tribal Main Workers in Thane District**

It is observed that there were 49.18 percent cultivators and 32.20 percent agricultural laboures tribal in 1991 in study region accounting total 81.38 percent workers in agriculture. Only 18.62 percent workers have involved other than agriculture (Appendix-K). In 2011, there were 27.63 percent cultivators and 39.77 percent agricultural laboures together 67.4 percent and 32.59 percent workers have engaged in other than agriculture (Fig.-4.1). During last two decades 21.55 percent cultivators have found decrease and 7.57 percent agricultural laboures have increased in agriculture. The proportion of other workers is found increased by 13.28 percent because of high illiteracy, lack of skills and innovation in agriculture, small landholding capacity, lack of capital, drought during summer season and technical education among tribal population. Therefore, tribals attract skill and semi-skilled were found in industrial sector in Thane and Ulhasnagar. The household workers are slightly increased by 0.70 percent. NGO's such as BAIF and MITTRA providing small machinery with training to tribal households workers and collect their handcraft goods in valuable price. Therefore, household workers have increased during study period in study region. The percent of agricultural labours also have increased by 7.57 percent due to small land holding. Hence, workers involved as other's as labours.

Table-4.3 : Tribal Main Workers in Thane District

| Items | 1991 | 2011 | Volume of Change |
|---|---|---|---|
| Cultivators | 49.18 | 27.63 | -21.55 |
| Agricultural Laboures | 32.20 | 39.77 | 7.57 |
| Household Industrial Workers | 0.57 | 1.27 | 0.70 |
| Other Workers | 18.05 | 31.32 | 13.28 |
| Total | 100 | 100 | |

Source: District Census Handbook of Thane District for 1991 and 2011.
Note: Figures are given in percent.

### 4.3.1 Tribal Cultivators in Thane District

"A person is classified cultivators, if he or she is engaged in cultivation of land owned or held from government or held from private person or institution for payment in cash or other kind of share. The cultivators include supervision or direction of cultivation, plugging, sowing, harvesting and production of cereals and millet crops and other crops such as wheat, paddy, jawar, bajara, ragi, sugarcane, tobacco, ground-nuts and pulses, raw jute and kindred fiber crop, cotton, cinchona and other medical plants, fruits and vegetables growing or keeping orchards or groves etc. cultivation does not include the crops i.e. tea, coffee, rubber and coconut." (District Census Handbook, Thane District, 1991). Table-4.3 presents that 49.18 percent main workers among tribals are engaged as cultivators. Jawhar tahsil has highest tribal cultivators accounting 76.93 percent whereas Talasari (71.75) and Mokhada (69.51) tahsils have found more than 60 percent cultivators in study region. 40 to 60 percent cultivators have recorded in Dahanu (59.31), Murbad (53.97), Palghar (42.30) and Vada (41.58) tahsils. The lowest cultivators of less than 40 percent have found in west and south parts in study region in 1991 (Fig.-4.2). It is found that the percent of tribal cultivators has decreased during study period. It is observed that percent of tribal cultivators have declined in east part in tribal dominant tahsils in Jawhar, Talasari, Mokhada and Vada tahsils and drought prone area in Murbad and Shahapur tahsils. Only Thane and Vikramgad tahsils have increased tribal cultivators, (54.77 percent), (Fig.-4.2) because these tahsils have fertile soil and irrigation facility on Vaitarna river. Thane tahsil has recorded highest growth 18.03 percent of tribal cultivators because of intensive Truck farming for supply to city daily fruits and vegetables (Table-4.4). Thus, percent of tribal cultivators have decreased by -16.48 percent in study region. Table-4.4 shows spatial pattern of tribal cultivators for 1991 and 2011 in study region. In 2011, highest percent tribal cultivators were recorded in Vikramgad (54.77) tahsil followed by Jawhar (46.04), Talasari (30.03), Dahanu (37.31), Mokhada (33.90) and Murbad (30.98) tahsils (more than 30 percent tribal cultivators) (Fig.-4.2). The lowest percent of cultivators appeared in Palghar tahsil (25.17) followed by Shahapur and Thane tahsils lying in west and southeast part and have less than 30 percent tribal cultivators in study region. Ulhasnagar, Kalyan, Bhiwandi and Vasai have less than 10 percent tribal cultivators due to urbanization and industrialization. The growth of more than 10 percent of tribal cultivators was found in south part in study region during study period in Thane tahsil.

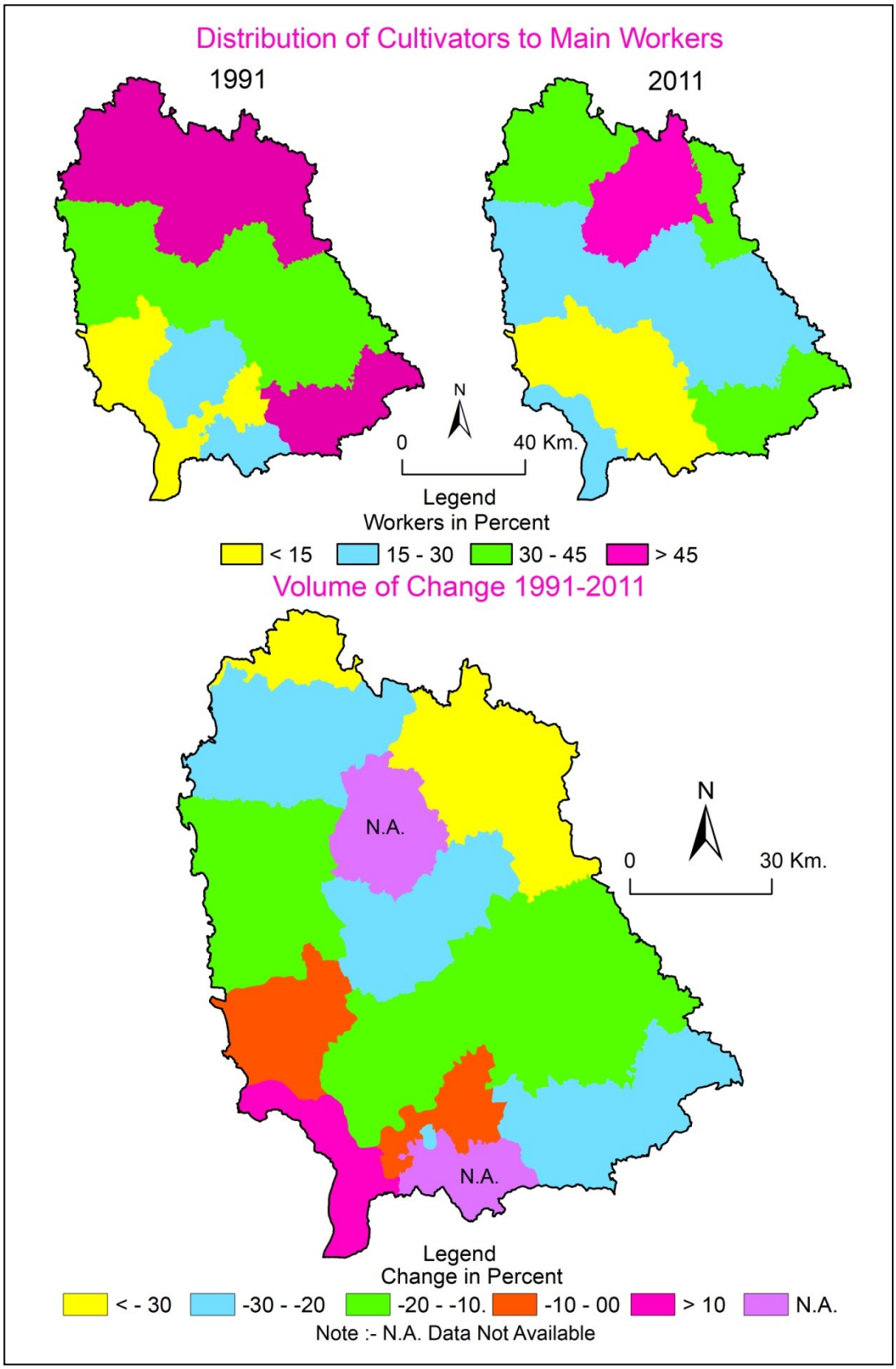

Distribution of Cultivators to Main Workers
1991
2011
N
0
40 Km.
Legend
Workers in Percent
< 15
15 - 30
30 - 45
> 45
Volume of Change 1991-2011
N.A.
N.A.
N
0
30 Km.
Legend
Change in Percent
< - 30
-30 - -20
-20 - -10.
-10 - 00
> 10
N.A.
Note :- N.A. Data Not Available

Fig. 4.2

Table-4.4: Distribution of Tribal Cultivators in Thane District

| Tahsils | 1991 | 2011 | Volume of Change | Tahsils | 1991 | 2011 | Volume of Change |
|---|---|---|---|---|---|---|---|
| Ambarnath | N.A. | 10.01 | N.A. | Shahapur | 40.98 | 24.50 | -16.48 |
| Bhiwandi | 18.70 | 6.96 | -11.75 | Talasari | 71.75 | 38.03 | -33.72 |
| Dahanu | 59.31 | 37.31 | -22.01 | Thane | 2.78 | 20.81 | 18.03 |
| Jawhar | 76.93 | 46.04 | -30.89 | Ulhasnagar | 27.59 | 0.74 | -26.85 |
| Kalyan | 8.99 | 6.12 | -2.86 | Vada | 41.58 | 19.55 | -22.03 |
| Mokhada | 69.51 | 33.90 | -35.61 | Vasai | 14.20 | 7.85 | -6.35 |
| Murbad | 53.97 | 30.98 | -22.99 | Vikramgad | N.A. | 54.77 | N.A. |
| Palghar | 42.30 | 25.17 | -17.13 | District Total | 40.66 | 24.18 | -16.48 |

Source: District Census Handbook, Thane District (1991 and 2011)

Note : (i) Cultivators are given in percent. (ii) N.A. = Data not available

The decline of tribal cultivators was found in Mokhada (-35.61), Talasari (-33.72), Jawhar (-30.89) and Murbad (-22.99) tahsils due to undulating topography and marginal land holdings.

### 4.3.2 Tribal Agricultural Laboures in Thane District

A person who works in another person's land for wage in terms of money or kind of share of production is regarded as agricultural labour. He or she has no risk in cultivation, simply work on another person's land for earning wage. An agricultural labours has no right of less or contract on land on which he or she works." (District Census Handbook, Thane 1991). Agriculture laboures are getting their daily wages from the owner of farm. Droughts and rainfall are largely controlling the farming activity and their work. The distribution of tribal labour in study region is uneven. It is found that proportion of tribal percent of agriculture labours are more in non-tribal area in study region.

Table-4.5: Distribution of Tribal Agricultural Laboures in Thane District

| Tahsils | 1991 | 2011 | Volume of Change | Tahsils | 1991 | 2011 | Volume of Change |
|---|---|---|---|---|---|---|---|
| Ambarnath | N.A. | 42.71 | N.A. | Shahapur | 46.19 | 49.03 | 2.84 |
| Bhiwandi | 46.82 | 39.22 | -7.60 | Talasari | 14.41 | 27.88 | 13.47 |
| Dahanu | 24.50 | 41.48 | 16.98 | Thane | 7.46 | 28.43 | 20.97 |
| Jawhar | 20.01 | 47.22 | 27.20 | Ulhasnagar | 53.11 | 0.97 | -52.13 |
| Kalyan | 59.70 | 24.76 | -34.94 | Vada | 51.27 | 62.08 | 10.81 |
| Mokhada | 25.46 | 60.31 | 34.85 | Vasai | 58.71 | 60.58 | 1.87 |
| Murbad | 38.97 | 53.20 | 14.23 | Vikramgad | N.A. | 37.53 | N.A. |
| Palghar | 42.61 | 43.78 | 1.16 | District Total | 37.63 | 41.28 | 3.65 |

Source: District Census Handbook, Thane District (1991 and 2011)

Note : (i) Cultivators are given in percent. (ii) N.A. = Data not available

In study region, tribal agricultural laboures accounts 37.63 percent in 1991. The northeast and central parts tahsils in study region have more than 40 percent agricultural laboures. Kalyan tahsils has 59.70 percent tribal agricultural laboures followed by Vasai (58.71), Ulhasnagar (53.13), Vada (51.27), Bhiwandi (46.82), Shahapur (46.61) and Palghar (42.61) tahsils (Fig.-4.3). The percent of tribal agricultural laboures have decreased towards northeast part in study region. In 2011, more than 60 percent tribal agricultural laboures were recorded in northeast, south and central tahsils. Vada, Vasai, Mokhada and Murbad tahsils have 40 to 60 percent agricultural laboures. These tahsils are located in central and north parts in study region. Less than 40 percent tribal agricultural laboures have observed in west part in study region and percent of cultivators are more as compared to agriculture labours. The percent of tribal labours is found more in central part as unskilled tribal population migrated in search of works as tribals don't have their own land. During study period it was found increasing trend of tribal agricultural labours which is apposite to total population. More than 5 percent tribal agriculture labourers were found decrease in south part in study region in Ulhasnagar and Kalyan tahsils -34.94 and -52.13 respectively. Mokhada, Thane, Talasari, Jawhar and Dahanu tahsils have identified increasing tribal agricultural laboures. The volume of change has identified in Mokhada (16.98), Thane (28.43), Talasari (27.88) Jawhar (27.20) and Dahanu (10.08) tahsils due to agricultural, Industrial and transportation development during study period (Fig.-4.3). With the help of 'BAIF Foundation , Pune tribals grow various flower and fruits plants under 'Wadi' project and develop their farms this is the main reason for increasing the agricultural laboures in tribal areas during study period. The percent of tribal agricultural labours have decreased south part in study region. The proportions of tribal agricultural labourers have been rising upto 3.65 percent during study period in study region. This has attributed the numbers of wage earners have increased in primary sector in study region.

### 4.3.3 Household Industry Workers

The household industry workers means the person which is engaged in small scale and home based industry related to agrarian condition. This includes carpentry, body making, handloom weaving and coloring, pottery manufacturing, bicycle repairing, tailoring etc.

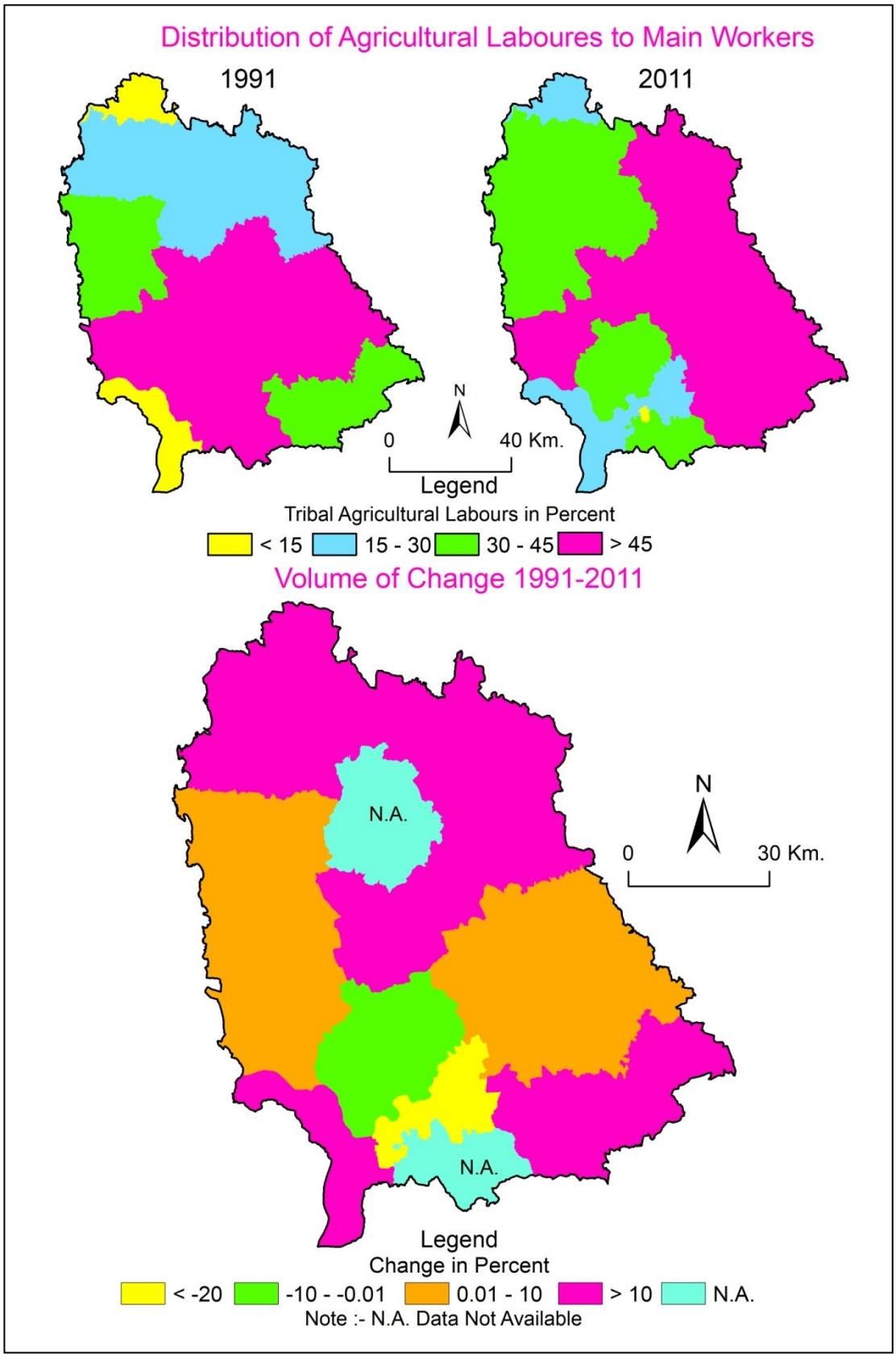

Distribution of Agricultural Laboures to Main Workers
1991
2011
N
0
40 Km.
Legend
Tribal Agricultural Labours in Percent
< 15
15 - 30
30 - 45
> 45
Volume of Change 1991-2011
N.A.
N
0
30 Km.
N.A.
Legend
Change in Percent
< -20
-10 - -0.01
0.01 - 10
> 10
N.A.
Note :- N.A. Data Not Available

Fig. 4.3

It does not include profession such as pleaders, doctors, musicians, dancers, watchmen, astrologers, dhobies, barbers etc. or merely trade or business even if such professions, trade or services are run at home by members of the household. (District Censes Handbook, Thane District, 1991). The percent of tribal household industry workers to main workers in study region accounts 0.61 percent for 1991 and 1.28 percent in 2011. The percent of tribal household industry workers are less in proportion. More than 0.5 percent household industry workers are found in south and north parts in study region. The central and west parts in study region have less percent of household industry workers (less than 0.30 percent). The Existing "Balutedar" performs work as labours at village level resulting very less as household workers in study region (0.67 percent).

Table-4.6: Distribution of Tribal Household Industry Workers

| Tahsils | 1991 | 2011 | Volume of Change | Tahsils | 1991 | 2011 | Volume of Change |
|---|---|---|---|---|---|---|---|
| Ambarnath | N.A. | 1.10 | N.A. | Shahapur | 0.28 | 0.95 | 0.67 |
| Bhiwandi | 2.50 | 1.81 | -0.69 | Talasari | 0.08 | 1.18 | 1.10 |
| Dahanu | 0.21 | 1.37 | 1.17 | Thane | 1.89 | 0.00 | -1.89 |
| Jawhar | 0.05 | 0.96 | 0.91 | Ulhasnagar | 0.49 | 3.15 | 2.66 |
| Kalyan | 0.25 | 1.60 | 1.35 | Vada | 0.20 | 0.77 | 0.57 |
| Mokhada | 0.03 | 0.68 | 0.66 | Vasai | 0.54 | 2.08 | 1.54 |
| Murbad | 1.01 | 1.86 | 0.85 | Vikramgad | N.A. | 0.73 | N.A. |
| Palghar | 0.46 | 0.99 | 0.53 | District Total | 0.61 | 1.28 | 0.67 |

Source: District Census Handbook, Thane District (1991 and 2011)

Note : (i) Cultivators are given in percent. (ii) N.A. = Data not available

Ulhasnagar tahsil has observed highest growth in tribal household industry workers (3.15 percent) from 1991 to 2011. Thane (-1.89) and Bhiwandi (-0.69) tahsils lying south part have found slight decreasing in household industrial workers in study region (Fig.-4.4). The remaining tahsils have identified growth between 0.5 to 3 percent in study region.

### 4.3.4 Tribal Other Workers in Thane District

Other workers means the workers who are engaged other than cultivation, agricultural laboures and household industry workers. The persons who involved in factory, trade, commerce, business, transport, construction, government services and teaching are labeled as other workers. (District Censes Handbook, Thane District, 1991).

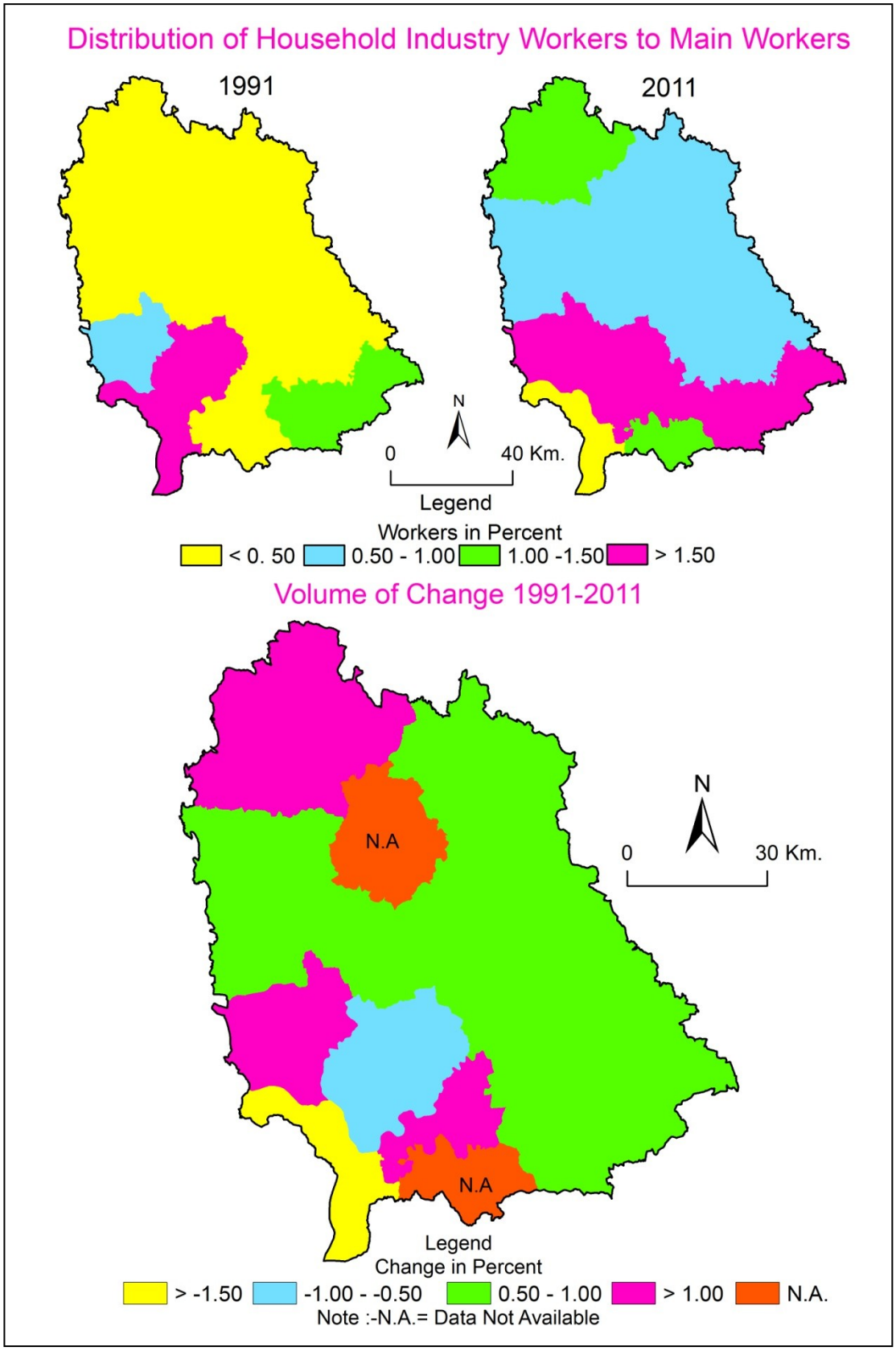

Distribution of Household Industry Workers to Main Workers
1991
2011
N
0
40 Km.
Legend
Workers in Percent
< 0. 50
0.50 - 1.00
1.00 -1.50
> 1.50
Volume of Change 1991-2011
N.A
N.A
N
0
30 Km.
Legend
Change in Percent
> -1.50
-1.00 - -0.50
0.50 - 1.00
> 1.00
N.A.
Note :-N.A.= Data Not Available

Fig. 4.4

The highest percent of other workers was recorded in Thane tahsil (1393.91) in 1991 followed by Ulhasnagar (44.26), Vasai (41.05), Bhiwandi (25.78) and Kalyan (17.95) tahsils as these area have engineering industries, multinational companies, footloose industries and Maharashtra Industrial Development Corporation (MIDC). The northeast part in study region shows less other tribal workers in Palghar (15.82 percent) followed by Dahanu (13.80), Shahapur (11.66), Talasari (7.45), Vada (6.50), Mokhada (5.43) and Murbad (5.24) tahsils. The high percent of tribal other workers have found in south and west parts due to location of Vasai port harbors and Dahanu, Satpati, Mahim and Uttam exporting goods and commodities lying in these areas. The remaining tahsils have identified less industrial development. In 2011, highest other workers have found in Ulhasnagar tahsil accounting 95.61 followed by Kalyan, Thane, Bhiwandi, Ambarnath and Palghar tahsils. This area is urban and has improve transport facility, gray market industries, and unskilled labor industries. Hence, tribal participation has increased. The remaining tahsils have found below 20 percent of other tribal workers in study region (Fig.-4.5).

Table-4.7: Distribution of Tribal Other Workers in Thane District

| Tahsils | 1991 | 2011 | Volume of Change | Tahsils | 1991 | 2011 | Volume of Change |
|---|---|---|---|---|---|---|---|
| Ambarnath | N.A. | 31.35 | N.A. | Shahapur | 11.66 | 19.34 | 7.68 |
| Bhiwandi | 25.78 | 34.27 | 8.49 | Talasari | 7.45 | 23.75 | 16.30 |
| Dahanu | 13.80 | 13.42 | -0.38 | Thane | 1393.91 | 42.13 | -1351.78 |
| Jawhar | 4.90 | 4.03 | -0.88 | Ulhasnagar | 44.26 | 95.69 | 51.44 |
| Kalyan | 17.95 | 49.87 | 31.92 | Vada | 6.50 | 12.45 | 5.94 |
| Mokhada | 5.43 | 3.30 | -2.13 | Vasai | 41.05 | 19.49 | -21.56 |
| Murbad | 5.24 | 10.12 | 4.89 | Vikramgad | N.A. | 4.59 | N.A. |
| Palghar | 15.82 | 21.51 | 5.69 | District Total | 122.60 | 25.69 | -96.91 |

Source: District Census Handbook, Thane District (1991 and 2011)

Note : (i) Cultivators are given in percent. (ii) N.A. = Data not available

The growth between 0 to 10 percent was observed in south, east and north east parts in study region from 1991 to 2011. The highest growth was recorded in Ulhasnagar tahsil (51.44) followed by Kalyan (31.92) and Talasari (16.30) tahsils. The growth between 0 to 5 percent of other workers was found in Ulhasnagar, Kalyan and Talasari tahsil because of nodal place of trade, industries and market place. Due to Maharashtra Industrial Development Corporation and agro-based industries in this region there is an increase of other workers in study region.

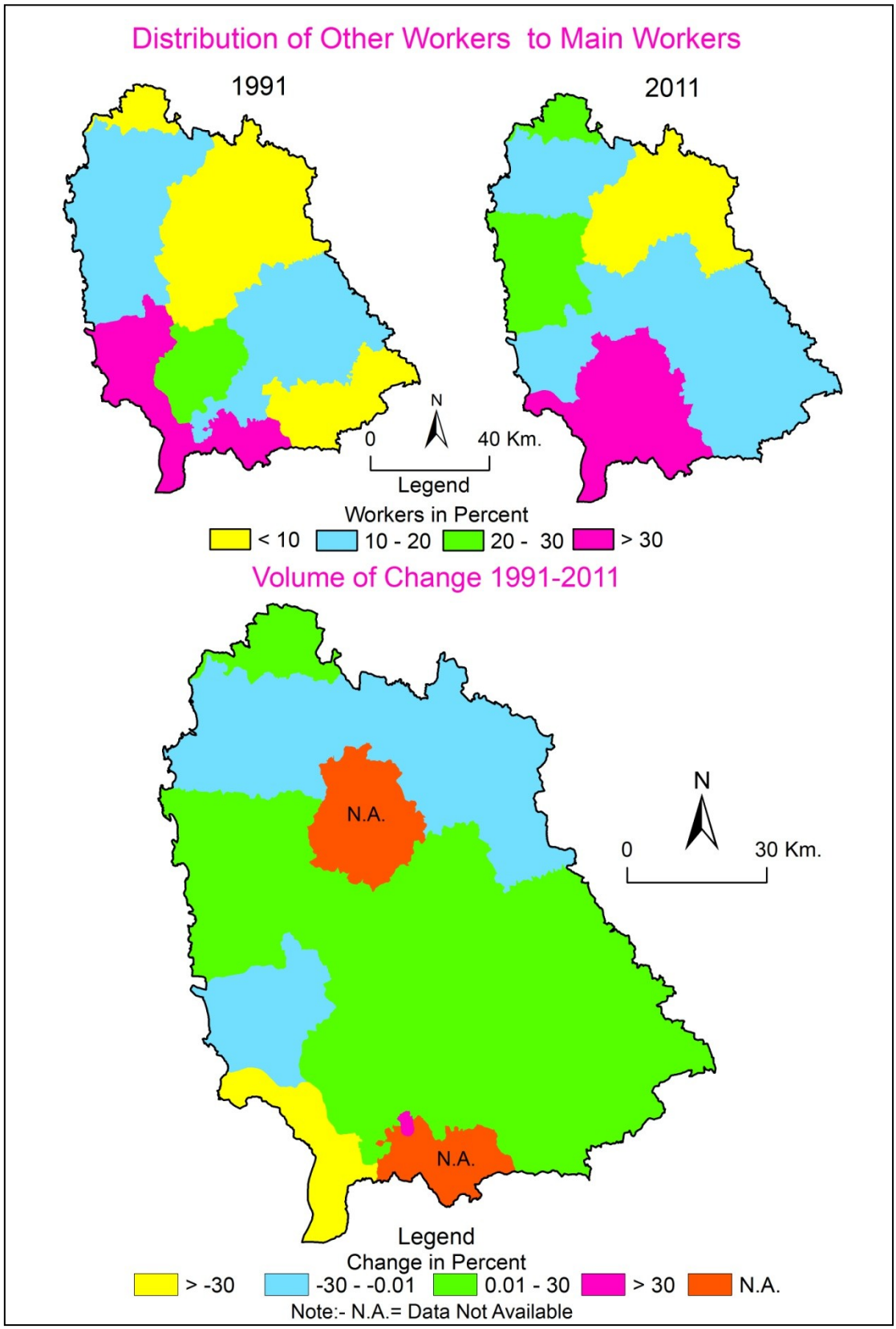

Distribution of Other Workers to Main Workers
1991
2011
N
0
40 Km.
Legend
Workers in Percent
< 10
10 - 20
20 - 30
> 30
Volume of Change 1991-2011
N.A.
N.A.
N
0
30 Km.
Legend
Change in Percent
> -30
-30 - -0.01
0.01 - 30
> 30
N.A.
Note:- N.A.= Data Not Available

Fig. 4.5

Thane has recorded negative growth of other workers followed by Vasai and Mokhada tahsils (Fig.-4.5). Thane being main urban center, head quarter of district, industrial hub, requires technical persons and educated workers. Numbers of educated persons are less in tribal community.

**4.4 Tribal Marginal Workers Population in Thane District**

A person who worked for some time during the presiding year but not for the major part, have been treated as marginal workers. There is no guaranty of work throughout the year, their jobs are uncertain. The percent of marginal workers to total workers in study region was 5.52 in 1991 and it was increased to 13.16 in 2011 (Table-4.2). The percent of marginal workers have increased (7.63 percent) during study period. Fig.-4.6 exhibits the distribution of marginal workers in Thane district. The percent of marginal workers is found more than 10 in northeast and northwest part in tribal tahsils and has decreased towards south part in study region in 1991. In 2011, percent of marginal workers have increased in north part and it is increased in Jawhar tahsils (13.07 percent) whereas central part in study region in Vada (10.00) and west part in Vasai (2.30) tahsils have found increase percent of marginal workers. Shahapur, Bhiwandi, Murbad, Dahanu and Kalyan tahsils show slows trend of marginal workers. The remaining tahsils in study region have recorded negative growth of marginal workers. This indicates that percent of marginal workers have reduced and main workers and have increased in study region during study period.

Table-4.8: Distribution of Tribal Marginal Workers in Thane District

| Tahsils | 1991 | 2011 | Volume of Change | Tahsils | 1991 | 2011 | Volume of Change |
|---|---|---|---|---|---|---|---|
| Ambarnath | N.A. | 1.46 | N.A. | Shahapur | 8.01 | 9.05 | 1.04 |
| Bhiwandi | 5.31 | 6.37 | 1.06 | Talasari | 14.80 | 10.86 | -3.94 |
| Dahanu | 17.10 | 17.58 | 0.48 | Thane | 0.28 | 0.05 | -0.24 |
| Jawhar | 12.02 | 13.07 | 1.04 | Ulhasnagar | 1.28 | 0.19 | -1.09 |
| Kalyan | 0.70 | 1.14 | 0.44 | Vada | 7.62 | 10.00 | 2.38 |
| Mokhada | 16.72 | 4.71 | -12.01 | Vasai | 1.97 | 2.30 | 0.33 |
| Murbad | 2.45 | 3.10 | 0.65 | Vikramgad | N.A. | 8.29 | N.A. |
| Palghar | 11.73 | 11.83 | 0.10 | District Total | 100 | 100 | - |

Source: District Census Handbook, Thane District (1991 and 2011)
Note : (i) Cultivators are given in percent. (ii) N.A. = Data not available

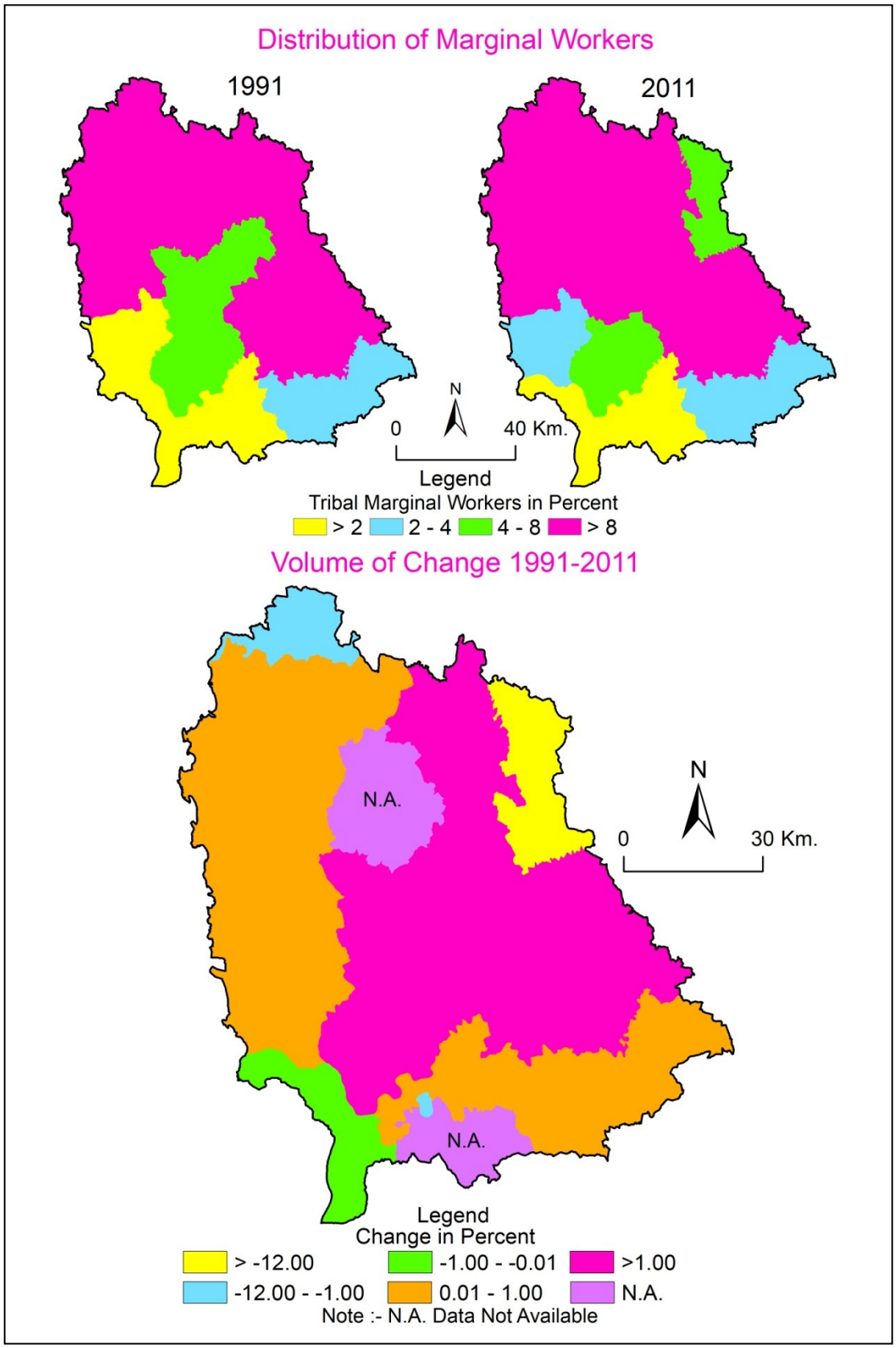

Distribution of Marginal Workers
1991
2011
N
0
40 Km.
Legend
Tribal Marginal Workers in Percent
> 2
2 - 4
4 - 8
> 8
Volume of Change 1991-2011
N.A.
N.A.
N
0
30 Km.
Legend
Change in Percent
> -12.00
-12.00 - -1.00
-1.00 - -0.01
0.01 - 1.00
>1.00
N.A.
Note :- N.A. Data Not Available

Fig. 4.6

### 4.5 Tribal Non-workers in Thane District

A person who had not worked at all during the last year was considering as non-worker. Person engaged in household duties, students, dependent, retired persons, renters, beggars are grouped as non-workers. Mostly children's and old age population belong in this category who is not physically and mentally feat to perform the work (District Censes Handbook, Thane District, 1991). The percent of non-workers to total tribal worker was 46.72 in 1991 in study region and it has increased to 52.19 in 2011 (Table-4.2). The percent of tribal non-workers increased by 5.47 percent during study period. The proportion of reduction in non-working tribal population has increased economic activity and growth of per capita income and improves the standard of living.

Table- 4.9: Distribution of Tribal Non-Workers in Thane District

| Tahsils | 1991 | 2011 | Volume of Change | Tahsils | 1991 | 2011 | Volume of Change |
|---|---|---|---|---|---|---|---|
| Ambarnath | N.A. | 1.6 | N.A. | Shahapur | 8.40 | 8.87 | 0.5 |
| Bhiwandi | 5.6 | 6.5 | 0.9 | Talasari | 9.95 | 12.16 | 2.2 |
| Dahanu | 19.6 | 20.1 | 0.5 | Thane | 1.30 | 0.07 | -1.2 |
| Jawhar | 13.4 | 8.9 | -4.5 | Ulhasnagar | 1.26 | 0.60 | -0.7 |
| Kalyan | 0.7 | 1.5 | 0.8 | Vada | 7.11 | 7.58 | 0.5 |
| Mokhada | 8.5 | 5.3 | -3.2 | Vasai | 6.40 | 2.95 | -3.5 |
| Murbad | 3.8 | 3.3 | -0.5 | Vikramgad | N.A. | 8.55 | N.A. |
| Palghar | 14.0 | 12.1 | -1.9 | District Total | 100 | 100 | - |

Source: District Census Handbook, Thane District (1991 and 2011)

Note : (i) Cultivators are given in percent. (ii) N.A. = Data not available

Fig.- 4.7 exhibits that more than 10 percent of tribal non-workers were found in north tahsils which are economically backward in 1991. The percent of non-workers have reduced towards south and west parts in study region. In 2011, Talasari and Dahanu tahsils in north parts have 12.46 and 20.01 percent of tribal non-workers respectively and it has reduced towards south in study region as east part has better job opportunities to tribal as compared to west due to industries, trade and transport services. During study period, north part shows increasing percent of non-workers except Jawhar tahsil having (-4.5 percent) due to industrial, development along with trade, transport and agriculture during study period. In southeast parts, the percent of tribal non-workers have decreased in study region. The decrease in percent of non-workers indicates the beginning of economic development among tribal community.

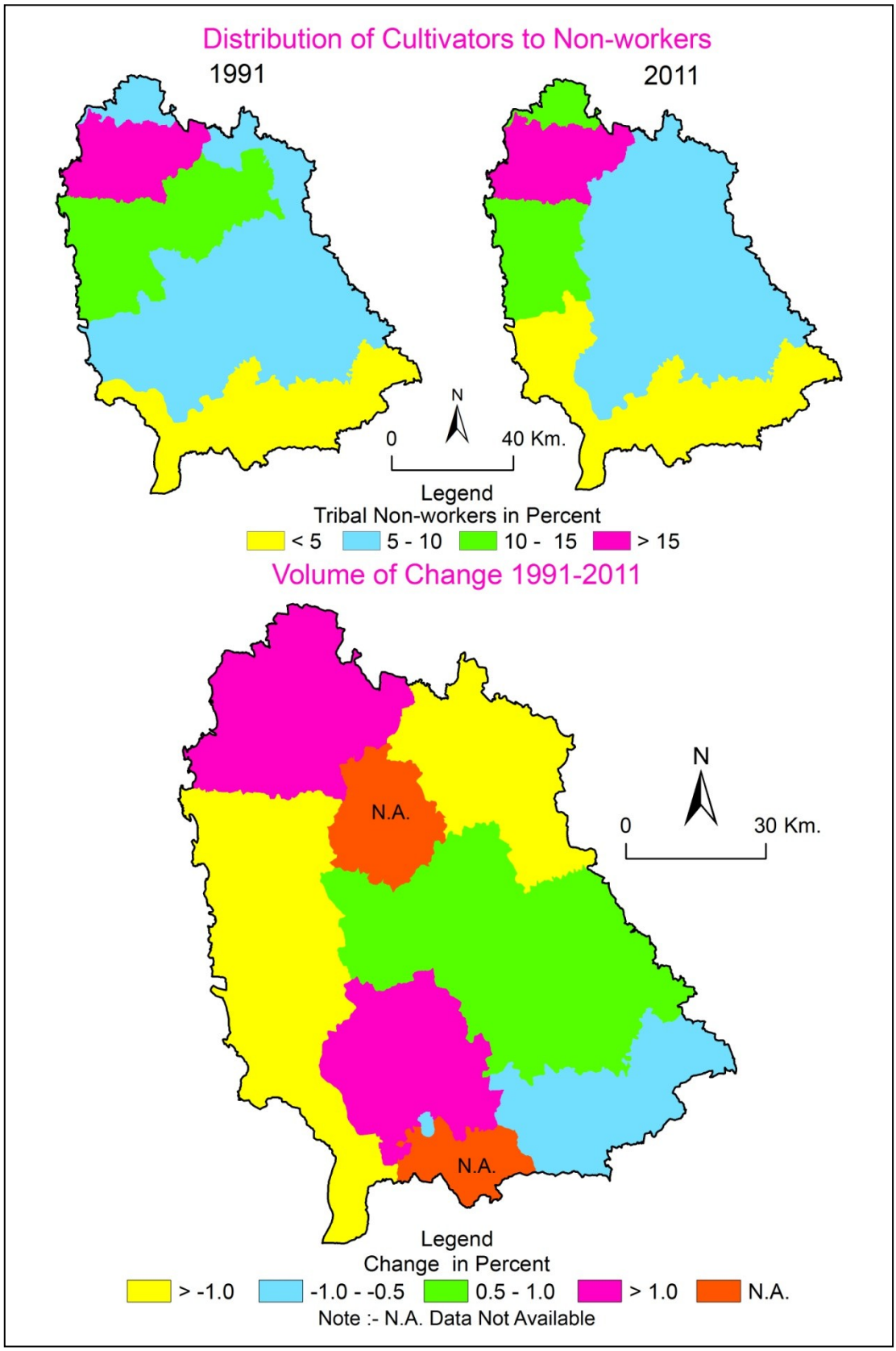

Distribution of Cultivators to Non-workers
1991
2011
N
0
40 Km.
Legend
Tribal Non-workers in Percent
< 5
5 - 10
10 - 15
> 15
Volume of Change 1991-2011
N.A.
N.A.
N
0
30 Km.
Legend
Change in Percent
> -1.0
-1.0 - -0.5
0.5 - 1.0
> 1.0
N.A.
Note :- N.A. Data Not Available

Fig. 4.7

### 4.6 Sex-wise Distribution of Workers in Tribal Population

The occupation is considered as the base to make performance in activities. In order to survival of any organism requires food which produces from agricultural practice as a occupations. However, involvement in occupation varies in from community to community and sex to sex in the society. In tribal area, opportunity for work is not much available throughout the year. Whenever tribal people get work involve themselves without any delay. Due to lack of family planning devices, tribal cannot abide frequent conception and childbirth makes an unequal share in economic activities. From this point of view, it is essential to assess sex-wise participation of scheduled tribe population and their involvement in different economic activities. It is noticed from Fig.-4.8 that percent of male main workers are higher than female main tribal workers of population in study region from 1991 to 2011. It is noticed that there is a less female participation as main worker in Thane tahsil (27.26) and as high as shared by female in Jawhar tahsil accounting 46.80 percent in 1991.

Table-4.10: Sex-wise Distribution of Tribal Main Workers

| Tahsils | 1991 Years | | 2011 Years | | Volume of change | |
|---|---|---|---|---|---|---|
| | Male | Female | Male | Female | Male | Female |
| Ambarnath | N.A. | N.A. | 70.00 | 30.00 | N.A. | N.A. |
| Bhiwandi | 58.26 | 41.74 | 61.35 | 38.65 | 3.09 | -3.09 |
| Dahanu | 54.87 | 45.13 | 56.09 | 43.91 | 1.22 | -1.22 |
| Jawhar | 48.53 | 46.80 | 53.21 | 46.79 | 4.68 | -0.01 |
| Kalyan | 61.13 | 38.87 | 69.55 | 30.45 | 8.42 | -8.42 |
| Mokhada | 61.48 | 38.52 | 53.08 | 46.92 | -8.40 | 8.40 |
| Murbad | 54.53 | 45.47 | 58.05 | 41.95 | 3.52 | -3.52 |
| Palghar | 57.15 | 42.85 | 61.54 | 38.46 | 4.39 | -4.39 |
| Shahapur | 58.96 | 41.04 | 62.50 | 37.50 | 3.54 | -3.54 |
| Talasari | 55.68 | 44.32 | 62.82 | 37.18 | 7.13 | -7.13 |
| Thane | 72.74 | 27.26 | 64.47 | 35.53 | -8.27 | 8.27 |
| Ulhasnagar | 60.22 | 39.78 | 80.19 | 19.81 | 19.97 | -19.97 |
| Vada | 55.86 | 44.14 | 58.71 | 41.29 | 2.85 | -2.85 |
| Vasai | 56.38 | 43.62 | 57.93 | 42.07 | 1.56 | -1.56 |
| Vikramgad | N.A. | N.A. | 52.57 | 47.43 | N.A. | N.A. |
| District total | 55.74 | 43.55 | 65.55 | 47.43 | 9.80 | 3.89 |

Source : District Census Handbook, Thane District (1991 and 2011)

Note : (i) N.A. = Data is not available (ii) Calculated by Researcher

(iii) Workers are given in percent to tahsil

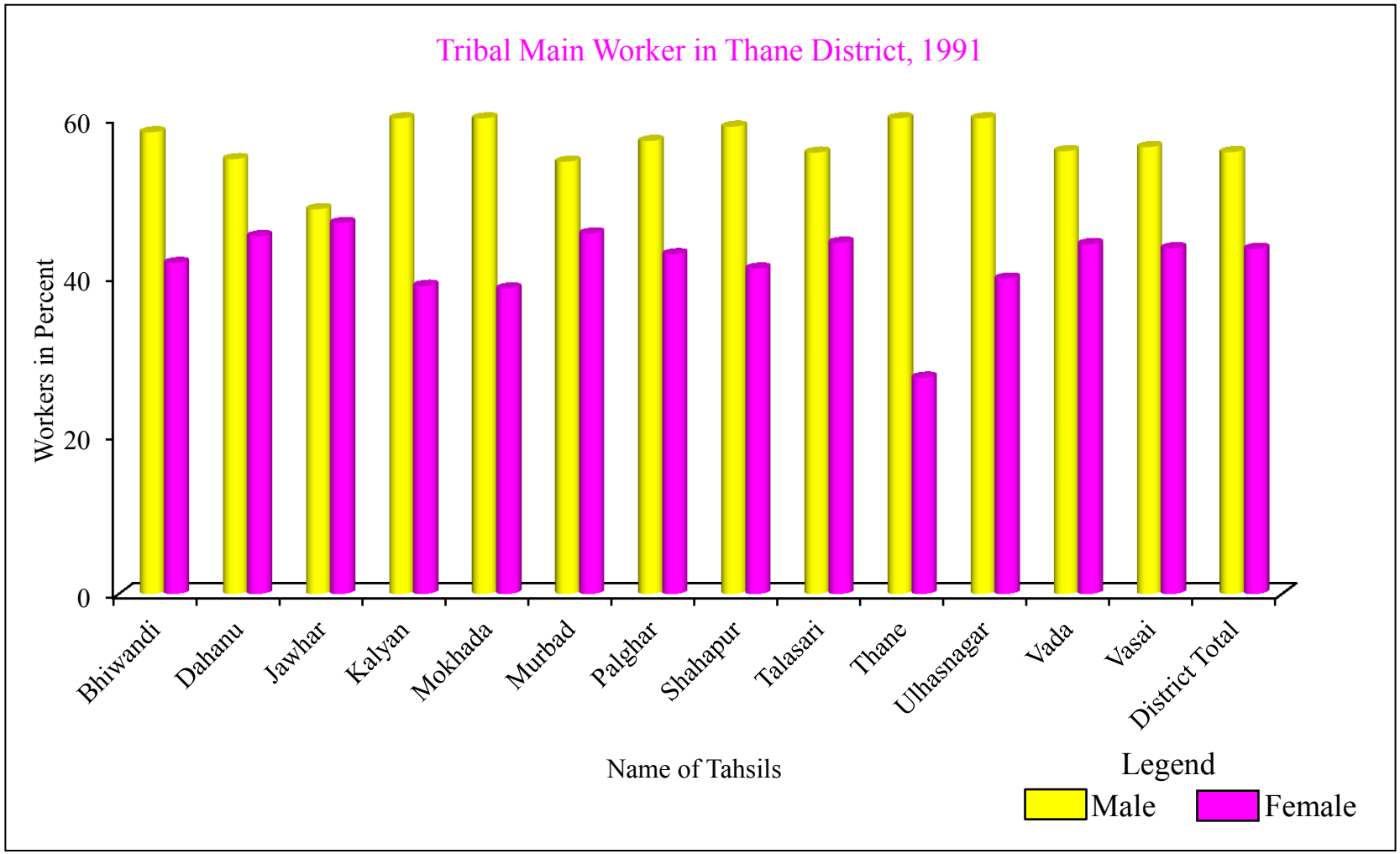

Tribal Main Worker in Thane District, 1991
Workers in Percent
60
40
20
0
Bhiwandi
Dahanu
Jawhar
Kalyan
Mokhada
Murbad
Palghar
Shahapur
Talasari
Thane
Ulhasnagar
Vada
Vasai
District Total
Name of Tahsils
Legend
Male
Female

Fig. 4. 8

The female main workers percent have decreased in all tahsils except Mokhada and Thane tahsils during study period (Table-4.10). The participation of female main workers have increased by 19.81 percent and reached to 47.43 percent in 2011 (Table-4.10). This shows progress and involvement of females as main labourers in study region. Fig.-4.9 exhibits the percent female main worker percent in study region for 1991 and 2011. The growth of female workers in 2011 is more as compared to 1991. Mokhada tahsil (8.40) has recorded highest growth as female main workers followed by Thane (8.27) tahsil. This indicates the increase involvement of tribal woman in economic activities as main worker than male to get work for major part of preceding year resulting rising of per capita income of tribal community in study region. The percent of tribal marginal workers was 5.52 in 1991 and 13.16 in 2011 have increased in study region. Table-4.11 presents that male marginal workers are less as compared to female in study region for 1991 and 2011. Female workers accounts 88.33 percent in 1991. It is eight fold which more than males in 1991.

Table-4.11: Distribution of Tribal Marginal Workers in Thane District

| Tahsils | 1991 Years | | 2011 Years | | Volume of change | |
|---|---|---|---|---|---|---|
| | Male | Female | Male | Female | Male | Female |
| Ambarnath | N.A. | N.A. | 47.87 | 52.13 | N.A. | N.A. |
| Bhiwandi | 11.89 | 88.11 | 50.11 | 49.89 | 38.23 | -38.23 |
| Dahanu | 13.84 | 86.16 | 40.79 | 59.21 | 26.95 | -26.95 |
| Jawhar | 12.92 | 87.08 | 45.82 | 54.18 | 32.90 | -32.90 |
| Kalyan | 10.39 | 89.61 | 54.54 | 45.46 | 44.15 | -44.15 |
| Mokhada | 4.63 | 95.37 | 42.43 | 57.57 | 37.80 | -37.80 |
| Murbad | 14.43 | 85.57 | 44.07 | 55.93 | 29.64 | -29.64 |
| Palghar | 14.70 | 85.30 | 47.60 | 52.40 | 32.89 | -32.89 |
| Shahapur | 12.78 | 87.22 | 44.54 | 55.46 | 31.76 | -31.76 |
| Talasari | 10.76 | 89.24 | 44.75 | 55.25 | 33.98 | -33.98 |
| Thane | 31.03 | 68.97 | 68.48 | 31.52 | 37.44 | -37.44 |
| Ulhasnagar | 16.46 | 83.54 | 65.92 | 34.08 | 49.45 | -49.45 |
| Vada | 13.56 | 86.44 | 49.77 | 50.23 | 36.21 | -36.21 |
| Vasai | 12.08 | 87.92 | 49.72 | 50.28 | 37.64 | -37.64 |
| Vikramgad | N.A. | N.A. | 42.07 | 57.93 | N.A. | N.A. |
| District total | 11.67 | 88.33 | 45.33 | 54.67 | 33.66 | -33.66 |

Source: District Census Handbook, Thane District (1991 and 2011)

Note: (i) N.A. = Data is not available (ii) Calculated by Researcher

(iii) Workers are given in percent to tahsil

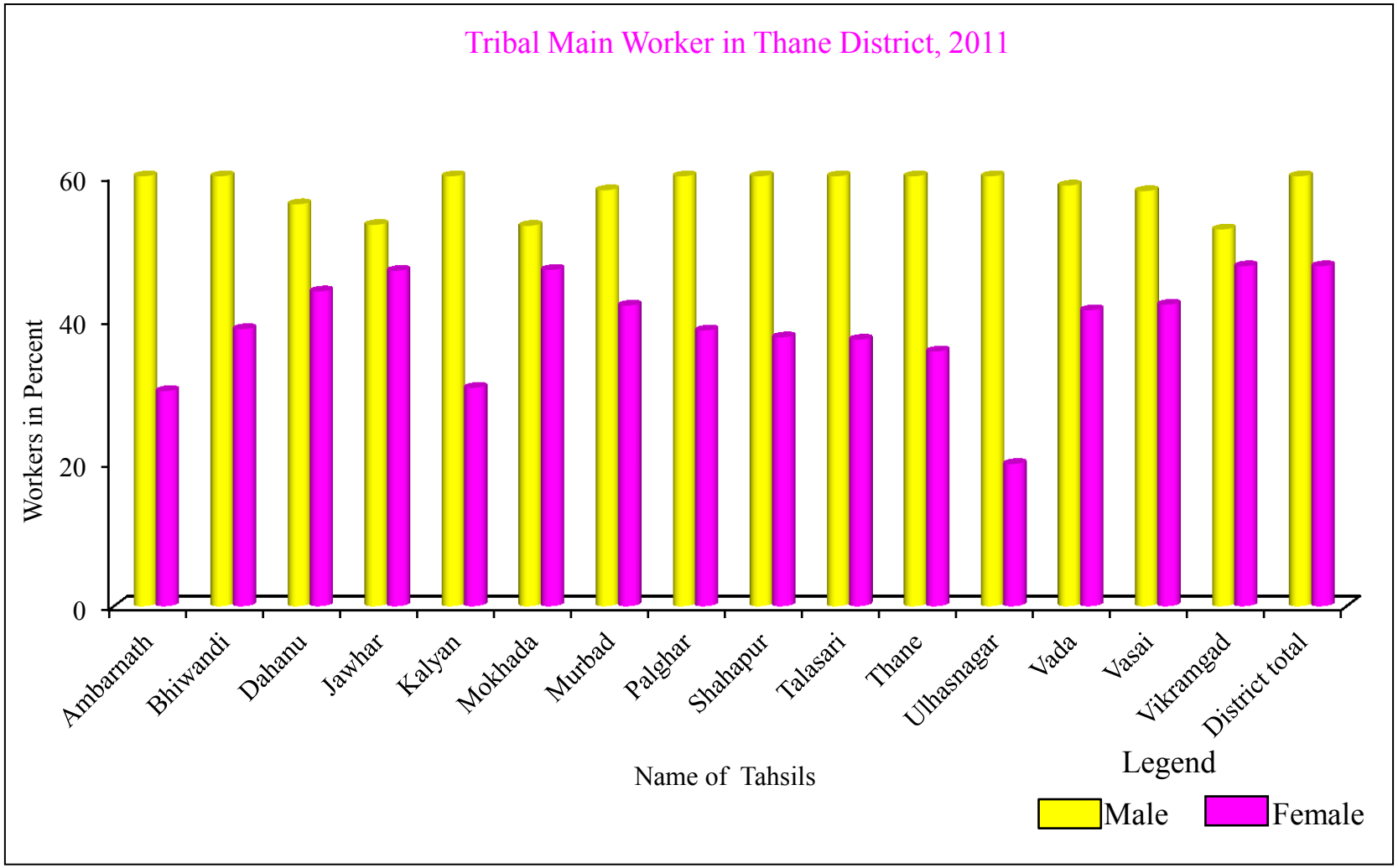

Tribal Main Worker in Thane District, 2011
Workers in Percent
60
40
20
0
Ambarnath
Bhiwandi
Dahanu
Jawhar
Kalyan
Mokhada
Murbad
Palghar
Shahapur
Talasari
Thane
Ulhasnagar
Vada
Vasai
Vikramgad
District total
Name of Tahsils
Legend
Male
Female

Fig. 4.9

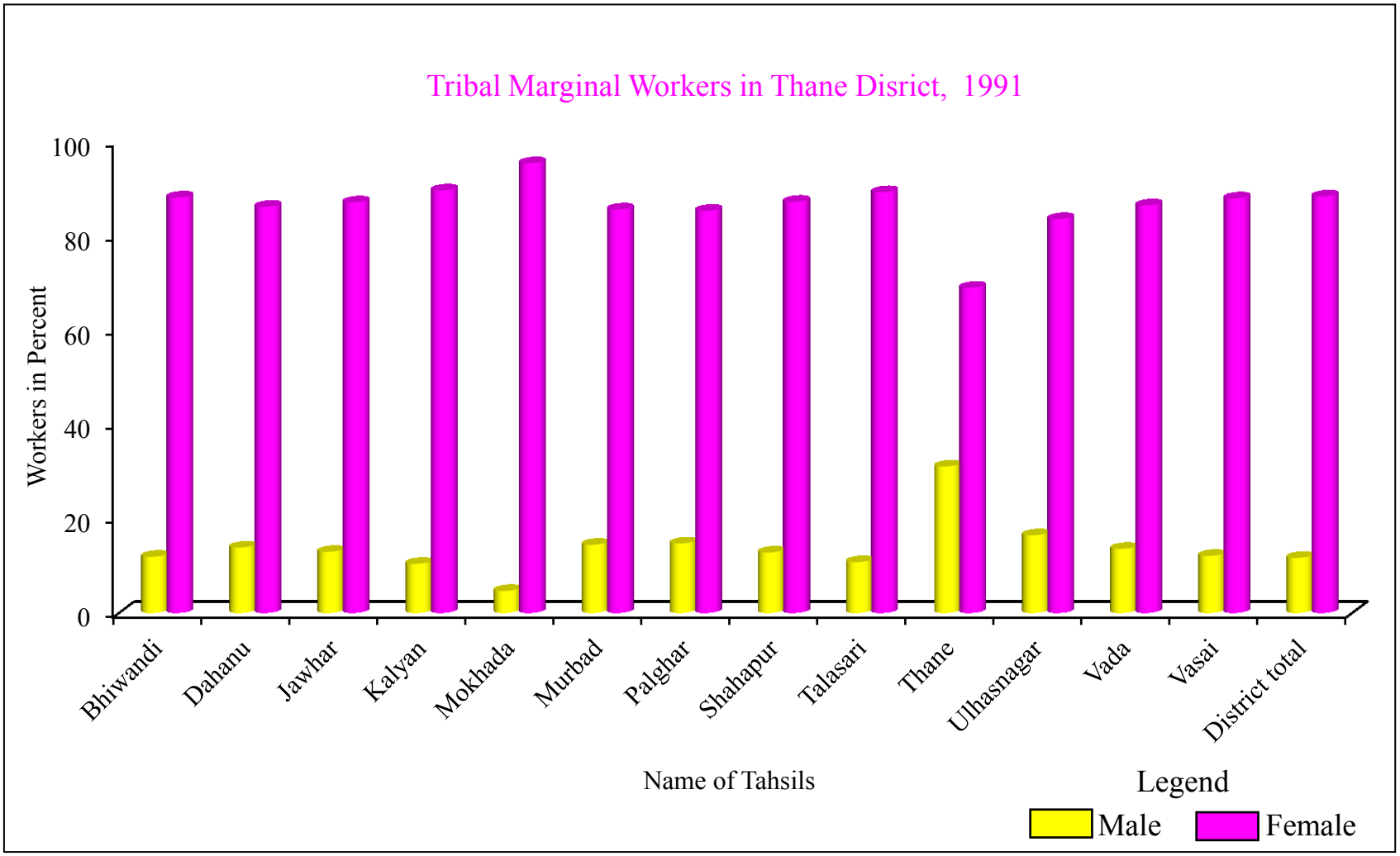

Tribal Marginal Workers in Thane Disrict, 1991
Workers in Percent
100
80
60
40
20
0
Bhiwandi
Dahanu
Jawhar
Kalyan
Mokhada
Murbad
Palghar
Shahapur
Talasari
Thane
Ulhasnagar
Vada
Vasai
District total
Name of Tahsils
Legend
Male
Female

Fig. 4.10

This ratio has reduced by (-33.66 percent) in 2011. The study region has showed negative growth of female marginal workers in all tahsils. It was found -33.66 percent change in female marginal worker as a result male percent has increased in all tahsils during study period and has found decreasing female marginal workers (Fig.-4.11). Ulhasnagar tahsil has reported decrease in female marginal workers (-49.45 percent). It was noticed that though there is an increase of male marginal workers due to more job opportunity in urban area. It represents the crud activity rate is positive in study region. Non-workers mean that the persons is not working at all during the year and is considered as inactive population.

Table-4.12: Distribution of Tribal Non-workers in Thane District

| Tahsils | 1991 Years | | 2011 Years | | Volume of change | |
|---|---|---|---|---|---|---|
| | Male | Female | Male | Female | Male | Female |
| Ambarnath | N.A. | N.A. | 41.80 | 58.20 | N.A. | N.A. |
| Bhiwandi | 48.10 | 51.90 | 44.10 | 55.90 | -4.00 | 4.00 |
| Dahanu | 48.83 | 51.17 | 45.63 | 54.37 | -3.20 | 3.20 |
| Jawhar | 49.86 | 50.14 | 48.09 | 51.91 | -1.77 | 1.77 |
| Kalyan | 44.67 | 55.33 | 40.64 | 59.36 | -4.03 | 4.03 |
| Mokhada | 50.41 | 49.59 | 48.81 | 51.33 | -1.61 | 1.75 |
| Murbad | 50.24 | 49.76 | 44.52 | 55.48 | -5.73 | 5.73 |
| Palghar | 47.71 | 52.29 | 42.36 | 57.64 | -5.35 | 5.35 |
| Shahapur | 48.44 | 51.56 | 45.12 | 54.88 | -3.32 | 3.32 |
| Talasari | 51.39 | 48.61 | 43.74 | 56.26 | -7.65 | 7.65 |
| Thane | 40.71 | 59.29 | 41.44 | 58.56 | 0.73 | -0.73 |
| Ulhasnagar | 45.88 | 54.12 | 38.09 | 61.91 | -7.79 | 7.79 |
| Vada | 50.82 | 49.18 | 45.34 | 54.66 | -5.48 | 5.48 |
| Vasai | 45.27 | 54.73 | 42.16 | 57.84 | -3.11 | 3.11 |
| Vikramgad | N.A. | N.A. | 48.90 | 51.10 | N.A. | N.A. |
| District total | 48.9243 | 51.0762 | 45.18 | 54.83 | -3.74 | 3.75 |

Source: District Census Handbook, Thane District (1991 and 2011)

Note: (i) N.A. = Data is not available (ii) Calculated by Researcher

(iii) Workers are given in percent to tahsil

If proportion of such persons is more, then it creates burden on remaining active population and on resources. Person engaged in household duties, students, dependent, retired persons, renters, beggars are some categories grouped as non-workers (District Censes Handbook, Thane District, 1991). The percent of non-workers to total tribal workers was 46.72 in 1991 and was 52.19 in 2011 (Table-4.1).

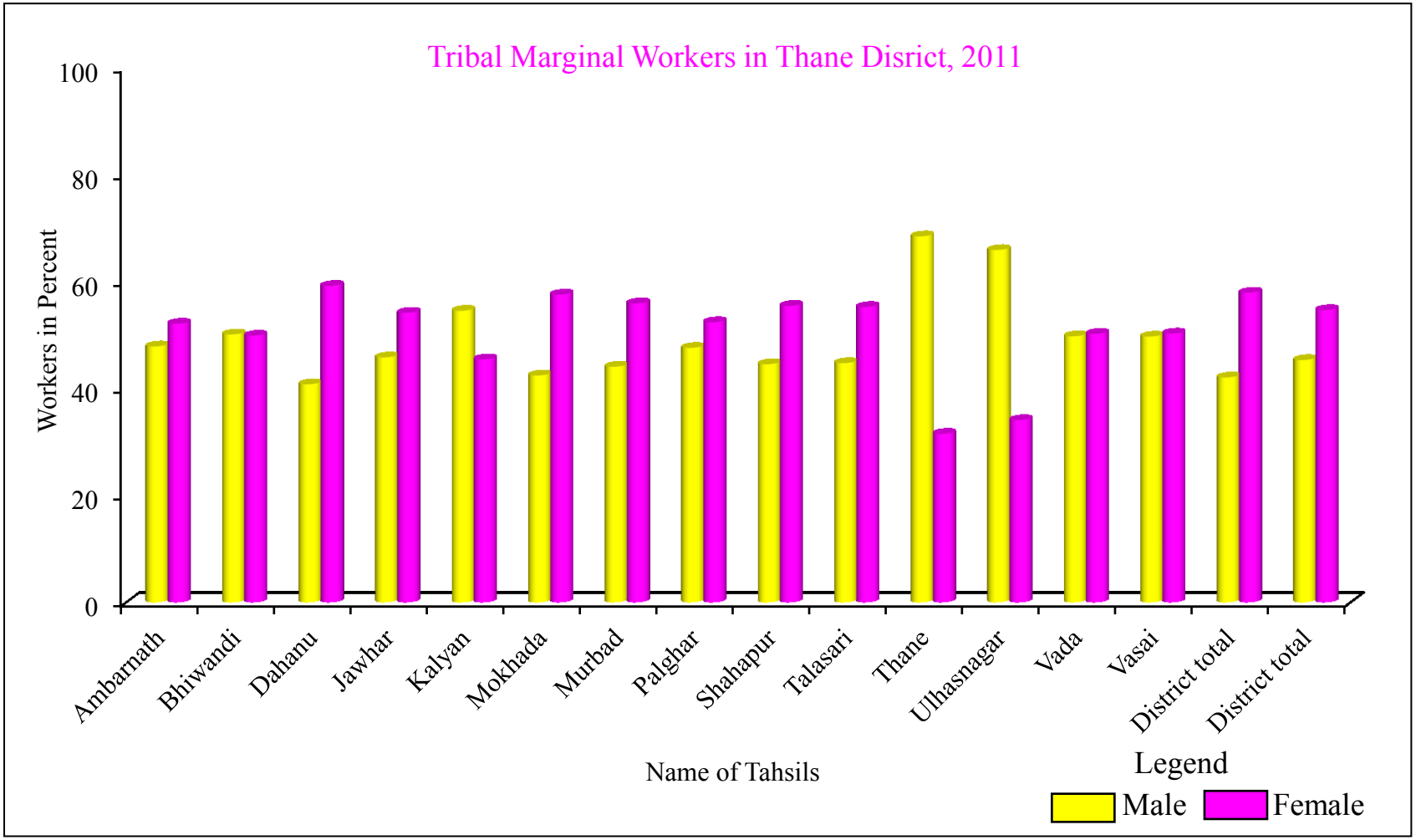

Tribal Marginal Workers in Thane Disrict, 2011
100
80
60
40
20
0
Workers in Percent
Ambarnath
Bhiwandi
Dahanu
Jawhar
Kalyan
Mokhada
Murbad
Palghar
Shahapur
Talasari
Thane
Ulhasnagar
Vada
Vasai
District total
District total
Name of Tahsils
Legend
Male
Female

Fig. 4.11

It has increased 5.47 percent during study period indicating negative growth of tribals in study region. Fig.-4.12 exhibits the share of female tribal non-worker is more as compared to male in 1991. But is was noticed that after twenty years non-workers present 1991 incoming from 51.08 to 54.83 percent in 2011 (Fig.-4.13) showing nearly equal involvement of tribal women in study region.

**4.7 Economic Activity Rate among Tribal Population**

Population which participates or attempts to participate in production of economic goods and services is referred as economically active population. Crude activity rate is the ratio between economically active population and total population. Here total tribal workers are considered as economically active population and crude activity rate is measured for total, male and female tribals by using following formulas.

1) Crude Activity Rate :

$$= \frac{\text{Economically Active Population}}{\text{Total Population}} \text{ X } 100$$

The higher crude rate indicates higher level of income per head that be achieved under given condition of productivity and extent of employment of workers. Total crude activity rate of tribal population was 47.76 in 1991 and it has reduced to 47.81 in 2011.

Table-4.13: Crude Activity Rate of Tribal in Thane District

| Sr. No. | Particulars | 1991 | | | 2011 | | |
|---|---|---|---|---|---|---|---|
| | | Total | Male | Female | Total | Male | Female |
| 1 | Tribal Population | 951205 | 481209 | 469996 | 1542451 | 769192 | 773259 |
| 2 | Economically Active Tribal Population | 454270 | 262103 | 192167 | 737468 | 413671 | 323797 |
| 3 | Crude Activity Rate | 47.76 | 54.47 | 40.89 | 47.81 | 53.78 | 41.87 |

Source : District Census Handbook, Thane District (1991 and 2011)

Note: Calculated by Researcher

The crude activity rate for male is high than female having less difference between them (Fig.-4.14). The crude activity rate for male was 54.47 in 1991 it has observed 53.78 in 2011. It was 40.89 for female and has increased slightly to 41.87. In this regards, crude activity rate has reduced in male and slightly increase in female tribal workers and, therefore, level of per capita income of tribal population is low.

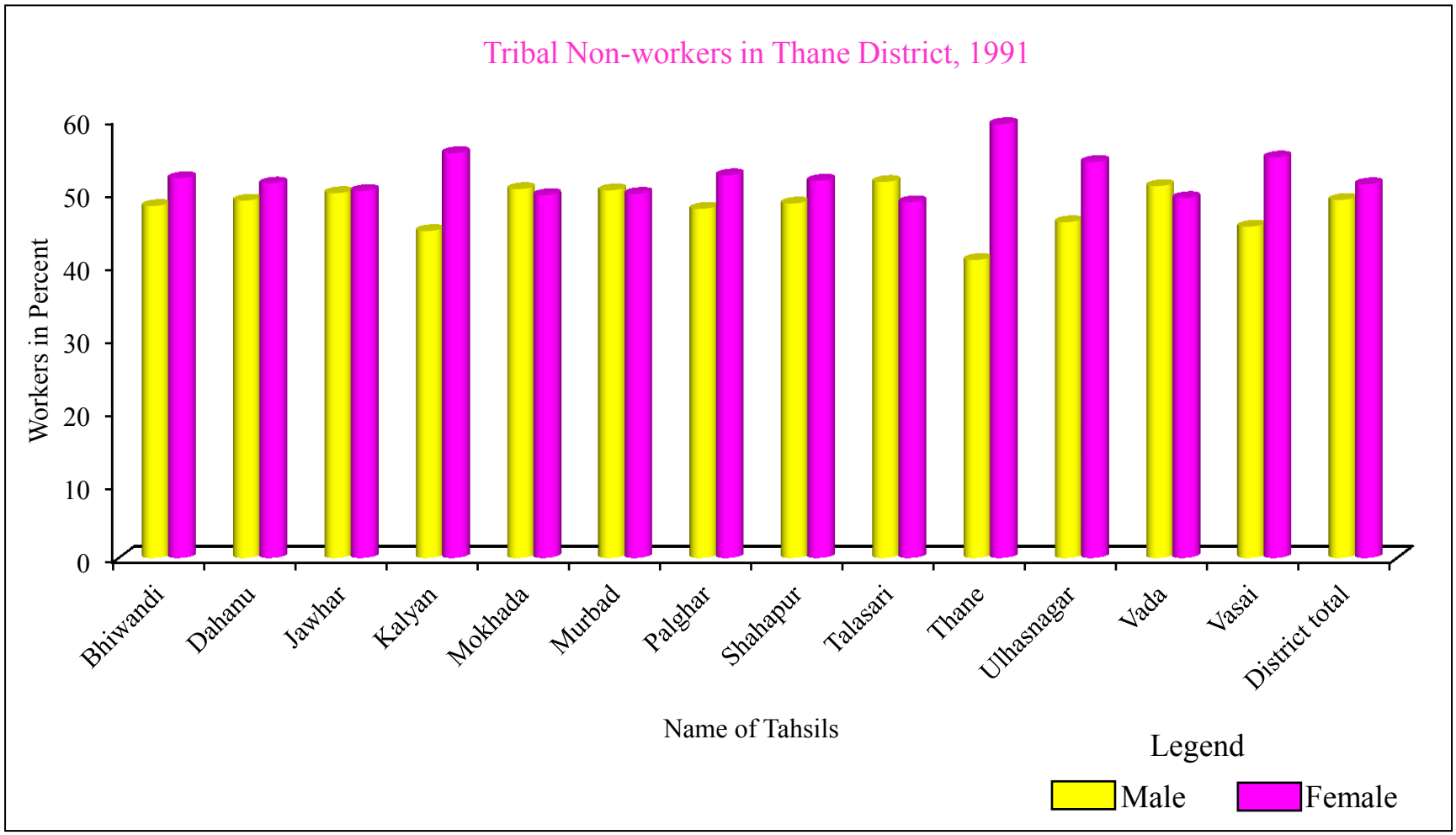

Tribal Non-workers in Thane District, 1991
Workers in Percent
60
50
40
30
20
10
0
Bhiwandi
Dahanu
Jawhar
Kalyan
Mokhada
Murbad
Palghar
Shahapur
Talasari
Thane
Ulhasnagar
Vada
Vasai
District total
Name of Tahsils
Legend
Male
Female

Fig.4. 12

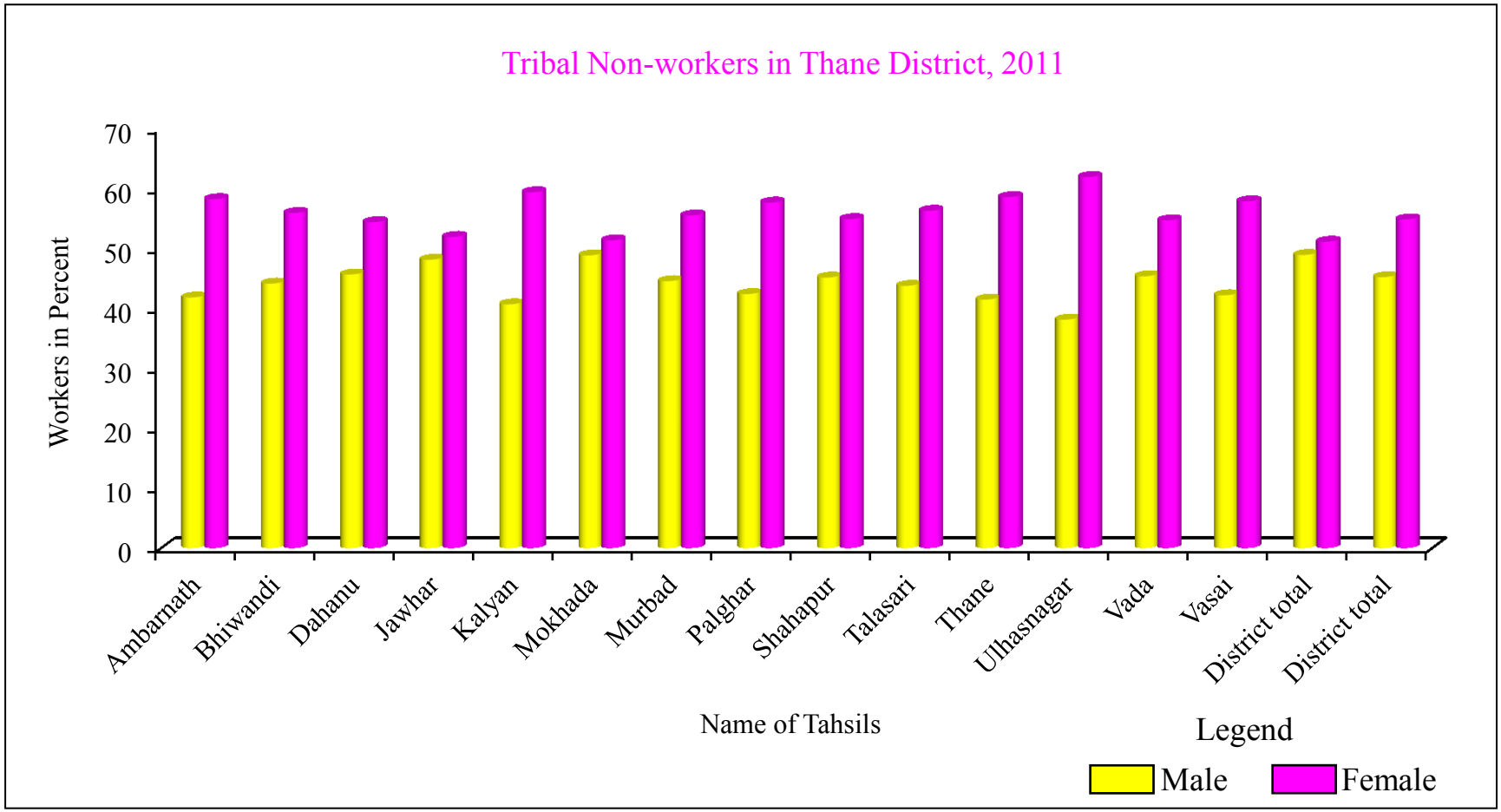

Tribal Non-workers in Thane District, 2011
Workers in Percent
70
60
50
40
30
20
10
0
Ambarnath
Bhiwandi
Dahanu
Jawhar
Kalyan
Mokhada
Murbad
Palghar
Shahapur
Talasari
Thane
Ulhasnagar
Vada
Vasai
District total
District total
Name of Tahsils
Legend
Male
Female

Fig. 4.13

2) General Activity Rate :

$$= \frac{\text{Economically Active Population}}{\text{Population Aged (15 – 59)}} \text{ X } 100$$

Table-4.14: General Activity Rate of Tribal in Thane District

| Sr. No. | Particulars | 1991 | | | 2011 | | |
|---|---|---|---|---|---|---|---|
| | | Total | Male | Female | Total | Male | Female |
| 1 | Tribal Population aged (15-19) | - | - | - | 896231 | 446522 | 449709 |
| 2 | Economically Active Tribal Population | 454270 | 262103 | 192167 | 737468 | 413671 | 323797 |
| 3 | Crude Activity Rate | - | - | - | 82.29 | 92.64 | 72.00 |

Source : District Census Handbook, Thane District (1991 and 2011)

Note: Calculated by Researcher

The economic characteristics are largely affected by its age composition. In prompt study general activity rate has computed to study the ratio of persons engaged in gainful and productive economic activity at working age of 15-59 years. General activity rate of tribal population is 82.29 percent whereas 92.64 percent and 72 percent are for males and females respectively in 2011. It was found that the general activity rate is very high among tribals because of poverty. Even child's below fifteen years are also engaged into work, therefore percent of working population has remarkably increased, and thus, child labour problem has found in study region.

**4.8 Tribal Workers and Literacy**

The attempt has made to find out relationship between workers and literacy by using correlation co-efficient. The variables, namely, main workers, marginal workers and literacy of tribal people have considered for computing relation between tribal workers and literacy. Fig.-4.15 shows negative correlation of workers and literacy. The participation of workers has increased with increasing literacy. In 1991, labours and literacy shows negative correlation (R = - 0.73) and (R = - 0.83) relationship between main and marginal workers respectively. In 2011 relationship between labours and literacy is found moderate negative for main workers (R = - 0.78) and strongly negative for marginal workers accounting (R = - 0.91) showing positive change in literacy and workers too (Fig.-4.15). This indicates that literacy among tribals numbers of workers and quality of work are significantly improved in study region.

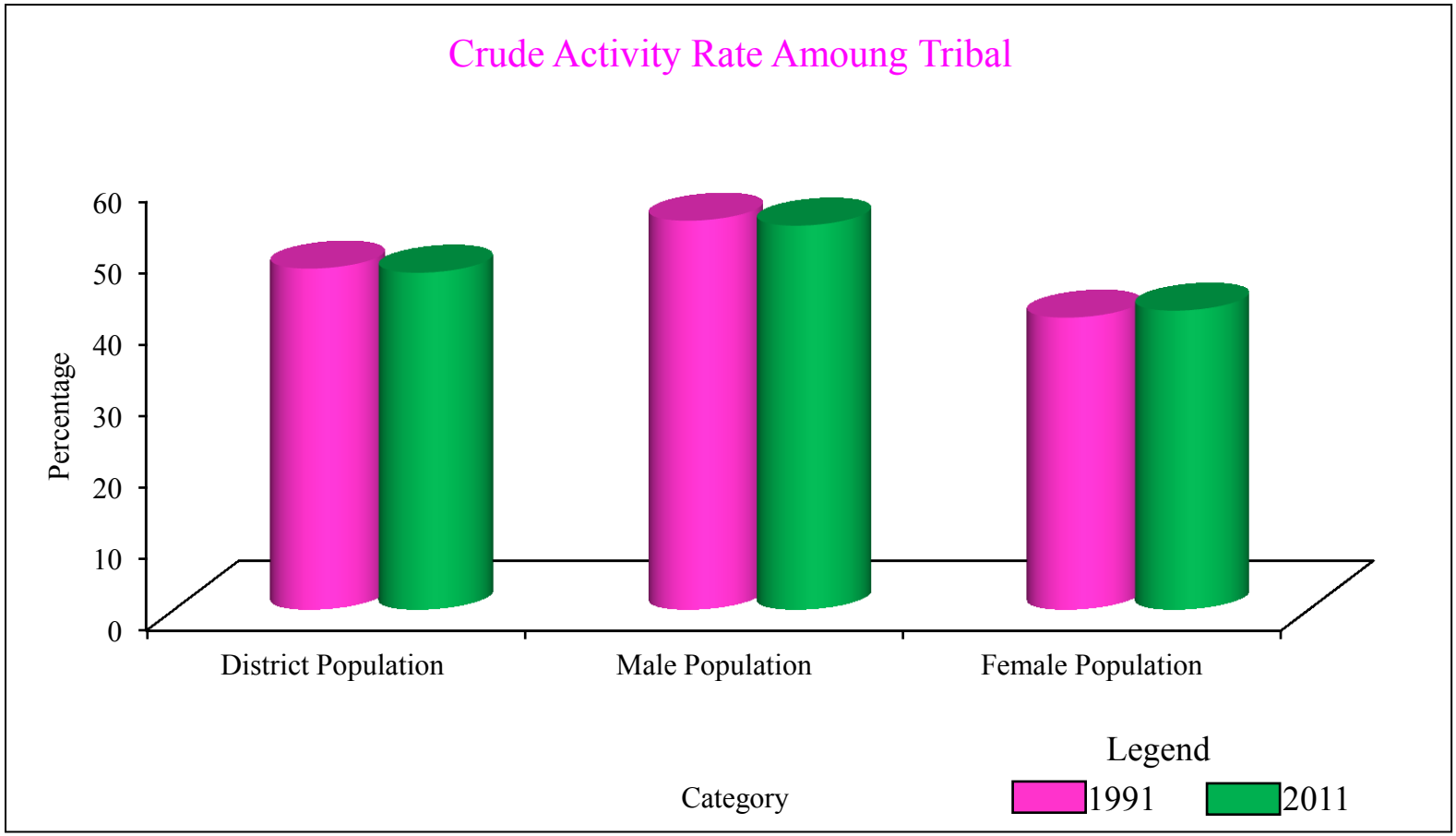

Crude Activity Rate Amoung Tribal
Percentage
60
50
40
30
20
10
0
District Population
Male Population
Female Population
Legend
Category
1991
2011

Fig. 4.14

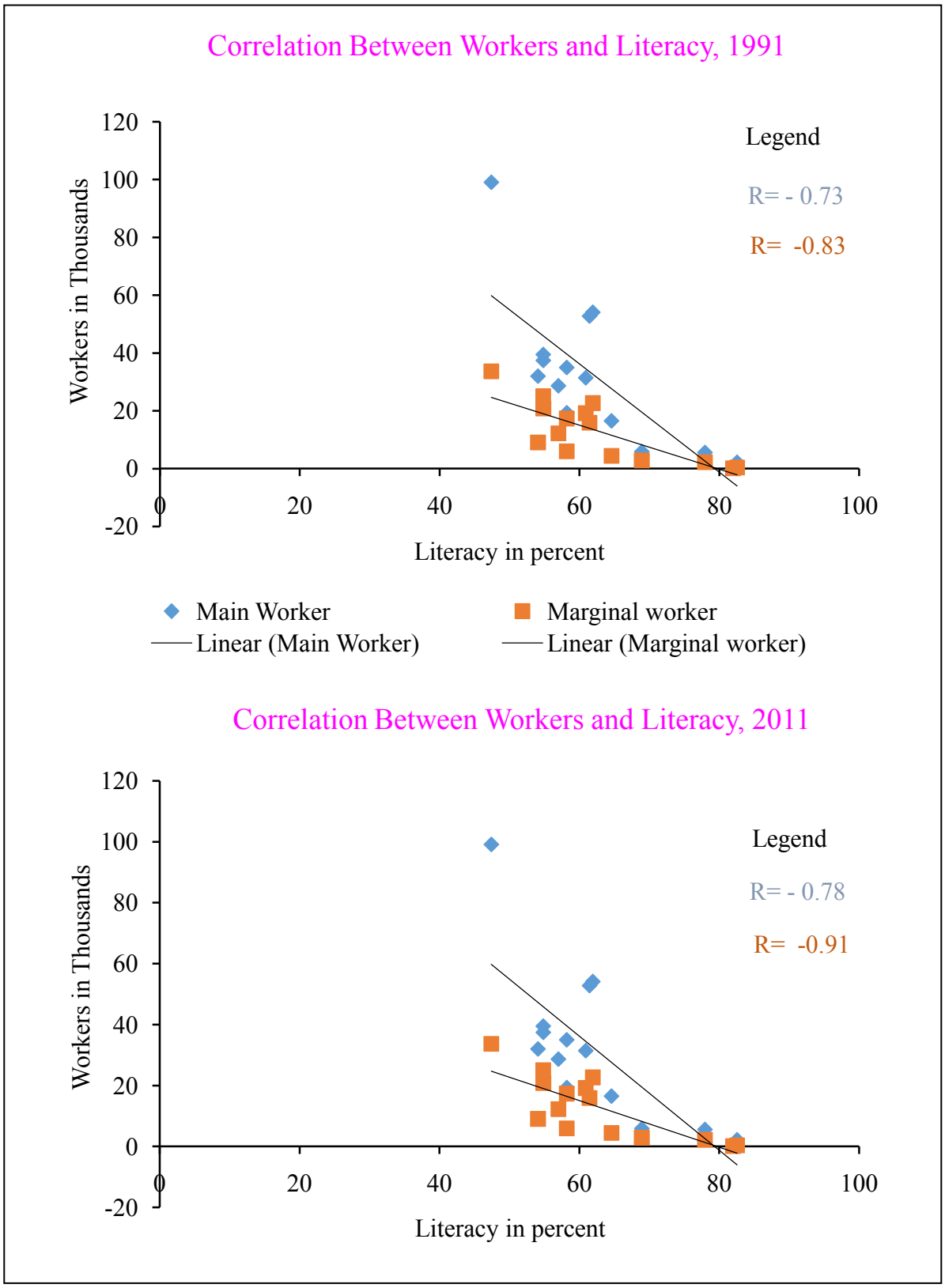

Correlation Between Workers and Literacy, 1991
Workers in Thousands
120
100
80
60
40
20
0
-20
0
20
40
60
80
100
Literacy in percent
Legend
R= - 0.73
R= -0.83
Main Worker
Marginal worker
Linear (Main Worker)
Linear (Marginal worker)
Correlation Between Workers and Literacy, 2011
Workers in Thousands
120
100
80
60
40
20
0
-20
0
20
40
60
80
100
Literacy in percent
Legend
R= - 0.78
R= -0.91

Fig. 4.15

## 4.9 Resume

This chapter has assessed the occupational structure of scheduled tribes in study region. It has noticed that majority of tribals are residing in rural area. Among them, main workers cultivators accounts 49.18 percent, agriculture labours (32.20 percent) and remaining are involved in other activities. The work participation rate of tribal is high and was found involved in collecting timber, fruits, honey, flower etc. from forest like food gathering, hunting, fishing. Agriculture is the main occupations presently. As far as industrial field is concern, tribal participation has less percent due to illiteracy and lacking skills. The self-employment venture among tribals in service sector is very poor. The seasonal unemployment is another problem is faced by tribal families in study region. The percent of agricultural labours were increased by 7.57 during study period because of small land holding, tribal use to work on fields as labours on another field. 94.25 percent main workers are involved in agricultural sector in 2011. The percent of cultivators (-21.55) have significantly decreased among main workers. The percent of marginal and non-workers have slightly increasing 7.36 and 5.47 percent respectively during study period among tribal population.

It has observed that there is a large variation in sex-wise distribution of tribal in occupational structure. In case of main workers, involvement of female is less than male workers. The marginal workers of male accounts 33.16 percent and it has increased in 2011. The percent of tribal non-workers has reduced by -3.74 percent during study period. The crude activity rate has reduced for both male and female tribal workers resulting low level of per capita income. Economic activity rate is very high among tribals because of poor condition. The relationship between tribal labours and literacy is positive in study region. In 2011, labours has moderate relationship between main workers with literacy (-0.78) and strongly negative identified between main labours (0.91). Here it is necessary to empower the tribal with skills, working capital in establishing suitable marketing mechanism for their products. Involvement of tribals in technical and professional education is essential to tribal population for their development in study region.

# CHAPTER-V
# CASE STUDIES OF SAMPLE VILLAGES

## 5.1 General Introduction

The spatial patterns of population characteristics and occupational structure of tribals in Thane district have been extensively studied in earlier chapters. In order to assess population and socio-economic characteristics requires in depth study of villages in study region. A study of every village under study region is practically difficult and time consuming. Hence, sample survey of villages have used considering geographical location, physiography, demographic characteristics and socio-economic conditions of tribals in study region.

## 5.2 Area under Study

Thane is a tribal dominated district in Maharashtra state covering 9558 square kilometers area. There are 1721 villages and 39 towns (Census of India, 2011). With considering vast extent of study region and total villages, four sample villages have been selected by applying purposive systematic sampling for case study these villages are namely, Zadghar, Aine, shelti and Savaroli and primary data of these sample villages were obtained questionnaires and then compiled and analysed. Tribal household is taken as unit in present study.

## 5.3 Data Collection and Organization

There are various steps involved in the collection and organization of primary data. A survey of 100 households from each village was conducted by giving questionnaires and the questions were asked related to households, religion, migration, health, education, occupational characteristics, income sources, their expectations and problems. Interviews of 311 houses for four villages. The obtained data were noted on data entry sheets processed and then it was interpreted integrated village wise (Appendix-P and Q). The secondary data regarding population characteristics have gathered from Grampanchayat of concerned Villages 2001 and 2015. The data regarding landuse types, irrigation and crops use were collected from Village Revenue Record and Grampanchayat office of concerned village.

### 5.4 Choice of Sampling

For sampling, the entire district was divided into four groups based on tribal population distribution and from each group one village was selected (Fig.-5.1 and Table-5.1). The sample villages were selected by using purposive sampling method. These villages are, namely, Zadghar, Shelti, Aine, and Savaroli. To location and village boundaries were identified by using topographical, cadastral maps and Bhuvan data. The locations of these villages are shown in Fig.-5.1. The sample village area population as households take given in Table-5.1.

Table -5.1 : Selection of Sample Villages

| Sr. No. | Sample Villages and Tahsils | Village Area (Hectares) | Tribal Population Percent | Total Households | Households Surveyed |
|---|---|---|---|---|---|
| 1 | Zadghar (Murbad) | 796.29 | 85 | 329 | 100 |
| 2 | Aine (Jawhar) | 874.71 | 100 | 151 | 100 |
| 3 | Shelti (Dahanu) | 69 | 79 | 42 | 42 |
| 4 | Savaroli (Ambarnath) | 538 | 72 | 69 | 69 |

Source : District Census Handbook Thane, 2011.

Note : (i) Figures in brackets shows name of tahsils of concerned sample village.

### 5.5 Zadghar Village

This village lies in Western Ghat in Murbad tahsil in Thane district. It is situated at $19^0$19' north latitudes and $73^0$38' east longitudes and 31 kilometers away from Murbad and 80 kilometers from Thane. Zadghar is well connected by mettle road and State Highway and is confined by Fhagane village in north, Udaldon in east, Murbad and Karchonde in west and Waghgaon in south (Fig.-5.3). The village occupies 796.29 hectares land having 1505 population. This village has 329 households. The density of population is 189 persons per square kilometer in 2011. The proportion of scheduled tribe accounts for 85 percent in Zadghar (Census of India, 2011).

#### 5.5.1 Physical Characteristics

Zadghar is situated in Sahyadri range at the attitude of 186 meters above mean sea level. The slope of village is towards east. The east and north parts was forest cover. Kalu river flows from east to west direction (Fig.-5.3) which is tributary of Ulhas river. The village receives rainfall between 2000-2500 millimeters mostly from southwest monsoon during June to October.

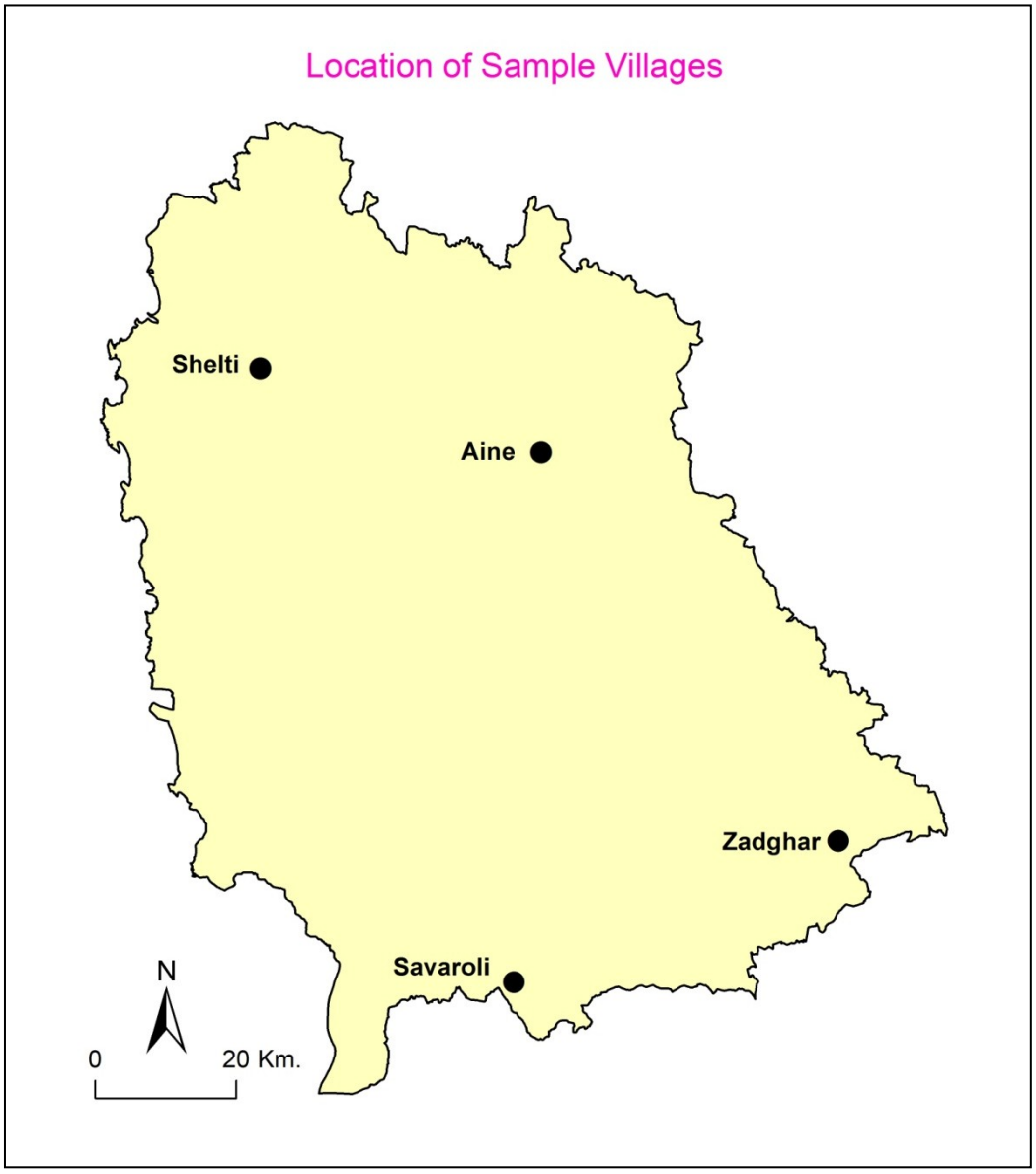

Location of Sample Villages
Shelti
Aine
Zadghar
Savaroli
N
0
20 Km.

Fig. 5.1

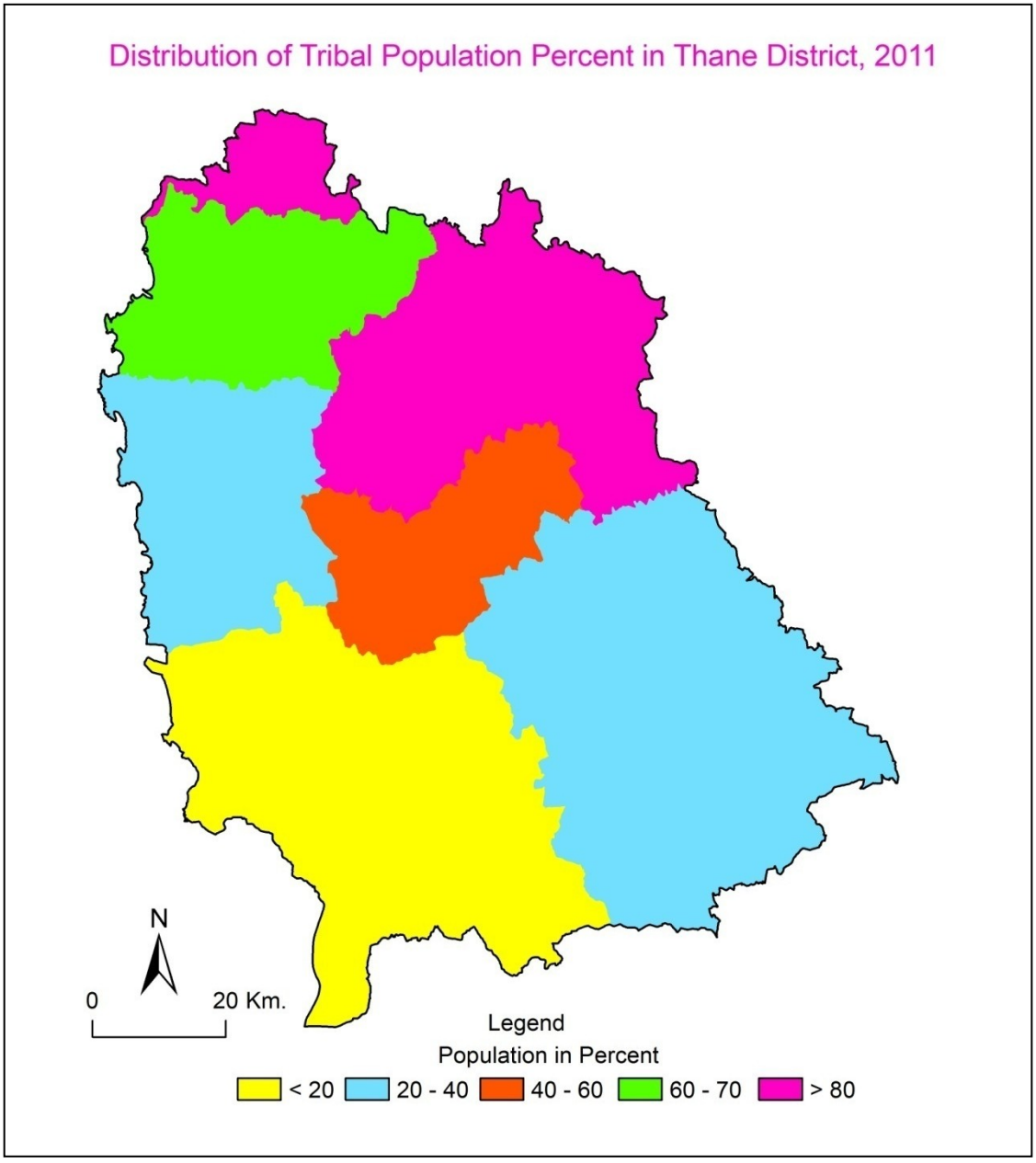

Distribution of Tribal Population Percent in Thane District, 2011
N
0
20 Km.
Legend
Population in Percent
< 20
20 - 40
40 - 60
60 - 70
> 80

Fig. 5.2

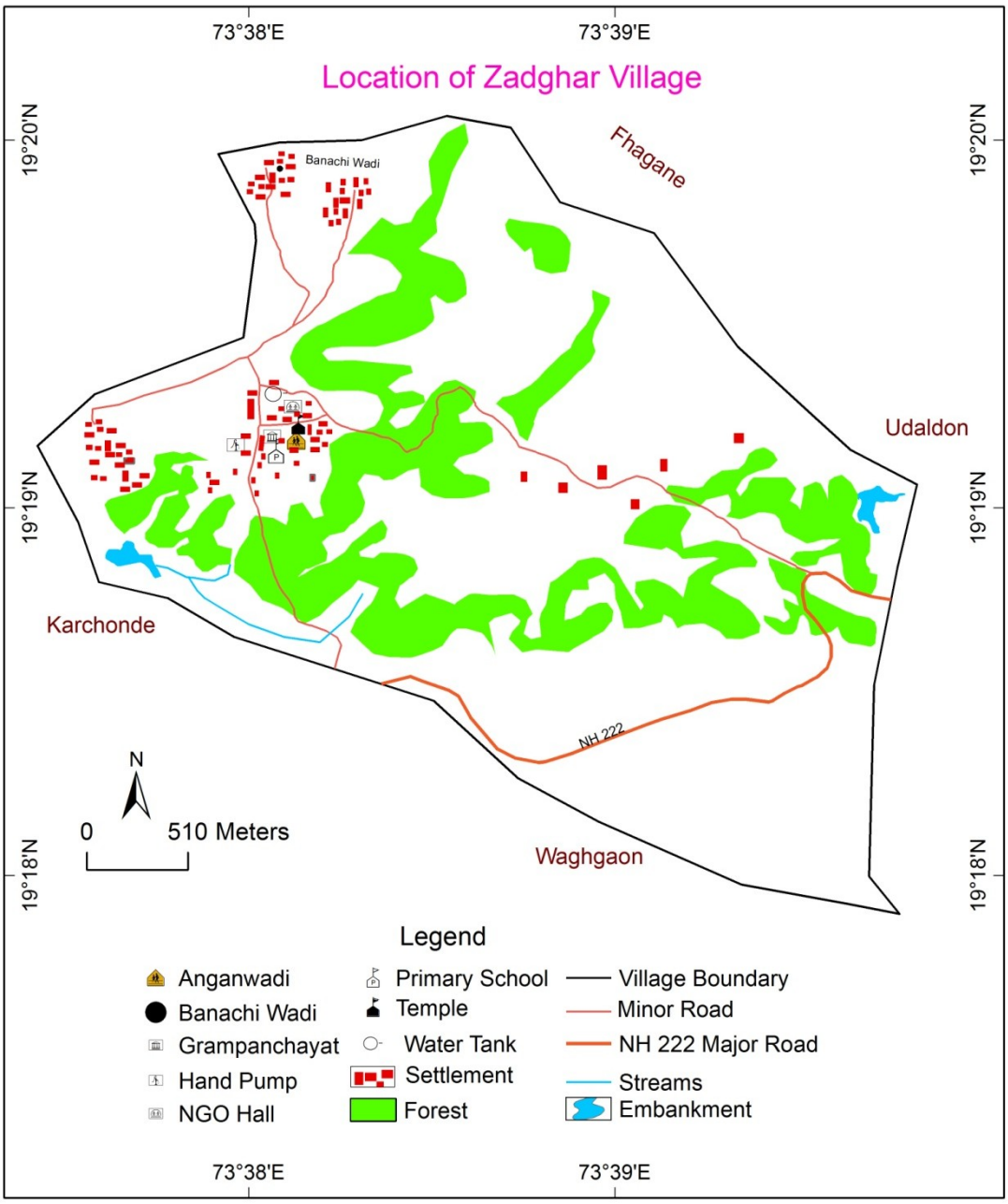

Location of Zadghar Village
73°38'E
73°39'E
19°20'N
19°19'N
19°18'N
Banachi Wadi
Fhagane
Udaldon
Karchonde
Waghgaon
NH 222
N
0
510 Meters
Legend
Anganwadi
Banachi Wadi
Grampanchayat
Hand Pump
NGO Hall
Primary School
Temple
Water Tank
Settlement
Forest
Village Boundary
Minor Road
NH 222 Major Road
Streams
Embankment

Fig. 5.3

The village experiences winter season from November to February. Summer season consists of three months from March to May. The soil appears is medium with red brown, reddish and black in colour and found patchy in nature. The forest covers 36 percent area and occurs mostly on in east part in this village.

**5.5.2 Demographic Characteristics**

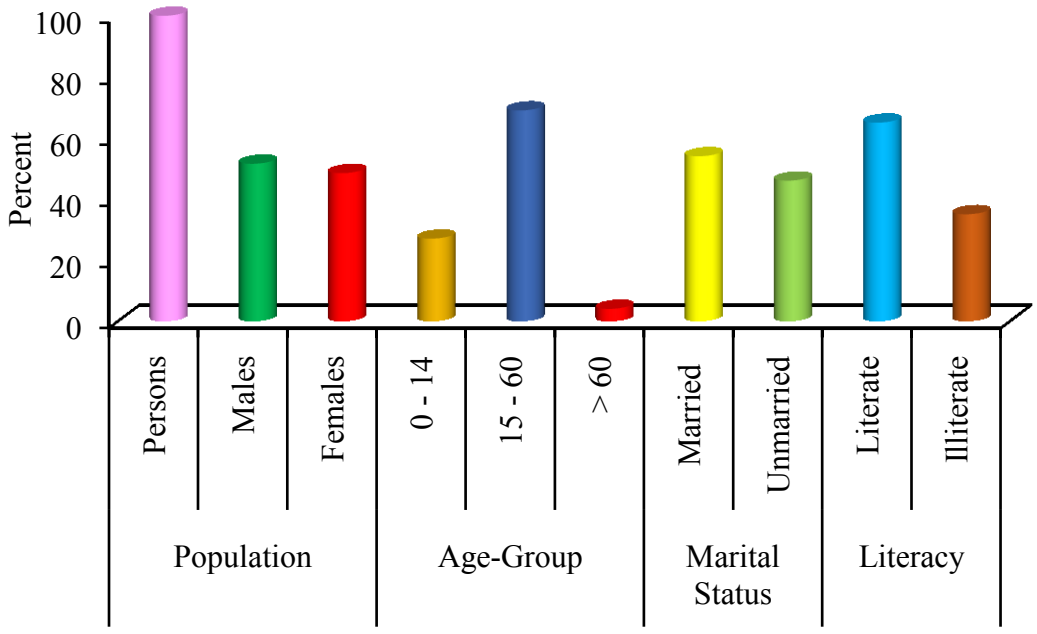
This villages as per (Censes of India, 2011) has 85 percent tribal. The total population of this village is 1505 persons. There are 329 households in Zadghar. 30 percent households are surveyed during fieldwork. Table-5.2 reveals that there are 718 of population (370 males and 348 females) and sex ratio is 941 females per 1000 male. Fig-5.4 exhibits that male percent accounts 51.53 and females 48.47 percent showing imbalance in male-female numbers. It was found that 63 percent population in Zadghar belongs to economically active age group. The percent of child age group is 34 and old age group are less 3. The crude activity rate is 62.33 percent. An age-sex structure in this village reveals triangular shape of pyramid and this village is found in developing stage having low fertility.

Table-5.2 : Population Characteristics in Zadghar Village

| Particulars | Persons | Particulars | Persons/Figures |
|---|---|---|---|
| Male Population | 370 | Less than 7 Age Population | 62 |
| Female Population | 348 | 0-14 Age Population | 177 |
| Persons Population | 718 | 15-60 Age Population | 448 |
| Married Population | 386 | More than 60 Age Population | 26 |
| Unmarried Population | 332 | Literacy in percent | 56.13 |
| Literate Population | 403 | Crude Activity Rate | 62.33 |
| Illiterate Population | 213 | Crude Birth Rate | 2.36 |
| Population Density | 189 | Crude Death Rate | 0.76 |
| Sex-ratio | 941 | | |

Source: Fieldwork, 2015

The number of persons in age group above 60 accounts for 4 percent. This village has poor life expectancy among tribals. The married persons are found high percent accounting for 53.76 as compared to unmarried (46.23 percent). Literacy is 56.13 percent. The crude birth rate and crude death rate are 2.36 and 0.76 respectively (Table-5.2). Thakur/Thakar and Kokana are the major tribes accounting 95.76 and 4.24 percent population respectively in this village (Fig.-5.4). Zadghar receives rainfall between 500 to 2000 millimeters hence settlement has slanting roof mostly of ‘Kouls’, ‘Tins’ and waste materials are from agriculture.


Population Distribution at Zadghar
Percent
100
80
60
40
20
0
Persons
Males
Females
0 - 14
15 - 60
> 60
Married
Unmarried
Literate
Illiterate
Population
Age-Group
Marital Status
Literacy

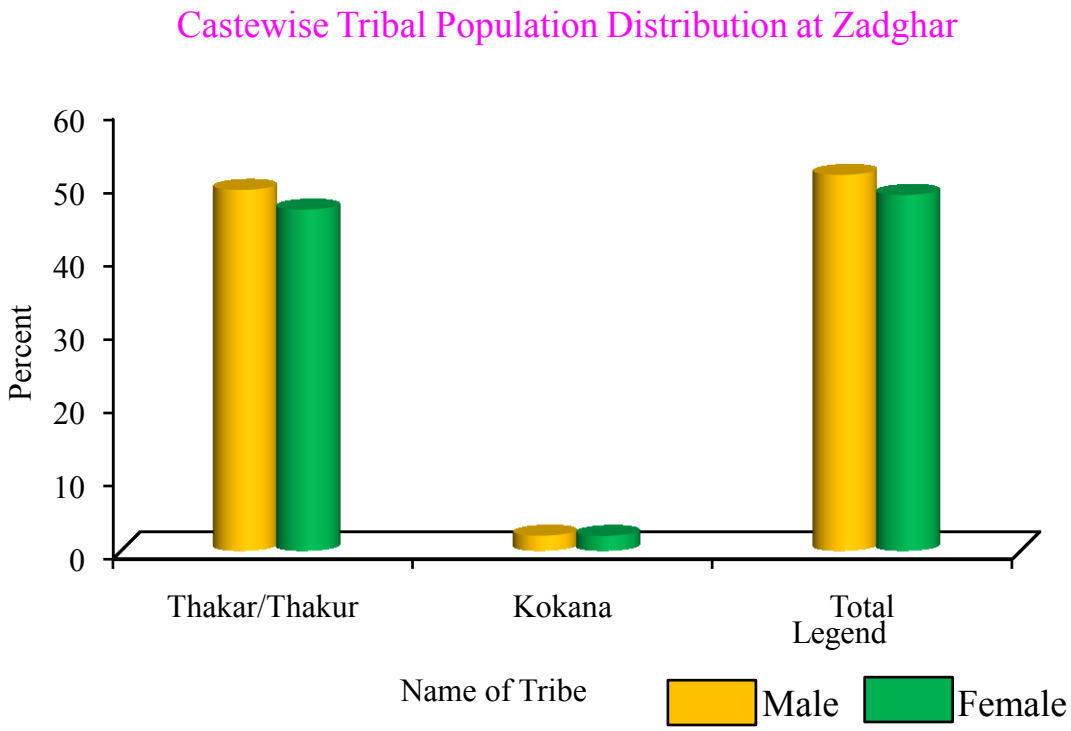

Castewise Tribal Population Distribution at Zadghar
Percent
60
50
40
30
20
10
0
Thakar/Thakur
Kokana
Total
Name of Tribe
Legend
Male
Female

Fig. 5.4

The clustered settlements of tribals found living together. The kaccha houses are accounts for 48 percent, semi-pakka (21 percent) and pakka (27 percent) (Fig-5.5) and their houses are mostly built up by stones, mud and bricks. Both kaccha and semi-pakka houses together accounts for 72 percent indicating low standard of living. The every small house was found consisting of 2 rooms. It was observed that 94 houses have 2 rooms or less (Fig.-5.5). 79 houses have built up area of approximately 200 square feet (Fig.-5.6). 28 percent houses have found separate kitchen during field work. The tribal women look after kitchen and drinking water. 77 households have used wood as fuel for cooking and 14 households consuming LPG and other fuels (Fig.-5.6). It was noticed that despite small sizes of houses village get electricity. One house has found absence of electricity. It was observed that the electricity has low shedding for about 10 hours every day time in summer season. 90 households possess residential phones and televisions whereas radios, music system, cooking gas, sewing machine are assess. Tribals live in low standard of living, poverty and illiteracy despite tribals strive want to come into main stream to information from electronic media by mobile phones and televisions.

**5.5.3 Landuse Characteristics**

Table-5.3 exhibits landuse pattern in Zadghar. It is observed that there is two percent irrigated land and cultivable west in Zadghar. As this village is situated in Western Ghat and area under forest account for 36 percent and 52 percent area is under cultivated land (Table-5.3).10 percent area from this village is not available for cultivation.

Table-5.3 : Land holding in Zadghar Village

| Sr. No. | Landuse Category | Area in Percent | Sr. No. | Landuse Category | Area in Percent |
|---|---|---|---|---|---|
| 1 | Forest area | 36 | 4 | Area not available for Cultivation | 10 |
| 2 | Cultivated Land | 52 | 5 | Irrigated | 2 |
| 3 | Cultivated Waste | - | | Total area | 100 |

Source: District Village Revenue Record, Zadghar Village, 2015

The area under forest area is found in south and east parts on hill slopes and is found unsuitable for cultivation. Kalu river is non-perennial river flowing through this village (Fig.-5.3).

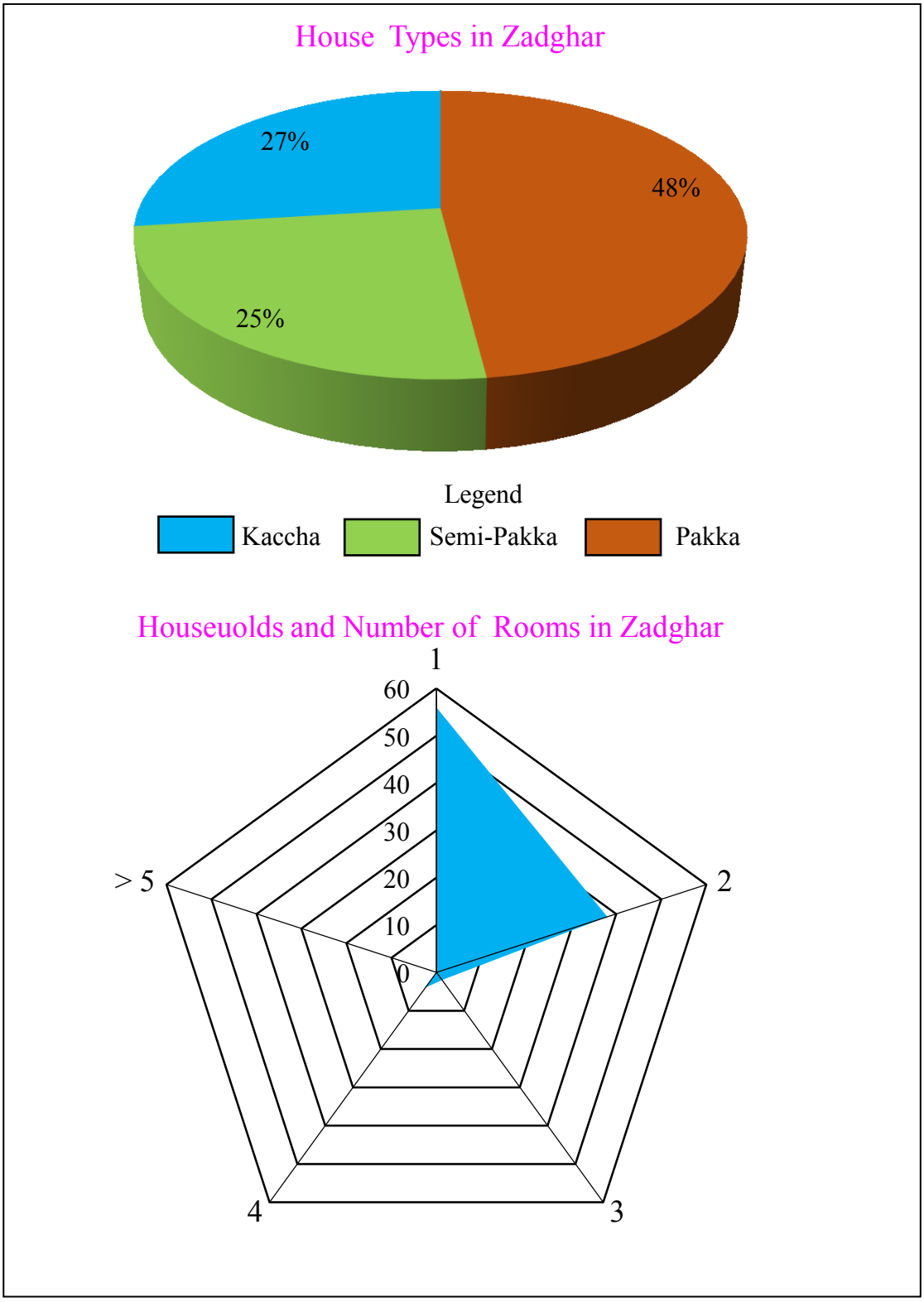

House Types in Zadghar
27%
48%
25%
Legend
Kaccha
Semi-Pakka
Pakka
Houseuolds and Number of Rooms in Zadghar
1
60
50
40
30
20
10
0
2
3
4
> 5

Fig. 5.5

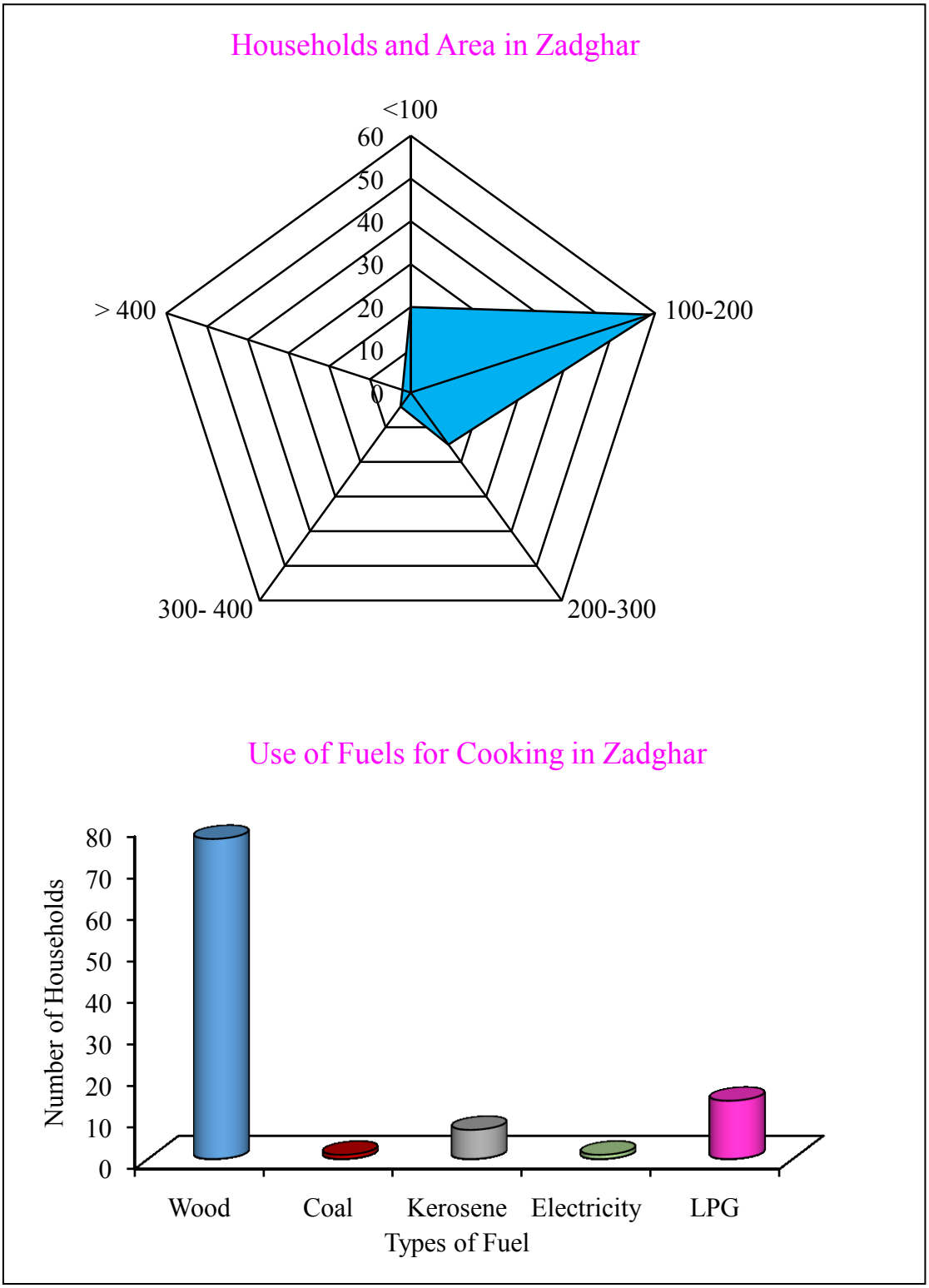

Households and Area in Zadghar
<100
60
50
40
30
20
10
0
100-200
200-300
300- 400
> 400
Use of Fuels for Cooking in Zadghar
Number of Households
80
70
60
50
40
30
20
10
0
Wood
Coal
Kerosene
Electricity
LPG
Types of Fuel

Fig. 5.6

### 5.5.4 Occupational Characteristics

Populations of Zadghar are involved in primary activity. Among them 79 percent are found engaged in agriculture, 16 percent work as labour, 4 percent in service sector and one percent in own business like Handicraft and Ayurveda Hospital of medicinal plant. 58 percent households have marginal landholding accounting less than 3 acres (Fig.-5.7) whereas 16 percent households are landless. 26 percent households have land between 3 to 10 acres land in this village. (Table-5.4)

Table-5.4 : Land holding in Zadghar Village

| Land size (Acres) | Households | Land size (Acres) | Households |
|---|---|---|---|
| < 1 | 41 | 5 to 10 | 6 |
| 1 to 3 | 17 | > 10 | 0 |
| 3 to 5 | 20 | None | 16 |

Source : Fieldwork, 2015

It was found that due to marginal land holding of tribals earn less income from agriculture among tribal. 46 percent households are seasonal workers hence tribals have given preference labourers. Tribals practices primitive type of agriculture. But few farmers observed that use chemical fertilizers rather than pesticides. The net annual agriculture income is less than 1 lakh per year accounting 87 percent households. It was found that tribal people has marginal land holding, lack of irrigation and capital and technology. Tribals of this village cultivates traditional low price crops, namely, rice, nagali, varai, toor, maize, gram and khurasani, hence their annual income is low. It is found that 80 percent households are satisfied in their present occupation whereas 20 percent have shown dissatisfaction for their present occupation as failing to fulfill the needs like food, cloth and shelter. Fig.-5.8 presents that maximum 87 families have annual income of less than one lakh. There is deficiency family whose annual income exceeds 5 lakh rupees. The village has one primary and one secondary school for a distance of one kilometer. For getting higher education villagers go to Murbad for 31 kilometers. Out of 718 people, excluding the children below 7-year tribals accounts 56.13 percent literacy. Where as it was 41.50 percent in 2011. There is a need to motivate tribals to go for education by providing educational materials, lunch and food during education. It was noticed that there was lack of awareness regarding health and family welfare programmes among tribals and inaccessibility to primary health center and private clinics in this villages. Articles

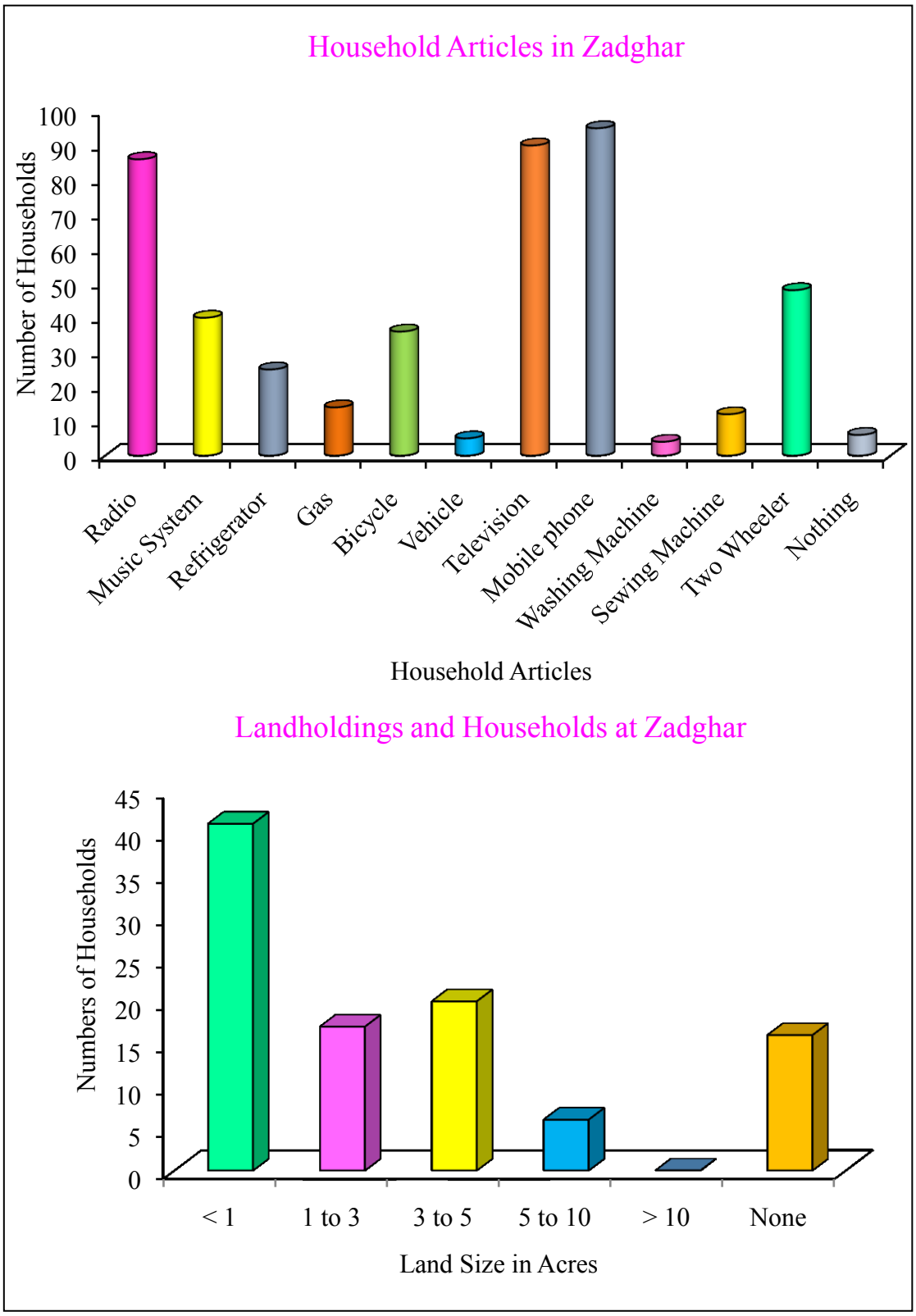

Household Articles in Zadghar
Number of Households
100
90
80
70
60
50
40
30
20
10
0
Radio
Music System
Refrigerator
Gas
Bicycle
Vehicle
Television
Mobile phone
Washing Machine
Sewing Machine
Two Wheeler
Nothing
Household Articles
Landholdings and Households at Zadghar
Numbers of Households
45
40
35
30
25
20
15
10
5
0
< 1
1 to 3
3 to 5
5 to 10
> 10
None
Land Size in Acres

Fig. 5.7

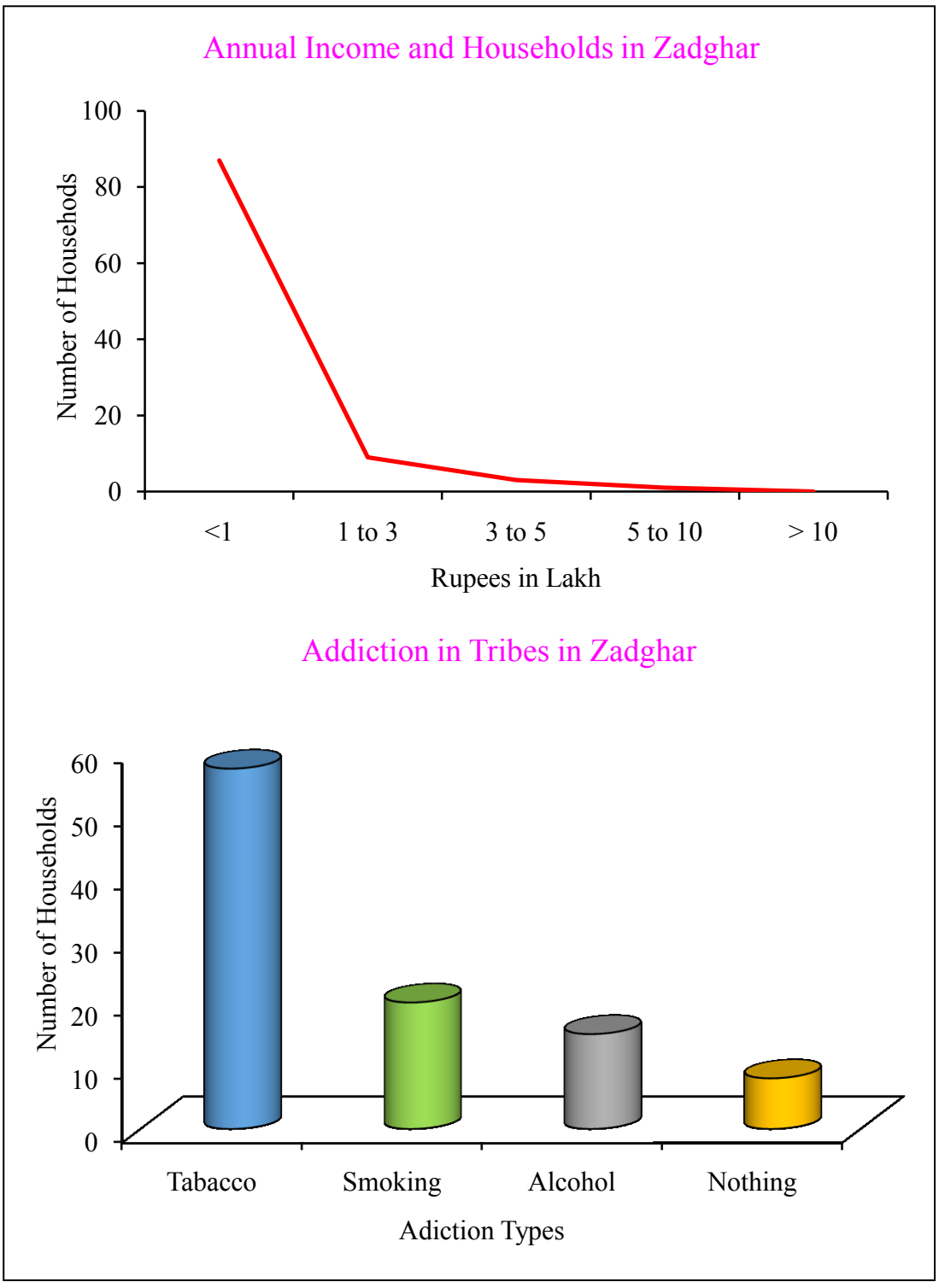

Annual Income and Households in Zadghar
100
80
60
40
20
0
Number of Households
<1
1 to 3
3 to 5
5 to 10
> 10
Rupees in Lakh
Addiction in Tribes in Zadghar
60
50
40
30
20
10
0
Number of Households
Tabacco
Smoking
Alcohol
Nothing
Adiction Types

Fig. 5.8

The medicinal plants are used as first aid medicines by 60 percent households. 50.67 percent households prefer home delivery in stead of maternity hospital. Hence, infant mortality and female mortality rate are high in the age group 14 to 45 and life expectancy is less as among age group of above 60 ages. There are 51 percent households are unaware about HIV scheme. An attempt was made to find out awareness about family planning among tribals for using conception control methods but are lacking. It was found that 87 families avoid conception control methods and only 13 households use condom, pills and female sterilization resulting into high fertility among tribals. Hand pumps are the main source for drinking water villagers. The Public water supply system is available only one time during morning for two hours only. Tribals are found unaware about purification for drinking water. 30 families are found use drink water without purification and 70 families simply strain it by cloth. The scarcity of drinking water is acute during summer.

The alcohol addiction is common among tribals. 62 percent households are found addicted to chewing tobacco, smoking and drinking alcohol. Among them 57 percent family heads are habitual to chewing tobacco and smoking by 20 percent and 15 percent drinking alcohol (Fig.-5.8). This addiction has affected both health and tribal families life. The poverty, lack of planning and saving are common among the tribals. It was observed that 87 percent households are satisfied with their socio-economic conditions. 3 families have in-migrant in Zadghar and out migration accounts 23 percent within Maharashtra state for getting employment.

**5.5.5 Problems of Village**

During field visits, it was found that agriculture is the main occupation for 58 percent households, however the land holdings are marginal (less then 3 acres) hence, is found low income. In covering, marginal landholding, less productivity, and unemployment are the difficulties of this village. Water scarcity during the summer and irregular electric supply are other problems. Unemployment, particularly summer season is severe. Illiteracy and lack of awareness regarding education and health are the main obstacles in the life of tribals. This has resulted high fertility and low life expectancy. Medical facilities are inadequate hence creating health and hygiene problems. The lack of internal roads, underground drainage, toilet facility and fuel are the common problems. Addictions to bad habits resulting serious effect on health among tribals in Zadghar village.

### 5.6 Aine Village

Aine is a historical village lying Jawhar tahsil in Thane district. It is 115 kilometers away from Thane district headquarter and 19 kilometers from Jawhar extending on 19º48' north latitudes and 73º 14' east longitudes. The village spreads over 847.71 hectares and is connected by State Highway-22. Aine is bounded by Chauk in north, Vadavali Tarf Gaon in east, Khidase in south and Medhe village in west (Fig.-5.9). According to 2011 Census of India, village has 908 population having 104 persons per square kilometers density. The scheduled tribes constitute 100 percent in this village.

#### 5.6.1 Physical Characteristics

The physiography of village is undulated and is situated along Pinjal river. The Aine is located at the elevation of 473 meters. The slope is towards west and southwest. The central part in this elevated by east range in east whereas northeast and central parts are hilly and is covered by forest. The village receives average rainfall between 1500-2000 millimeters from southwest monsoon during June to October followed by winter from November to February. The summer season is from March to May. The soil is coarse medium of brown colour. 75 percent area is forest occupying hill slopes lying east.

#### 5.6.2 Demographic Characteristics

The total population of this village is 908 among them 906 are scheduled tribes (2011). 100 households of Aine were surveyed consisting 614 populations. 318 are males and 296 are females in this village were surveyed. The sex ratio is 930 females per 1000 males. Fig.-5.10 and Table-5.5 reveals that males have 52 percent and females accounts 48 percent.

Table-5.5 : Population Characteristics in Aine Village Particulars

| Particulars | Persons | Particulars | Persons |
|---|---|---|---|
| Male Population | 318 | Less than 7 Age Population | 98 |
| Female Population | 296 | 0-14 Age Population | 189 |
| Persons Population | 614 | 15-60 Age Population | 303 |
| Married Population | 311 | More than 60 Age Population | 35 |
| Unmarried Population | 307 | Literacy in percent | 73.29 |
| Literate Population | 450 | Crude Activity Rate | 65.18 |
| Illiterate Population | 164 | Crude Birth Rate | 2.19 |
| Population Density | 76 | Crude Death Rate | 0.83 |
| Sex-ratio | 930 | | |

Source: Fieldwork, 2015.

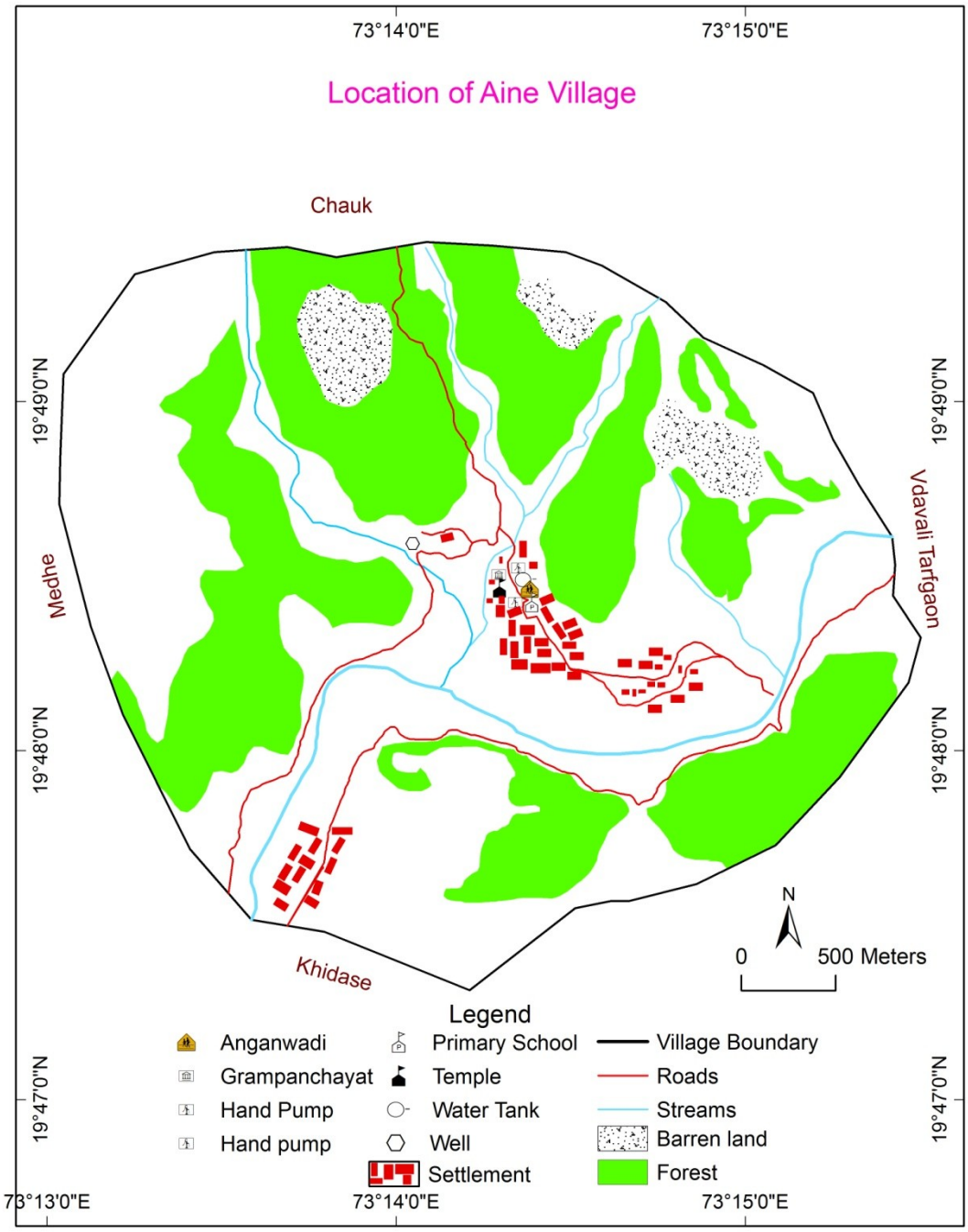

73°14'0"E
73°15'0"E
Location of Aine Village
Chauk
19°49'0"N
19°48'0"N
19°47'0"N
Medhe
Vdavali Tarfgaon
Khidase
N
0
500 Meters
Legend
Anganwadi
Grampanchayat
Hand Pump
Hand pump
Primary School
Temple
Water Tank
Well
Settlement
Village Boundary
Roads
Streams
Barren land
Forest
73°13'0"E
73°14'0"E
73°15'0"E

Fig. 5.9

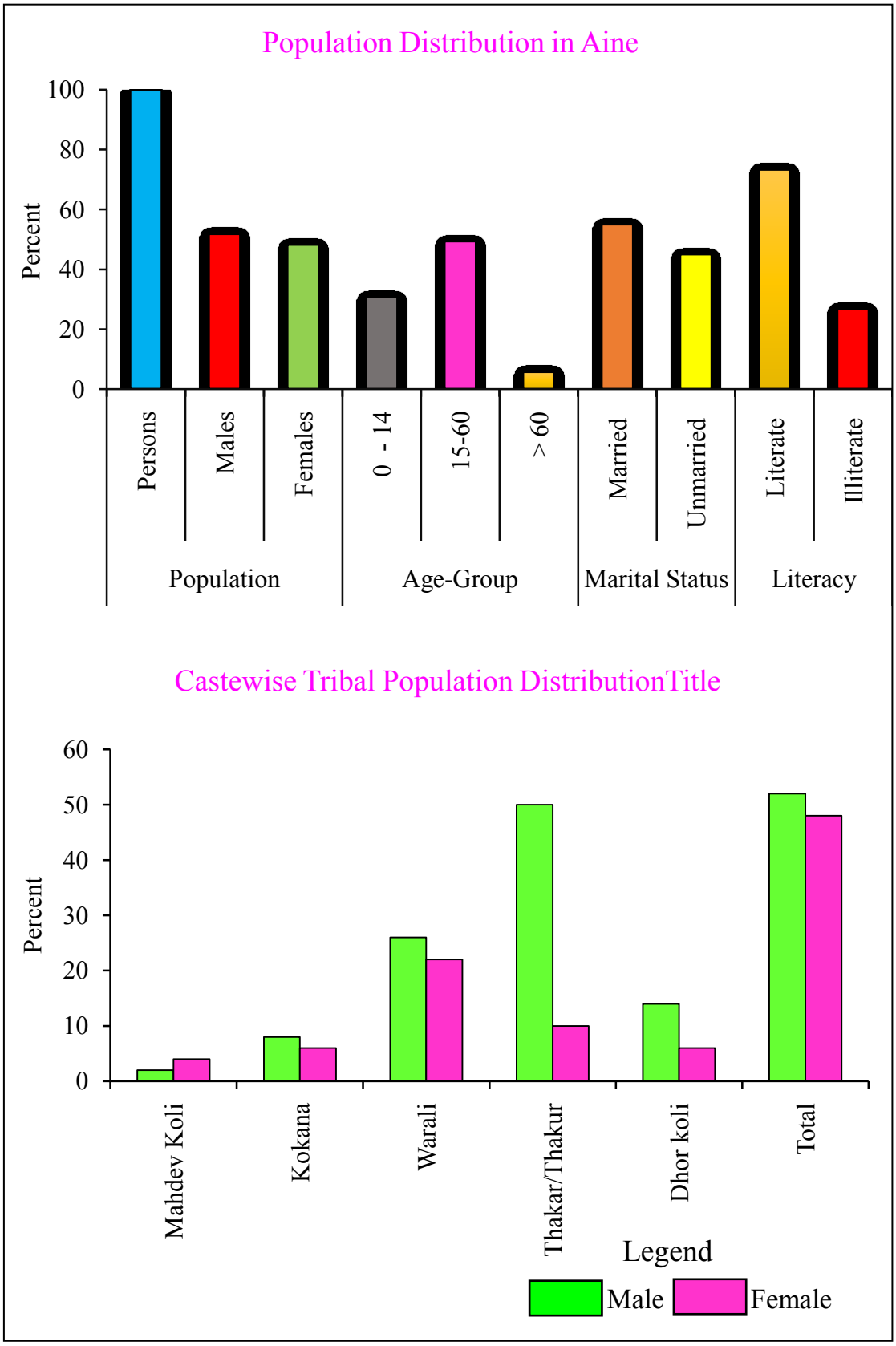

Population Distribution in Aine
Percent
100
80
60
40
20
0
Persons
Males
Females
0 - 14
15-60
> 60
Married
Unmarried
Literate
Illiterate
Population
Age-Group
Marital Status
Literacy
Castewise Tribal Population DistributionTitle
Percent
60
50
40
30
20
10
0
Mahdev Koli
Kokana
Warali
Thakar/Thakur
Dhor koli
Total
Legend
Male
Female

Fig. 5.10

49.34 percent population is economically active and 15.96 percent of child and old age group (5.70) is less. The crude activity rate is high accounting 65.18. Age-sex structure reveals triangular shape of pyramid and high fertility and less life expectancy. The proportion of married persons is high (50.32 percent) as compared to unmarried persons (49.68 percent). Literacy is less 73.29 percent due to education facilities and towns are far away from Aine village. The crude birth rate and crude death rate are 2.19 and 0.83 respectively.

It is noteworthy that 100 percent surveyed tribal households belong to Thakur caste in this village. The females percent is less than males revealing low sex-ratio of Warli tribe in village. This village receives moderate rainfall between 1500 to 2000 mm hence, houses have slanting roofs. The houses are clustered and built up by agricultural materials, stones, mud and bricks. Both kaccha and semi-pakka houses accounts 90 percent (Fig.-5.11) in this village.

Table- 5.6: Sizes of Household at Aine

| Number of Rooms | Households | Households (Square Feet) | Households |
|---|---|---|---|
| 1 | 51 | <100 | 40 |
| 2 | 30 | 100-200 | 29 |
| 3 | 14 | 200-300 | 21 |
| 4 | 3 | 300-400 | 8 |
| >5 | 2 | >400 | 2 |

Source : Fieldwork, 2015. Note : Area of households are given in square feet.

The households size are found small consisting of 2 rooms. 81 percent households have 2 or less rooms (Table-5.6). 69 houses have built area upto 200 square feet. There is a absence of separate kitchen in 70 households and The use of wood as fuel for cooking accounts 80 households whereas 20 households use LPG and other fuels (Fig.-5.12). It is found that 8 percent households do not have electricity facility. The power-cut for 8 hours during day time. Fig.-5.13 reveals articles used in different households. It is noticed that 82 households use mobile phones followed by televisions accounting 56 as presently showing awareness of these tools for communication whereas lacking radio, music system, refrigerator, washing machine, sewing machine and vehicles 15 households were found complete absence of these articles.

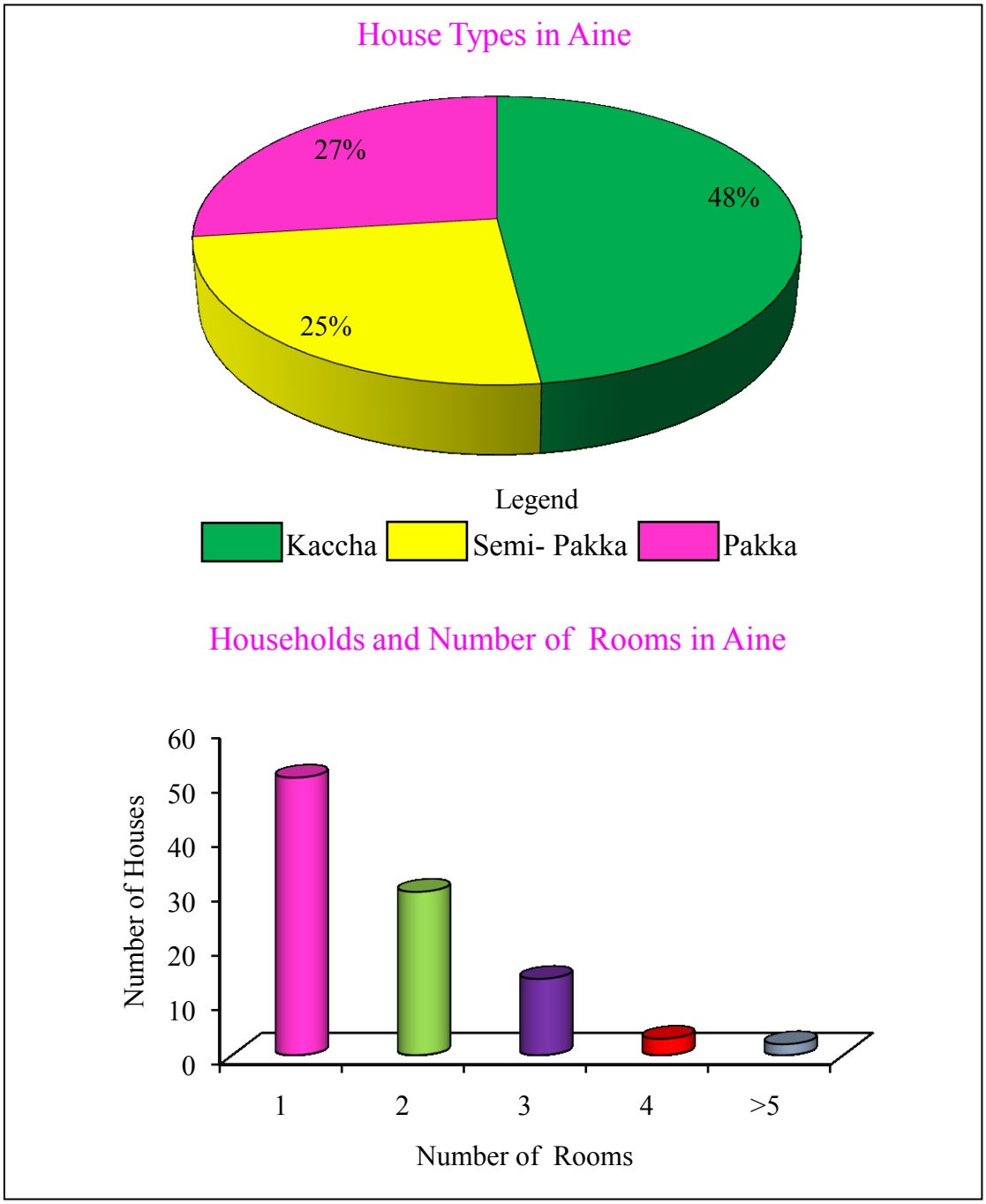

House Types in Aine
27%
48%
25%
Legend
Kaccha
Semi- Pakka
Pakka
Households and Number of Rooms in Aine
Number of Houses
60
50
40
30
20
10
0
1
2
3
4
>5
Number of Rooms

Fig. 5.11

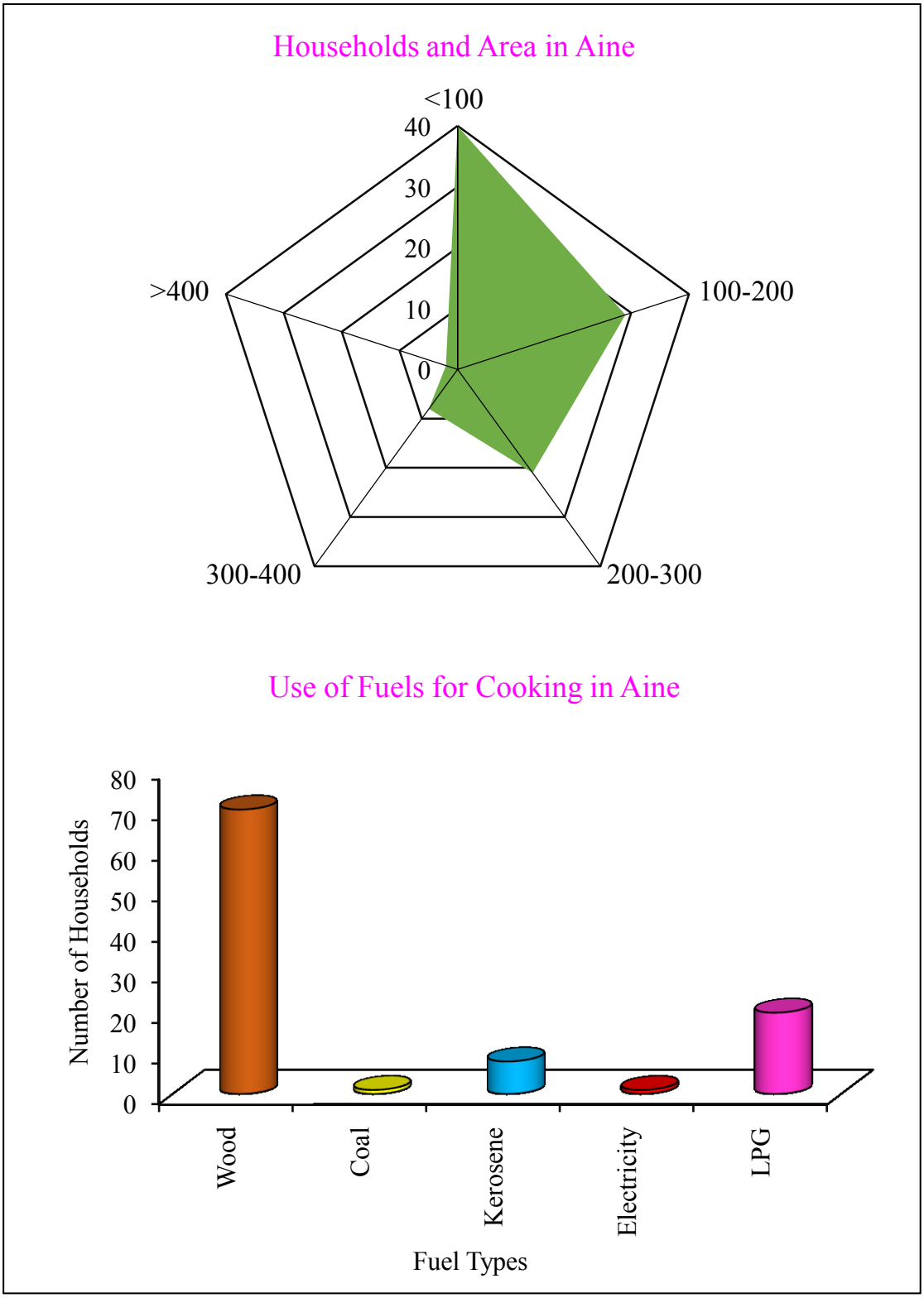

Households and Area in Aine
<100
40
30
20
10
0
100-200
200-300
300-400
>400
Use of Fuels for Cooking in Aine
Number of Households
80
70
60
50
40
30
20
10
0
Wood
Coal
Kerosene
Electricity
LPG
Fuel Types

Fig. 5.12

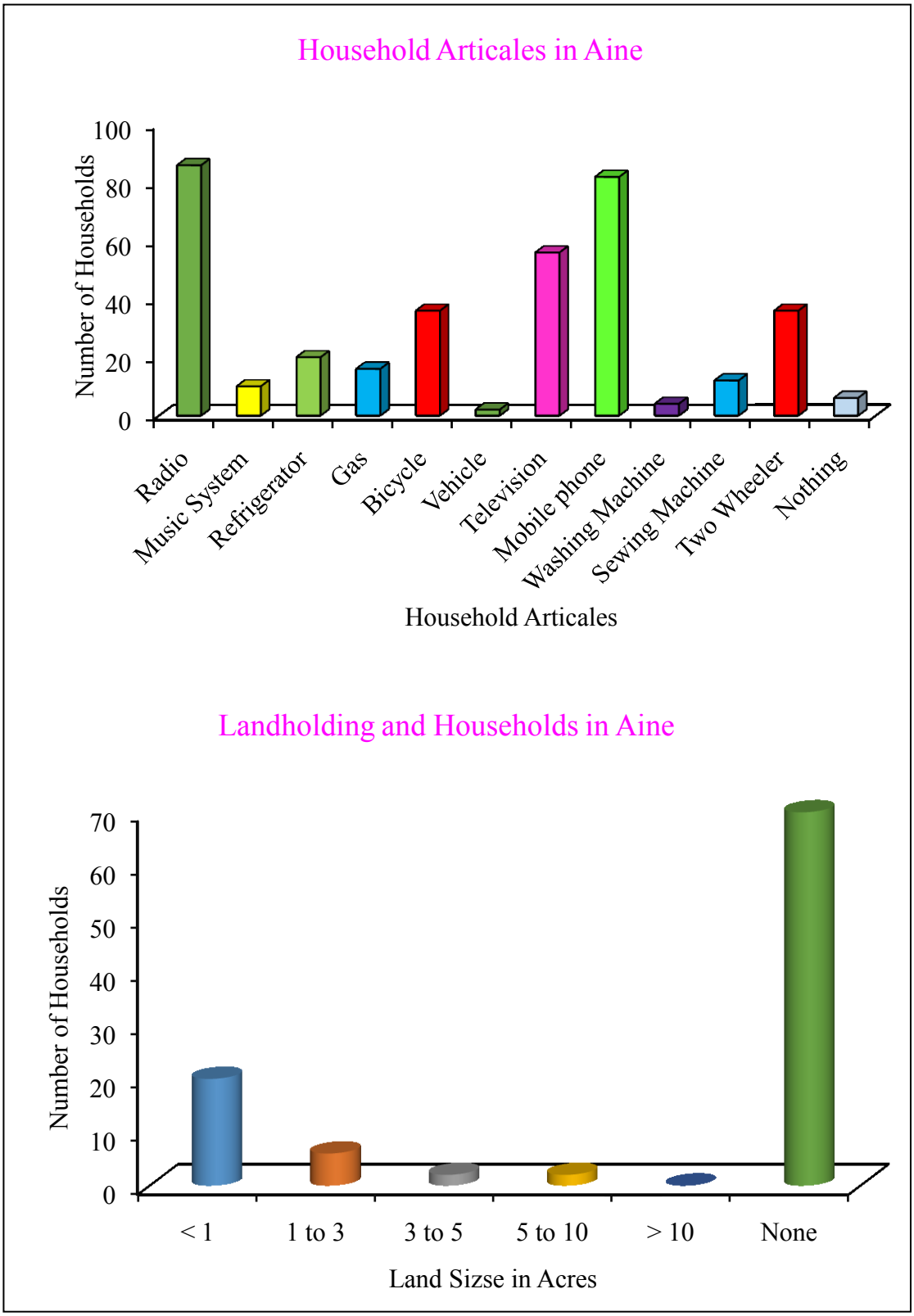

Household Articales in Aine
Number of Households
100
80
60
40
20
0
Radio
Music System
Refrigerator
Gas
Bicycle
Vehicle
Television
Mobile phone
Washing Machine
Sewing Machine
Two Wheeler
Nothing
Household Articales
Landholding and Households in Aine
Number of Households
70
60
50
40
30
20
10
0
< 1
1 to 3
3 to 5
5 to 10
> 10
None
Land Sizse in Acres

Fig. 5.13

The present study is found that the tribals to suffer from poverty, high birth rate and illiteracy. To overcome this, the efforts should be made to literacy and necessary facilities to be provided to them either at lower cost for improving standard of living of this village.

### 5.6.3 Landuse Characteristics

This village has 4 percent irrigated area as topography is uneven and also absence of perennial water source. The forest is on 21 percent area and 50 percent area is under cultivation (Table-5.7).

Table-5.7 : Landuse Pattern in Aine Village

| Sr. No. | Landuse Category | Area in percent | Sr. No. | Landuse Category | Area in percent |
|---|---|---|---|---|---|
| 1 | Forest area | 75 | 4 | Cultivable Waste | 2 |
| 2 | Irrigated | 11 | 5 | Area not available for cultivation | 8 |
| 3 | Un Irrigated | 4 | | Total area | 100 |

Source : District Village Revenue Record, Aine Village, 2015.

8 percent area is not available for cultivation and 6 percent is found under cultivable waste. The forest lies in northeast part on hillside. Hill slopes are not suitable for cultivation. There is not permanent source of water for agriculture from Pinjal River; hence, the area under irrigation is small accounting 11 percent. The forest area occupying 75 percent of total village area.

### 5.6.4 Occupational Characteristics

Tribals are engaged particularly primary activities as labour, farmers and forest activity in this village. 76 percent tribals are worked as labours, 13 percent in services, 10 percent as farmers and 1 percent are involved in business. Few tribals own their land but due to small landholding and un-irrigation prefer to work as labours. Out of 100 households 19 households works as farmer on farms (Fig.-5.13) whereas 81 percent households are landless. 15 percent household belongs to less than 3 acres land (Table-5.8). Due to marginal land-holding, income getting from agriculture is less. 14 percent area is irrigated by wells and canals. Chemical fertilizers and pesticides are used for growing crops. Income from labour work is 100 to 150 rupees per day and it is flexible every day hence life of tribals are miserable.

Table-5.8 : Landholding in Aine Village

| Land size in Acres | Households | Land size in Acres | Households |
|---|---|---|---|
| < 1 | 20 | 5 to 10 | 2 |
| 1 to 3 | 6 | > 10 | 0 |
| 3 to 5 | 2 | None | 70 |

Source : Fieldwork, 2015.

The total annual income is less than 1 lakh for 89 percent households. The work as laboures for others is the main source of income for tribals and but it is not regular and therefore, has less annual income. 20 percent families have found dissatisfied of their present occupation because of jobs uncertainty and therefore, poverty overcomes in this village. Children of this village are say to primary school for a distance of 2.5 kilometers and secondary and higher education at Jawhar (20 kilometers). The village accounts 73.29 percent literacy (Table-5.5). The efforts should be made to inspire tribals for higher education by providing educational scholarships. It is found that there is lack of awareness regarding health and family welfare programme. The use of medicinal plants as first aid medicine is less (43 households) and 58 percent has ignored maternity hospital during delivery absence due to non availability of primary health center in this village. Public wells are main source of drinking water. 40 families have found using water without purification and 60 families strain by cloth.

Alcohol and drugs addiction are common among tribals accounting 61 percent and chewing tobacco, smoking and drinking alcohol addition (Fig.-5.14). This has badly effect on health, economy, and wellbeing of tribals. It is found that though tribal living in poverty and backwardness, 80 percent family from Aine village are satisfied with their socio-economic condition. 28 families have found migrated from Aine for job seeking accounting 10 persons for education.

**5.6.5 Problems of Village**

The unemployment, poverty, alcohol addictions are major problems faced by tribal community in this village. Irrigation is lacking, absence of toilet and less drinking water are causing unhygienic conditions. Lack of awareness about family planning and alcohol addiction are the main hurdles among tribals. During the field survey, it was found that 67 percent householders expressed their opinion that government should provide employment for tribals during non-harvesting period.

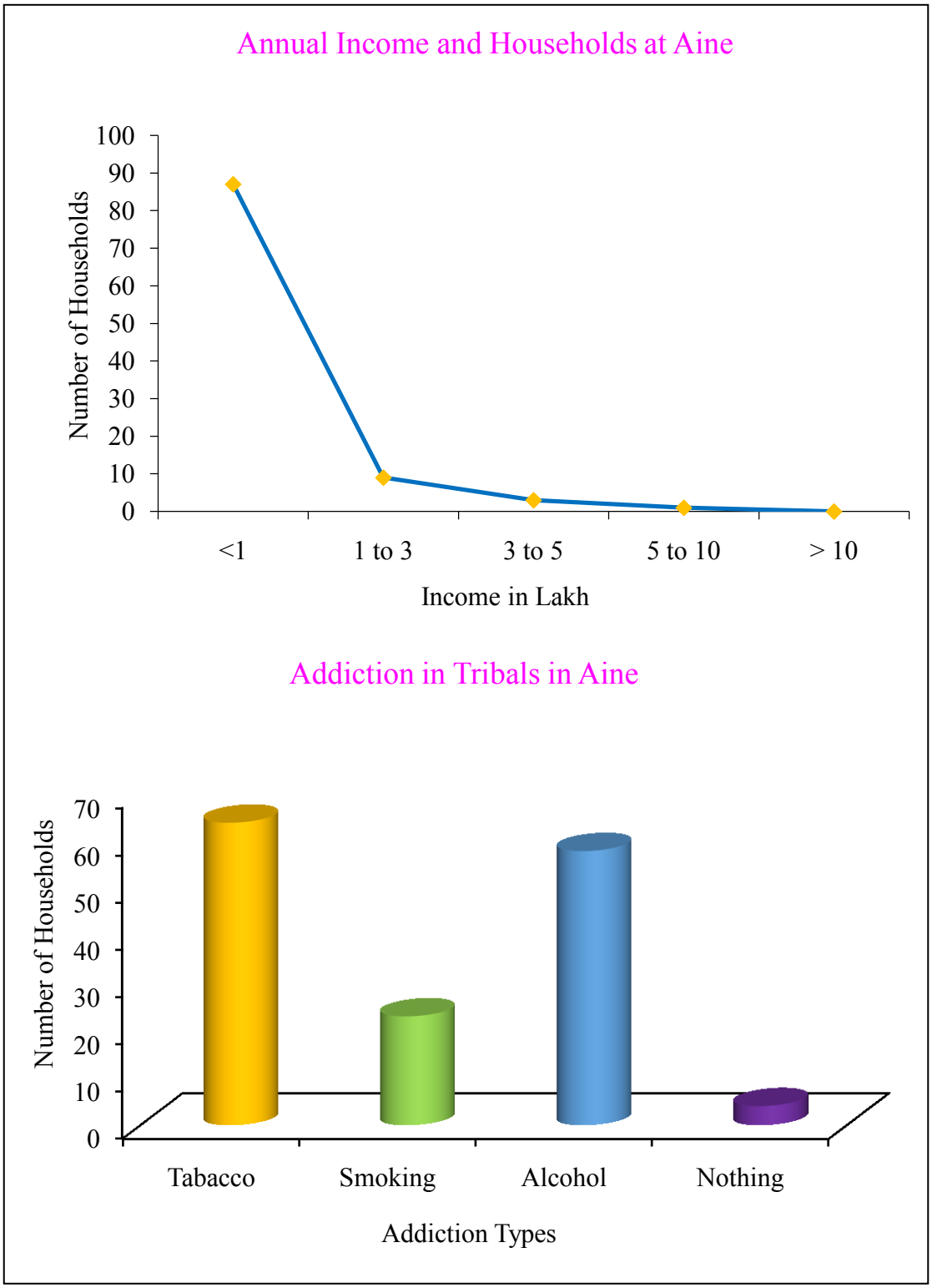

Annual Income and Households at Aine
Number of Households
100
90
80
70
60
50
40
30
20
10
0
<1
1 to 3
3 to 5
5 to 10
> 10
Income in Lakh
Addiction in Tribals in Aine
Number of Households
70
60
50
40
30
20
10
0
Tabacco
Smoking
Alcohol
Nothing
Addiction Types

Fig. 5.14

### 5.7 Shelti Village

This village lies in Dahanu tahsil in Thane district. It is situated at $19^0$ 54' north latitudes and $72^0$50' east longitudes. It is 18 kilometers away from Dahanu and 116 kilometers from Thane. Shelti is connected by Chandwad road to Jawhar and 12 kilometers from Vangaon railway station and is bounded by Raitali and Pimpalshet Khurd in north, Vadhane in east, Nikhale in south and Rankol in west (Fig.-5.15). The village covers 69 hectares area having population of 154 persons and 42 households in 2011. The density of population is 26 persons per square kilometer which is lowest among selected sample villages under investigation. The scheduled tribal population accounts 79 percent.

#### 5.7.1 Physical Characteristics

Shelti village is near to Surya river and it is flowing towards south and finally, meet to Vaitarna river. The village altitude having 43 meters above mean sea level. The slope is towards northwest to southeast direction. The village receives annual rainfall between 2000-2500 millimeters from southwest monsoon. The village experiences winter season from November to January and summer season from March to May. The soil is low fertile and patches of soil are found in black in colour and is suitable crop growth found. Forest lies in west part within village.

#### 5.7.2 Demographic Characteristics

Total population of the village is 154 persons belonging to scheduled tribes accounting 100 present and has 42 households (Census of India, 2011). 100 percent households were surveyed during fieldwork. There are 74 males and 80 females in this village (Table-5.9).

Table-5.9: Population Characteristics in Shelti Village Particulars

| Particulars | Persons | Particulars | Persons |
|---|---|---|---|
| Male Population | 74 | Less than 7 Age Population | 26 |
| Female Population | 80 | 0-14 Age Population | 42 |
| Persons Population | 154 | 15-60 Age Population | 68 |
| Married Population | 88 | More than 60 Age Population | 18 |
| Unmarried Population | 66 | Literacy in percent | 36.36 |
| Literate Population | 56 | Crude Activity Rate | 79.06 |
| Illiterate Population | 98 | Crude Birth Rate | 0.89 |
| Population Density | 26 | Crude Death Rate | 0.91 |
| Sex-ratio | 1081 | | |

Source: Fieldwork 2015.

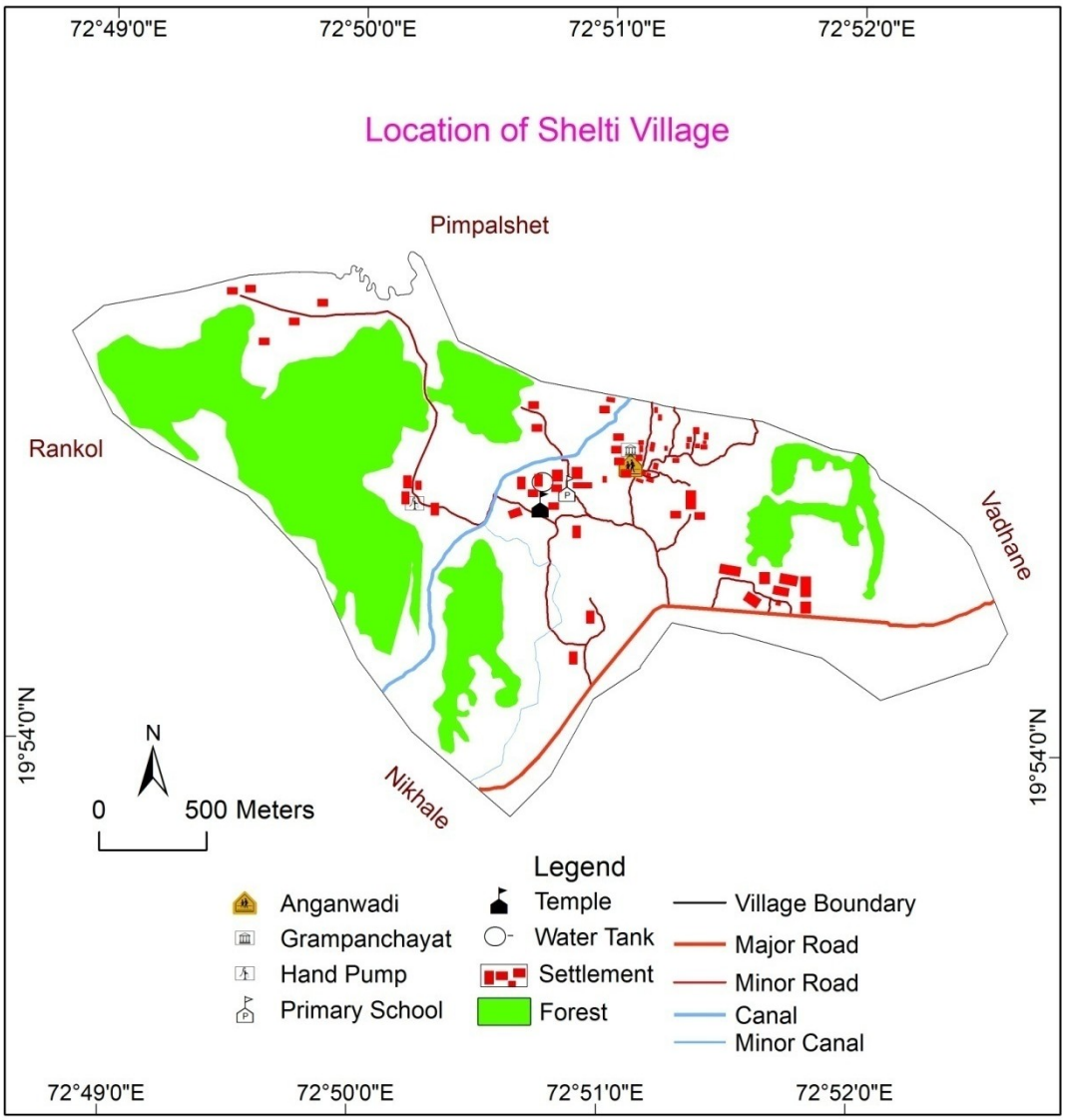

72°49'0"E
72°50'0"E
72°51'0"E
72°52'0"E
Location of Shelti Village
Pimpalshet
Rankol
Vadhane
Nikhale
19°54'0"N
N
0
500 Meters
Legend
Anganwadi
Grampanchayat
Hand Pump
Primary School
Temple
Water Tank
Settlement
Forest
Village Boundary
Major Road
Minor Road
Canal
Minor Canal

Fig. 5.15

The village has dispersed types of settlements. The sex ratio is 1081. Fig.-5.16 exhibits distribution of population at Shelti accounting 48.05 percent males and 51.95 percent females. Age group-wise population reveals that 44.16 percent population belongs to economically active age group between to 27.27 percent from young age group and 11.11 percent from old age group. The crude activity rate is 79.06. An age-sex structure represents gradually evolves shape of pyramid showing rapid growth of young population. The number of persons in this age groups above 60 caste accounting 11.11 percent which shows moderate life expectancy. The proportion of married persons is high having 57 percent as compared to unmarried persons (42.85 percent). Literacy accounts 36.36 percent. The crude birth rate and crude death rate accounts 0.89 and 0.81 percent respectively. The sample households covers 100 percent scheduled tribe. Warali and Sawar are major tribes accounting 60 and 11 percent respectively in this village (Fig.-5.16).

Shelti receives 500-1200 millimeters moderate rainfall region hence, houses built of flat roofs and are found dispersed. There are three house types among them, kaccha accounts for 54 percent, semi pakka (26 percent) and pakka (19 percent) (Fig.-5.17). Houses of this village are built by stones, mud and bricks. The sizes of households are small and mostly consisting of one room covering 100 square feet 32 houses have 2 or less rooms (Fig.-5.18). 6 houses have area upto 200 square feet. Due to less number of rooms and less area are 76 percent houses have absence of separate kitchen. 71 percent households are using wood as fuel for cooking and 11 percent are consuming LPG and other fuels (Fig.-5.18). Presently, 95 percent houses enclose electricity supply. The electricity load-shedding is common problem for this village upto 10 hours during day time in summer season. It clearly indicates that 35 and 38 houses possess televisions and phones are found in this village respectively. 42 households are found using radio. Tribals are found use of music system, refrigerator, washing machine, cooking gas, sewing machine, two wheeler and vehicles (Fig.-5.19). Whereas three houses are lacking these article. It was noted that tribal people can increase their standard of living if farmers use irrigation from canal and for taking cash crops and sold to nearest villages by using Dahanu and Vangaon railway line. Thus, this village has found better conditions than other sample villages undertaken in study region.

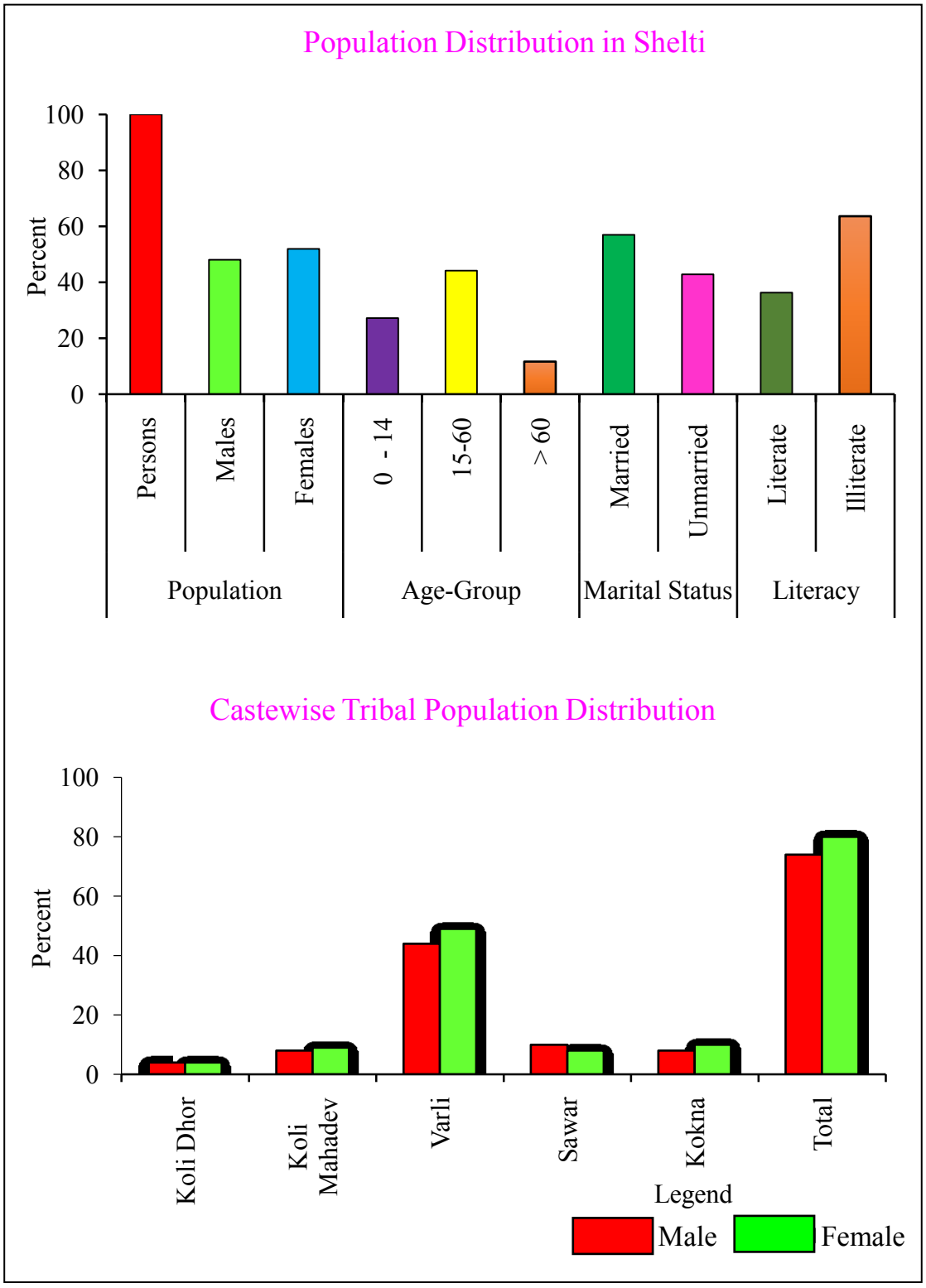

Population Distribution in Shelti
Percent
100
80
60
40
20
0
Persons
Males
Females
0 - 14
15-60
> 60
Married
Unmarried
Literate
Illiterate
Population
Age-Group
Marital Status
Literacy
Castewise Tribal Population Distribution
Percent
100
80
60
40
20
0
Koli Dhor
Koli Mahadev
Varli
Sawar
Kokna
Total
Legend
Male
Female

Fig. 5.16

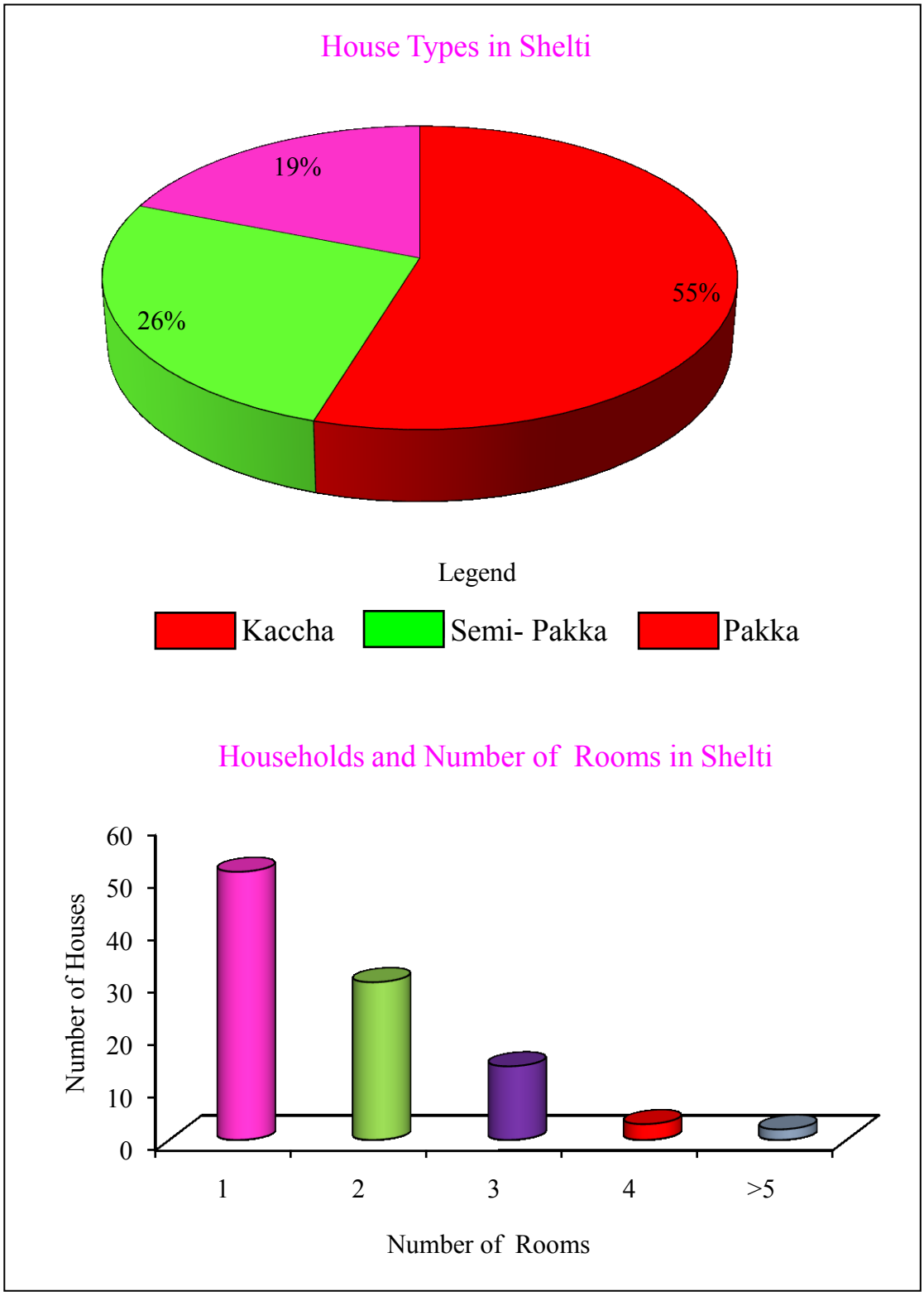

House Types in Shelti
19%
26%
55%
Legend
Kaccha
Semi- Pakka
Pakka
Households and Number of Rooms in Shelti
Number of Houses
60
50
40
30
20
10
0
1
2
3
4
>5
Number of Rooms

Fig. 5.17

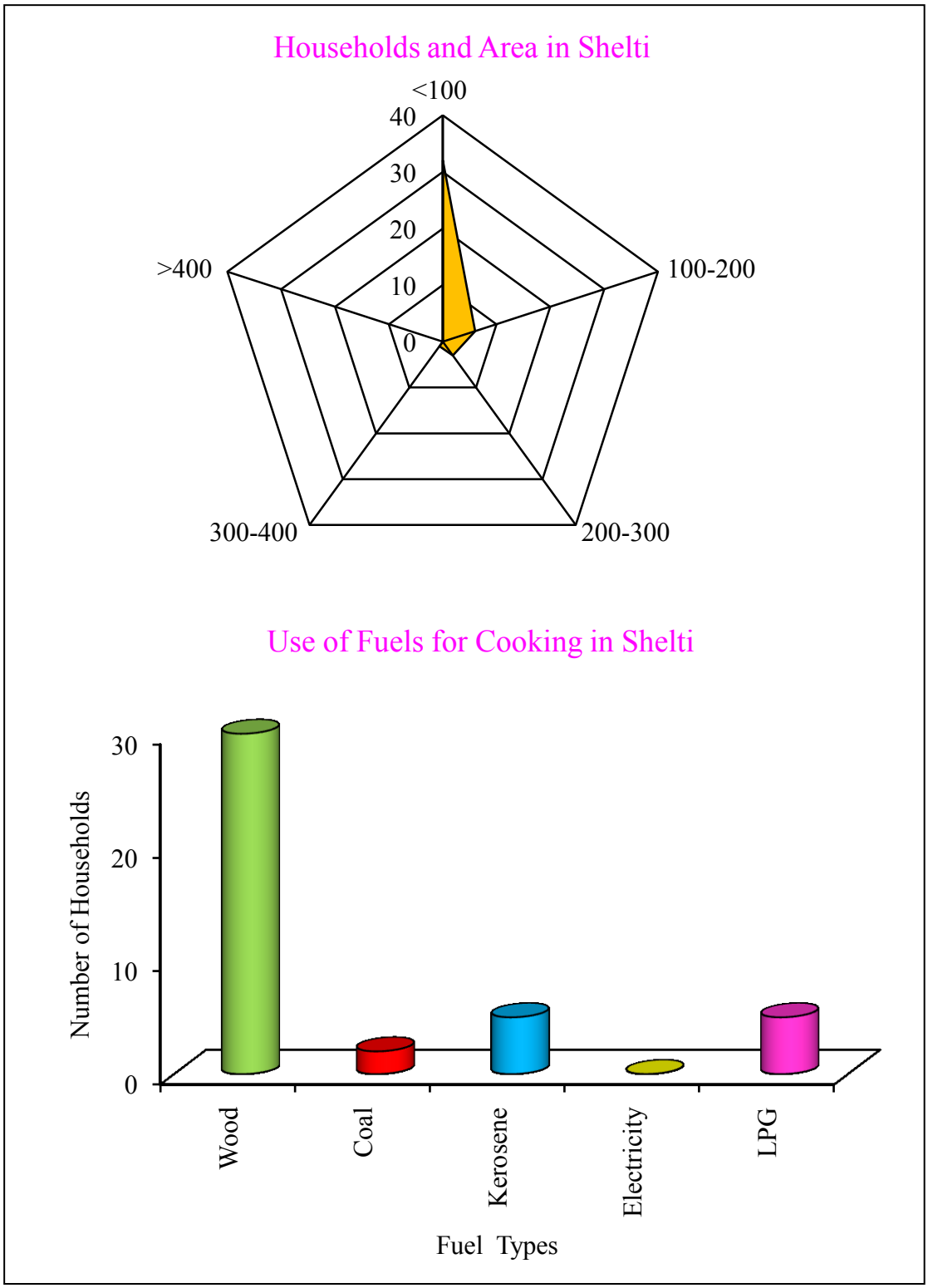

Households and Area in Shelti
<100
40
30
20
10
0
100-200
200-300
300-400
>400
Use of Fuels for Cooking in Shelti
Number of Households
30
20
10
0
Wood
Coal
Kerosene
Electricity
LPG
Fuel Types

Fig. 5.18

### 5.7.3 Landuse Characteristics

Table-5.10 reveals various landuse pattern in Shelti. It is observed that 77 percent area is irrigated in this village on plain land and availability of irrigation facility near the confluence of Kadva and Parishar rivers (Fig.-5.15).

Table-5.10 : Landuse Pattern in Shelti Village

| Sr. No. | Landuse Category | Area in percent | Sr. No. | Landuse Category | Area in percent |
|---|---|---|---|---|---|
| 1 | Forest area | 24 | 4 | Cultivable Waste | 12 |
| 2 | Irrigated | 46 | 5 | Area not available for cultivation | 10 |
| 3 | Un Irrigated | 8 | | Total area | 100 |

Source : District Census Handbook, Thane 2001.

Forest covers 24 percent area in Shelti village. 12 percent area is under unavailable for cultivation and 46 percent area is found cultivable land. Crops rice, chikoos, capsicum, coconuts, tadee, guava and papaya are major crops grown in this sample village.

### 5.7.4 Occupational and Other Characteristics

Shelti has partially involved in agriculture activities. 27 percent families work as labours and 16 percent are engaged in agriculture, one percent shows worked in service sector and business. Agriculture is a main occupation accounting 44 percent tribal households work as labours (Fig.-5.19) and 74 percent families have found less than one acre land in this village. (Table-5.11)

Table-5.11 : Land holding in Shelti Village

| Landsize in Acres | Households | Landsize in Acres | Households |
|---|---|---|---|
| < 1 | 31 | 5 to 10 | 0 |
| 1 to 3 | 1 | > 10 | 0 |
| 3 to 5 | 2 | None | 8 |

Source : Fieldwork, 2015.

It is identified that due to small land holdings tribals prefer to work as labours on the field. There tribals work in the field of landlord near villages. Thus, get wages 200 to 250 rupees per day. It was observed that 80 percent families are satisfied in occupation choiced by them whereas 20 percent are unsatisfied. 85 families have annual income of less than one lakh (Fig.-5.20). It was noticed that there was absence of family having annual income more than 5 lakh annually.

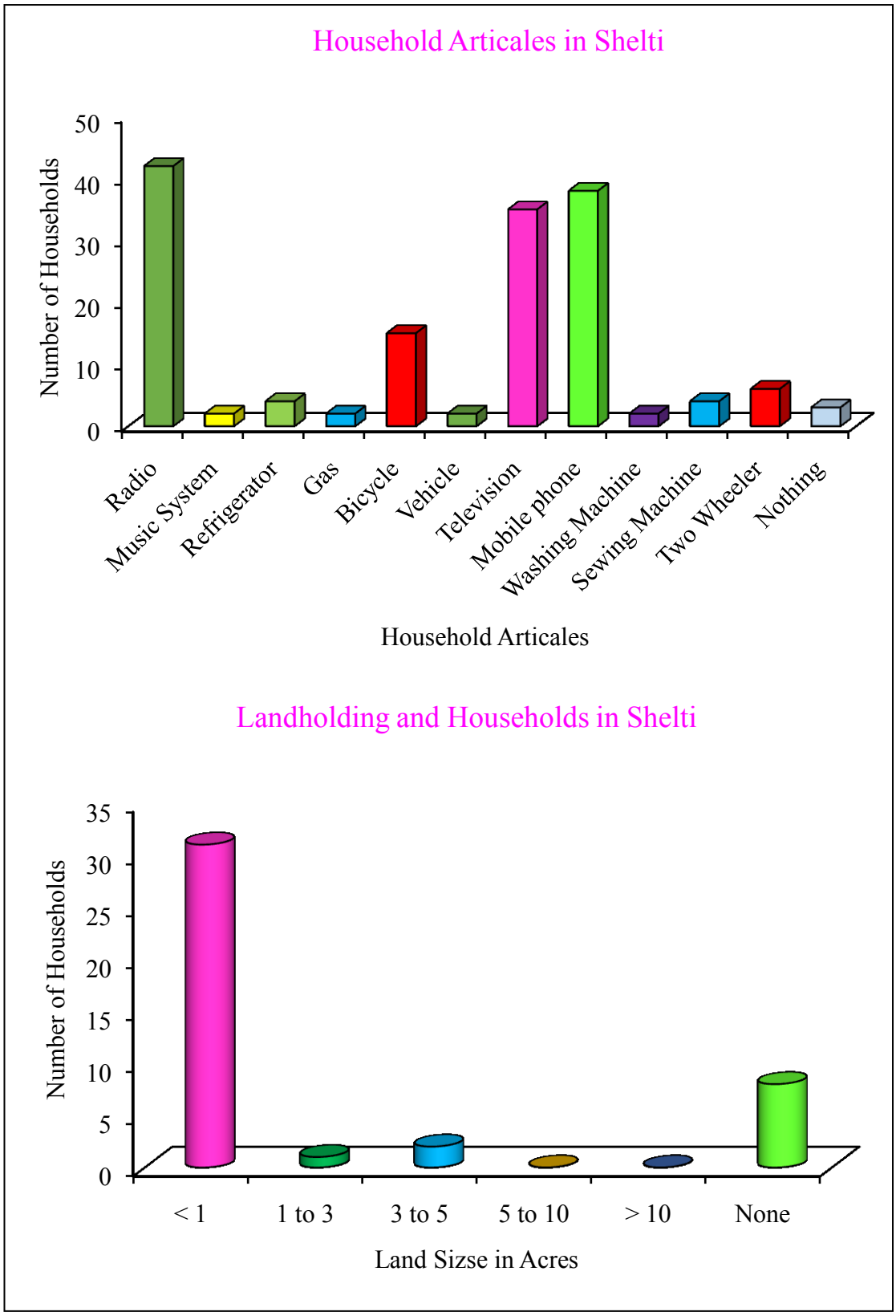

Household Articales in Shelti
Number of Households
50
40
30
20
10
0
Radio
Music System
Refrigerator
Gas
Bicycle
Vehicle
Television
Mobile phone
Washing Machine
Sewing Machine
Two Wheeler
Nothing
Household Articales
Landholding and Households in Shelti
Number of Households
35
30
25
20
15
10
5
0
< 1
1 to 3
3 to 5
5 to 10
> 10
None
Land Sizse in Acres

Fig. 5.19

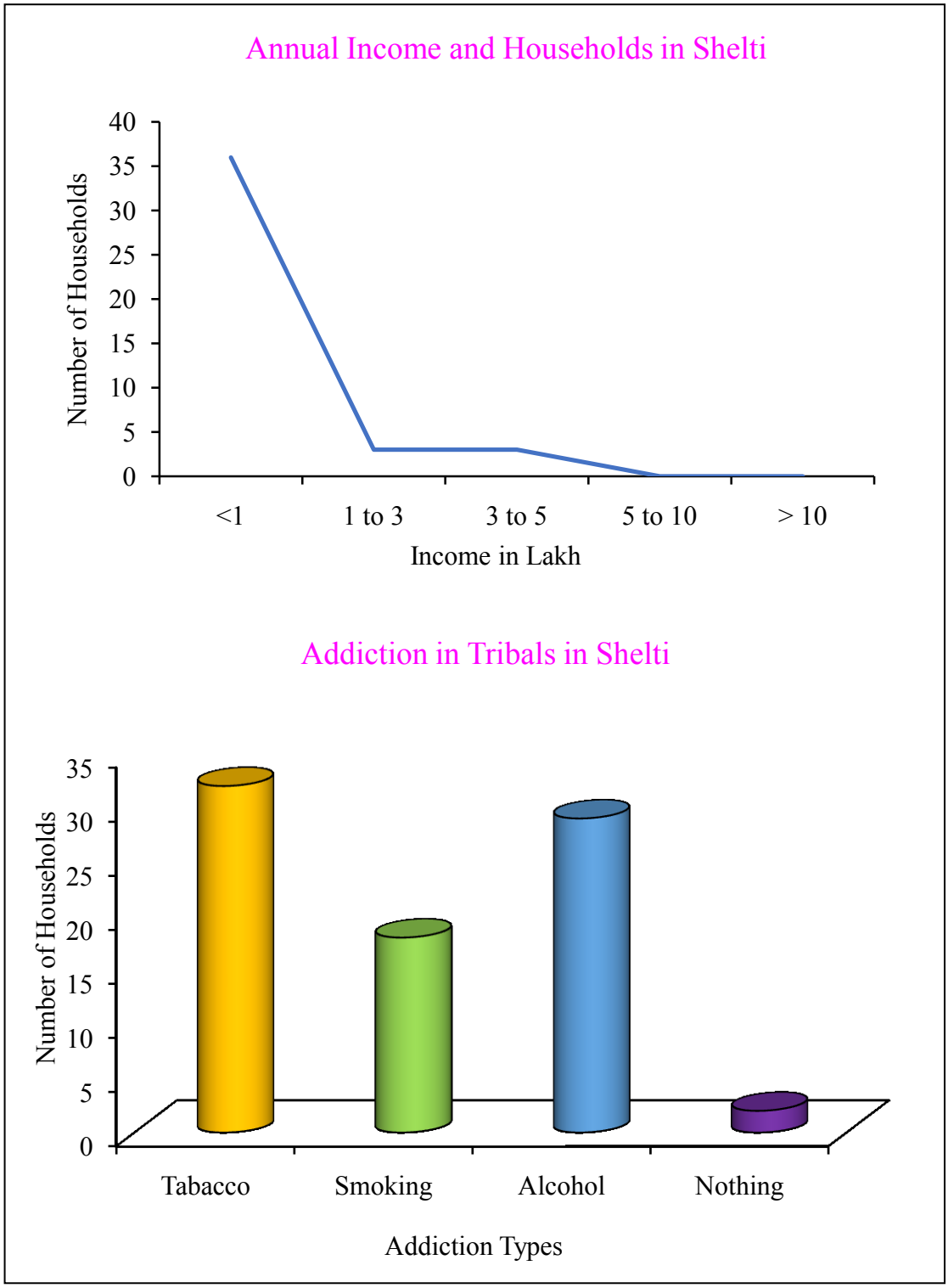

Annual Income and Households in Shelti
Number of Households
40
35
30
25
20
15
10
5
0
<1
1 to 3
3 to 5
5 to 10
> 10
Income in Lakh
Addiction in Tribals in Shelti
Number of Households
35
30
25
20
15
10
5
0
Tabacco
Smoking
Alcohol
Nothing
Addiction Types

Fig. 5.20

Village has no primary school and that children go to 4 kilometers radius for taking education. Population literacy is 36.36 percent. There are lack of awareness regarding education health and family welfare programmes among tribals. There is lacking 40 primary health centre, therefore tribals have to work for health facility to Nikhane. The medicinal plants are used as first aid medicines by 60 percent family and 40 percent prefers maternity hospital during delivery. Wells are the source of drinking water for villagers. It was noted that 71 families are still using water without purification in this village. 76 percent households have addiction to chewing tobacco, smoking, and drinking alcohol. It was found that 39 percent family are habitual for chewing tobacco accounting 18 percent smoking and 29 percent drinking Mohas wines (Fig.-5.20). This badly affects the health and welfare of family. It reveals that 78 percent family from this village is satisfied with their socio-economic condition. 8 families have found migrated for further education.

**5.7.5 Problems of Village**

Tribals are mainly depend on agriculture and labour work which asset their income. Uncertainty of labour job is problem among tribals besides unemployment during non-harvesting period is another problem in this village. 52 persons are marginal workers. Village has unhealthy toilet, underground drainage and health clinic causing in health problems among tribals. Tribals are not getting information and required documents easy about tribal scheme easily from Grampanchayat and Revenue Office. Gramsevak visit only for two days in a week to Shelti village.

**5.8 Savaroli Village**

This village lies in Ambarnath tahsil in Thane district. It is situated at $19^0$10' north latitudes and $73^0$21' east longitudes. It is 20 kilometers away from Ambarnath and 50 kilometers from Thane. Savroli is connected by Pakka road to Dhamanwadi. It is bounded by Dhamanwadi in south, Lonawadi and Narayangaon Tembhi in east, Wadali in south and Shirasgaon in west (Fig.-5.21). The total geographical area of village is 538.04 hectares and 320 population. There are 69 houses in Savaroli village. Badlapur is nearest town to Savaroli of 9 km away. The scheduled tribal population accounts 72 percent.

**5.8.1 Physical Characteristics**

This village lies near the foothills of Saptshrung range in Sahyadri sloping towards northeast. North and south parts in this village is bounded by hilly ranges. Behadari is the seasonal stream flowing in south direction.

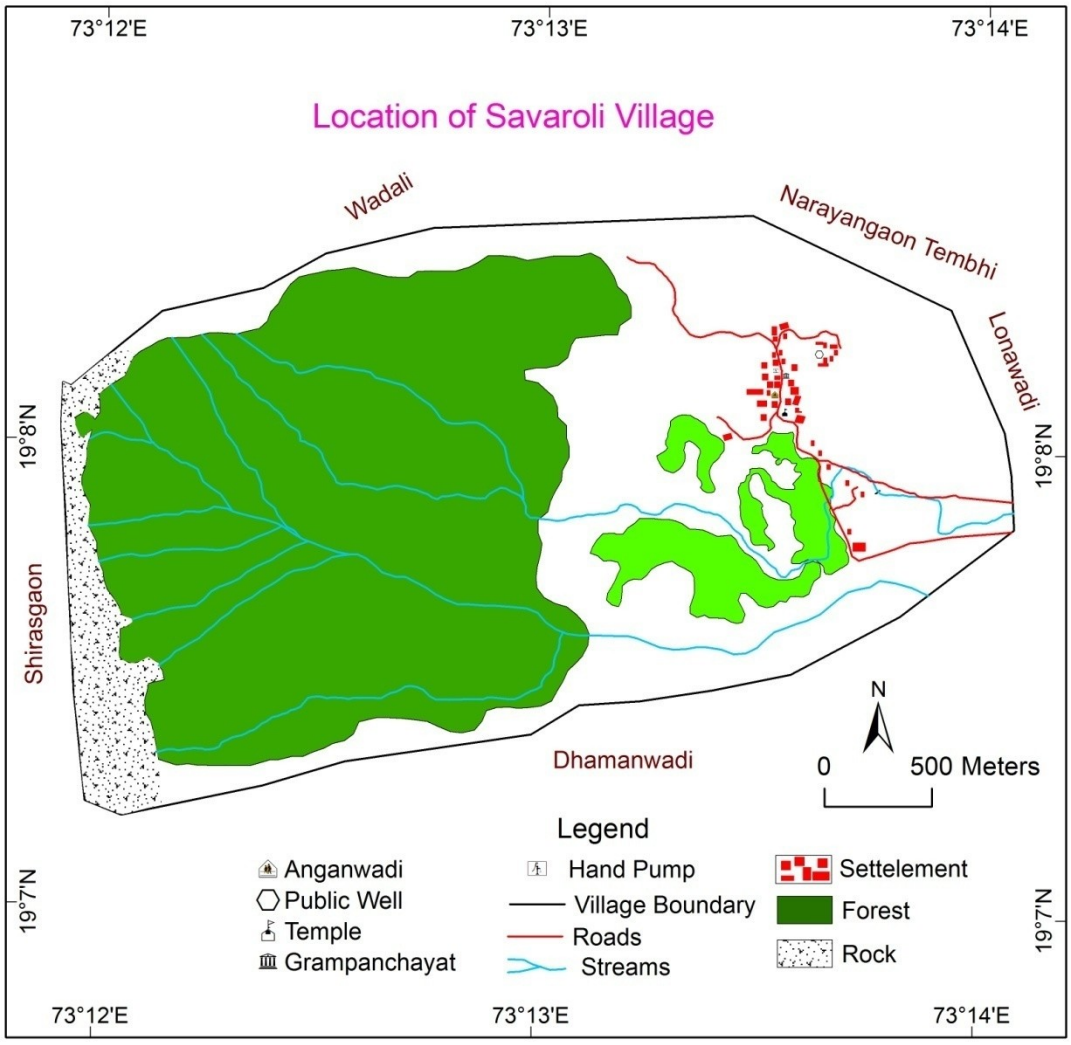

73°12'E
73°13'E
73°14'E
Location of Savaroli Village
Wadali
Narayangaon Tembhi
Lonawadi
Shirasgaon
Dhamanwadi
19°8'N
19°7'N
N
0
500 Meters
Legend
Anganwadi
Public Well
Temple
Grampanchayat
Hand Pump
Village Boundary
Roads
Streams
Settelement
Forest
Rock

Fig. 5.21

This village receives moderate rainfall between 1000-1500 millimeters from monsoon winds. The winter season extends from November to February. The summer season expenses from March to May. The soils are brown in colour. Black soil is found in certain patches is fertile usage rigid, immature and unfertile soil found on hill slopes. The forest covers 72 percent lying hill slopes.

**5.8.2 Demographic Characteristics**

Savaroli village is near to Ambarnath tahsil. There were 69 households in Savaroli having 100 percent tribal population of 320 person in 2011. 40 percent households covers 608 population having nuclear family structure and settlement found linear pattern along the road. Table-5.12 exhibits that 173 are males and 147 females are in this village. The sex ratio is 850. Working age group between 14-60 is less (45.31) and child (44.69) and old age (10) less population has resulted less crude activity rate (45.31) in this village (Table-5.12). An age-sex structure reveals triangular shape of pyramid representing developing stage. The numbers of persons above 60 year are less 10 percent indicates less life expectancy among tribals. The share of married persons is high accounting 65.94 percent and it is less in numbers than unmarried persons (34.06 percent). Literacy is 45.63 percent in this village.

Table- 5.12: Population Characteristics in Savaroli Village

| Particulars | Persons | Particulars | Persons |
|---|---|---|---|
| Male Population | 173 | Less than 7 Age Population | 54 |
| Female Population | 147 | 0-14 Age Population | 89 |
| Persons Population | 320 | 15-60 Age Population | 145 |
| Married Population | 211 | More than 60 Age Population | 32 |
| Unmarried Population | 109 | Literacy in percent | 45.63 |
| Literate Population | 146 | Crude Activity Rate | 45.31 |
| Illiterate Population | 174 | Crude Birth Rate | 1.3 |
| Population Density | 53 | Crude Death Rate | 0.9 |
| Sex-ratio | 850 | | |

Source: Fieldwork 2015.

The crude birth rate and crude death rates are 1.3 and 0.9 respectively in this village. This village has 100 percent scheduled tribe households (320 populations) (Fig.-5.22). Among tribals Kokana tribe accounts for (54.02) followed by Bhil (39.54), Mahadev Koli (5.52), Warli (0.92) and Thakur (0.63). The female percent are less than males and has found low sex-ratio among the Kokana tribes. Savaroli village receives moderate rainfall between 2000-2200 millimeters.

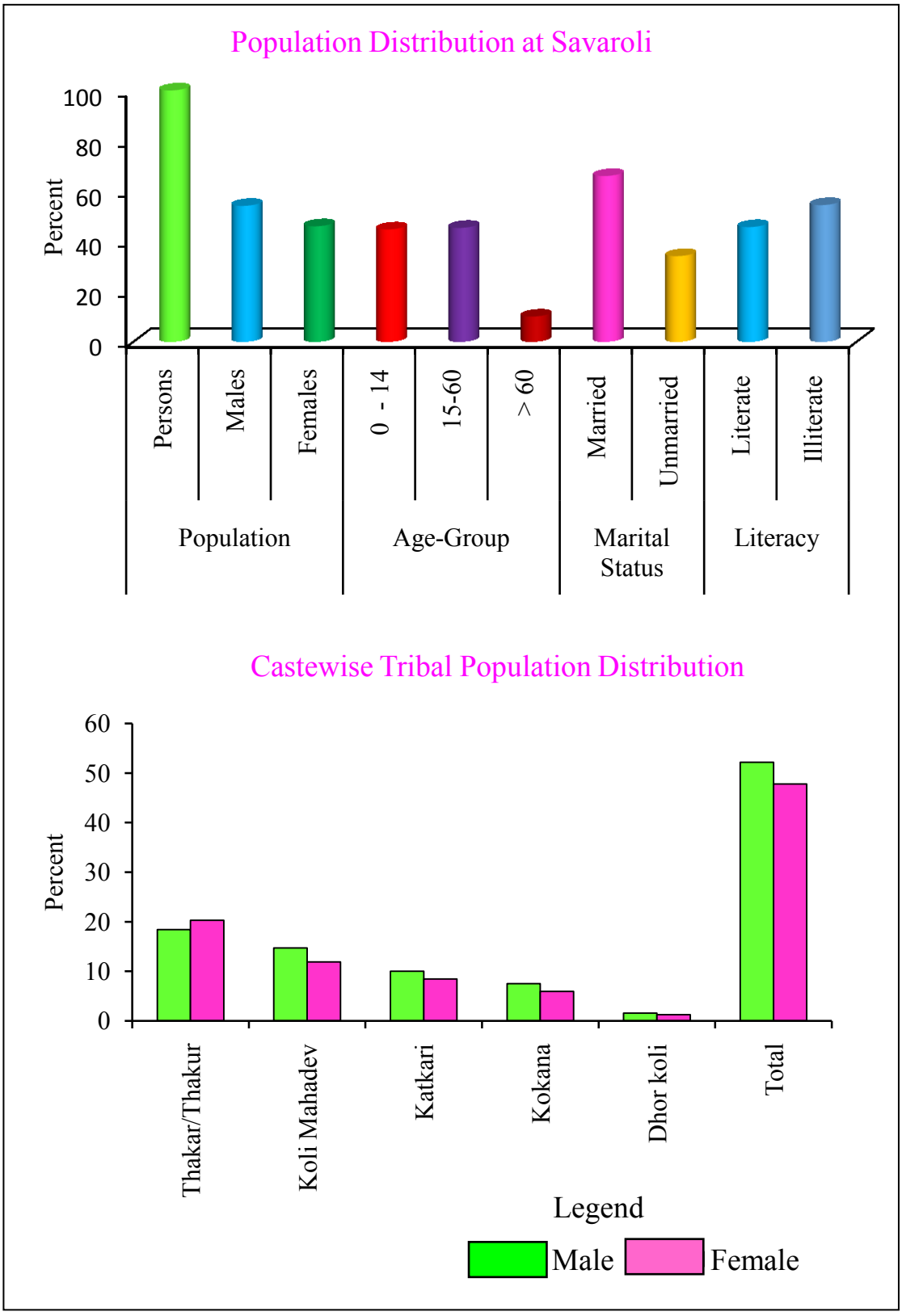

Population Distribution at Savaroli
Percent
100
80
60
40
20
0
Persons
Males
Females
0 - 14
15-60
> 60
Married
Unmarried
Literate
Illiterate
Population
Age-Group
Marital Status
Literacy
Castewise Tribal Population Distribution
Percent
60
50
40
30
20
10
0
Thakar/Thakur
Koli Mahadev
Katkari
Kokana
Dhor koli
Total
Legend
Male
Female

Fig. 5.22

The settlement appears of slanting roofs, tins and clustered. Kaccha, semi pakka and pakka types houses are observed at Savaroli (Fig.-5.23). Majority houses are made up of stones, mud bricks and cements. The kaccha and semi pakka houses have 78 percent representing low standard living.

Table- 5.13 : Number of Rooms and Sizes of Households at Nanduri

| Number of Rooms | Households | Number of Rooms | Households |
|---|---|---|---|
| 1 | 19 | <100 | 15 |
| 2 | 34 | 100-200 | 24 |
| 3 | 12 | 200-300 | 16 |
| 4 | 2 | 300-400 | 10 |
| >5 | 2 | >400 | 4 |

Source : Fieldwork, 2015

Table-5.13 exhibits sizes of households whereas houses are small of 2 rooms. 77 percent households have found less than 2 rooms. 39 houses have identified upto 200 square feet. 65 percent houses are lacking separate kitchen and 34 households used wood, 15 households kerosene as fuel for cooking and only 14 households are consuming LPG and other fuels (Fig.-5.24). It is noteworthy that 5 small house size holders have their own solar electricity set up only for domestic purpose. 3 households have absence of electricity they use kerosene for lightning. Power deficiency is the common problem (upto 8 hours) during day time. 63 households possess televisions and phones as means of communication and articles among tribals namely, radio, music system, cooking gas, sewing machine, two wheelers, vehicles are in this village (Fig.-5.25). A high economic poverty was observed in this village even though tribals using mobile phones for getting in information and knowledge.

**5.8.3 Landuse Characteristics**

Table-5.23 represents landuse pattern in Savaroli village. It is identified that irrigated area is 2 percent and forest covers 72 percent in westward hilly ranges and whereas 18 percent area is under cultivated land in this village (Table- 5.14).

Table-5.14: Landuse Pattern in Savaroli Village

| Sr. No. | Landuse Category | Area in percent | Sr. No. | Landuse Category | Area in percent |
|---|---|---|---|---|---|
| 1 | Forest area | 72 | 4 | Cultivable Waste | 5 |
| 2 | Irrigated | 18 | 5 | Area not available for cultivation | 2 |
| 3 | Un Irrigated | 3 | | Total area | 100 |

Source : : Village Revenue Reports, Savaroli Village, 2015.

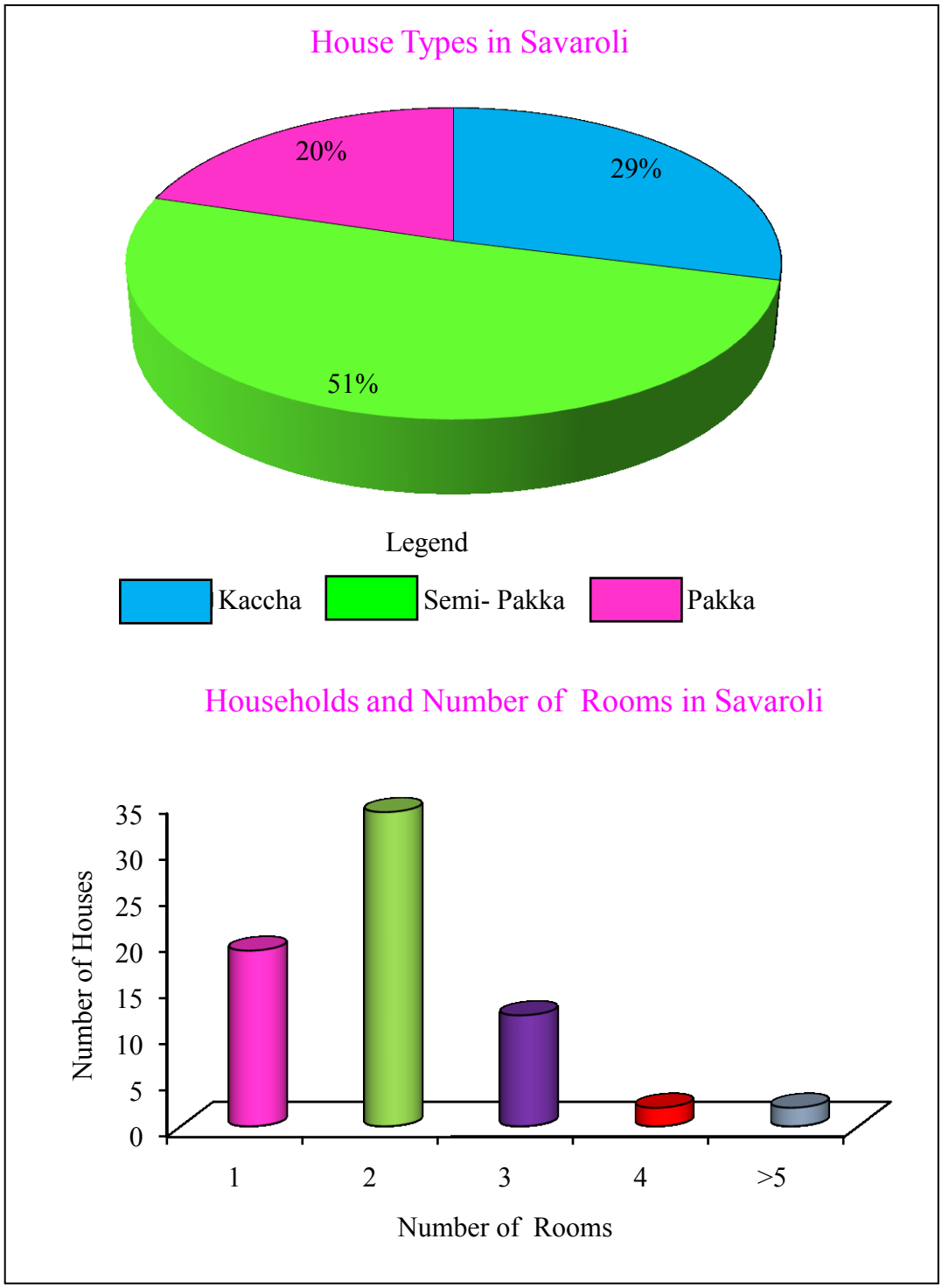

House Types in Savaroli
20%
29%
51%
Legend
Kaccha
Semi- Pakka
Pakka
Households and Number of Rooms in Savaroli
Number of Houses
35
30
25
20
15
10
5
0
1
2
3
4
>5
Number of Rooms

Fig. 5.23

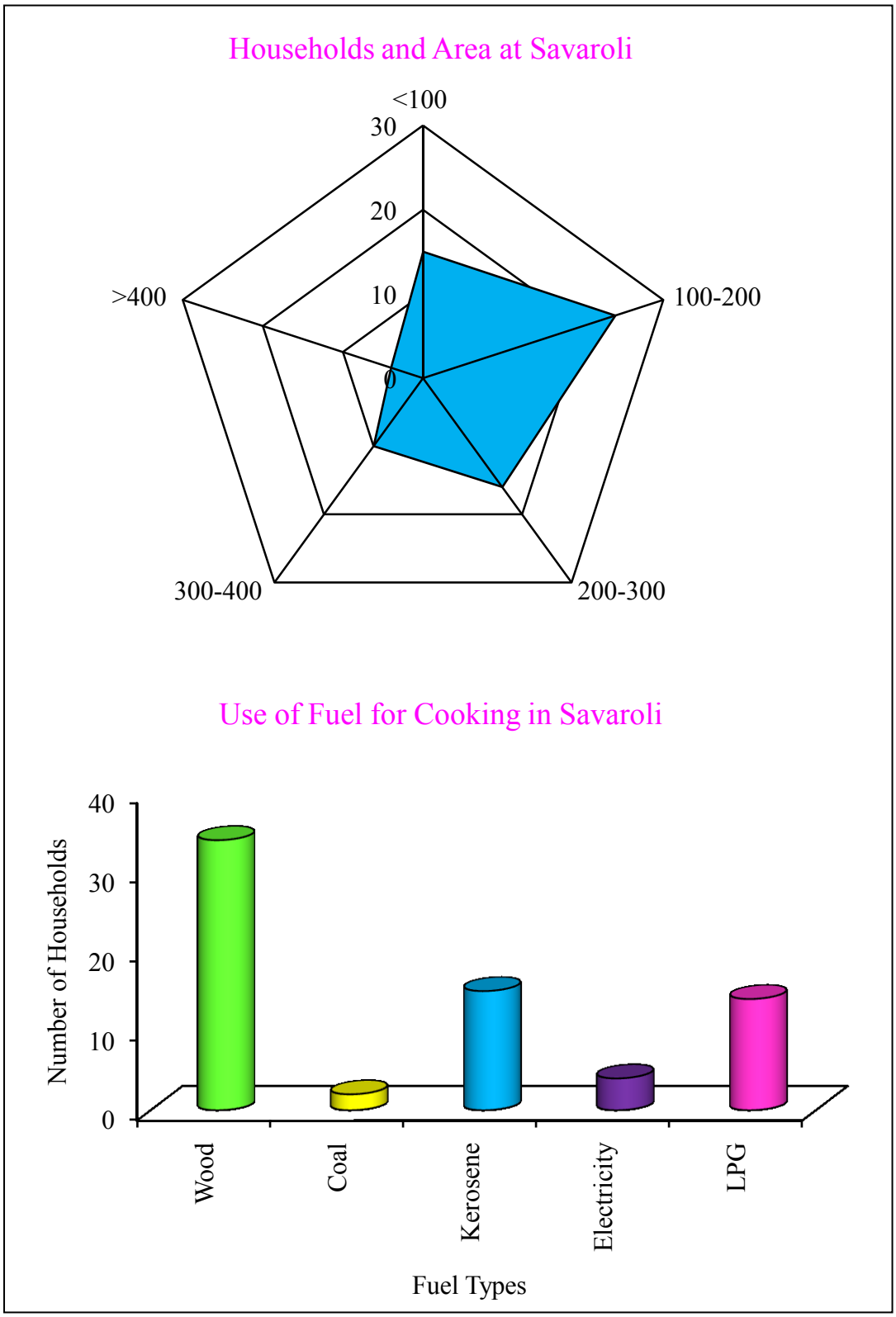

Households and Area at Savaroli
<100
30
20
10
0
100-200
200-300
300-400
>400
Use of Fuel for Cooking in Savaroli
Number of Households
40
30
20
10
0
Wood
Coal
Kerosene
Electricity
LPG
Fuel Types

Fig. 5.24

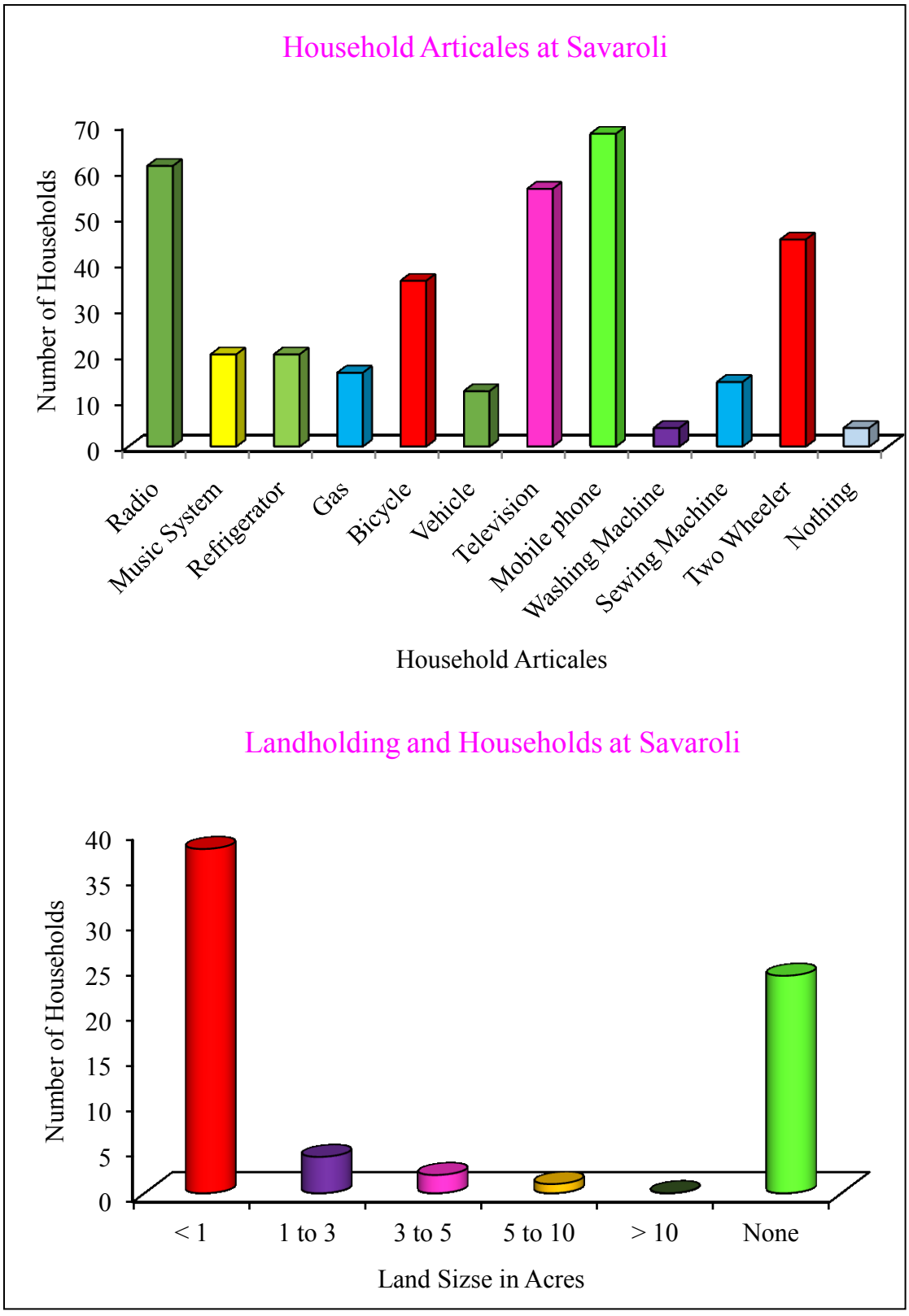

Household Articales at Savaroli
Number of Households
70
60
50
40
30
20
10
0
Radio
Music System
Refrigerator
Gas
Bicycle
Vehicle
Television
Mobile phone
Washing Machine
Sewing Machine
Two Wheeler
Nothing
Household Articales
Landholding and Households at Savaroli
Number of Households
40
35
30
25
20
15
10
5
0
< 1
1 to 3
3 to 5
5 to 10
> 10
None
Land Sizse in Acres

Fig. 5.25

5 percent area from this village is not available for cultivation and 3 percent is found cultivable waste. The areas under forest are mostly found in west part on hill slopes and hence are suitable for cultivation. There is two KT Ware of east side over 'Wahal' (rivulet) but it is seasonal in nature. There is absence of continuous source of water from streams hence, area under irrigation is less than 2 percent.

**5.8.4 Occupational and other Characteristics**

The tribal people in this village are engaged in primary activities. Accounting 45 percent in agriculture and allied sector, 42 percent worked as labourers, 11 percent are in service sector and 2 percent possess their own businesses. 62 percent households have marginal workers accounting less than 3 acres (Fig.-5.25). It was found households possess 3 to 10 acres of land and landless families are 34 percent (Table-5.14). The income source is only agriculture and hence it is low in this village. 44 percent households have preferred working as labourers in agriculture as well as other types of work in Badalapur town of 2 kilometers from Savaroli villages. Tribals people practices traditional type of agriculture. 2 percent has irrigation by well and rivulet but it is seasonal. It is observed that few farmers used chemical fertilizers ignoring pesticides during kharip crop.

Table-5.15 : Landholding in Savaroli Village

| Land Size in Acres | Households | Landsize in Acres | Households |
|---|---|---|---|
| < 1 | 38 | 5 to 10 | 1 |
| 1 to 3 | 4 | > 10 | 0 |
| 3 to 5 | 2 | None | 24 |

Source : Fieldwork, 2015.

The net annual agriculture income is less than 1 lakh per year for 89 percent households (Fig.-5.26). It was founded that the tribal people have less aware about land holding, irrigation, and technology. Tribals cultivate paddy, onion, cereal nagali, cucumber corn, and soybean hence, generating low annual income. It is noted that 67 percent households are satisfied in their present occupation but 33 percent are disappointed because of less income from occupation. Only one family is found annual income of above three lakh. Poverty is a serious problem among the tribes in this village. Savaroli villagers have to go for primary and secondary education within 3 kilometers distance. For further, education tribals have to go to at Badalapur, Ambarnath , Kalyan and Thane district headquarter places.

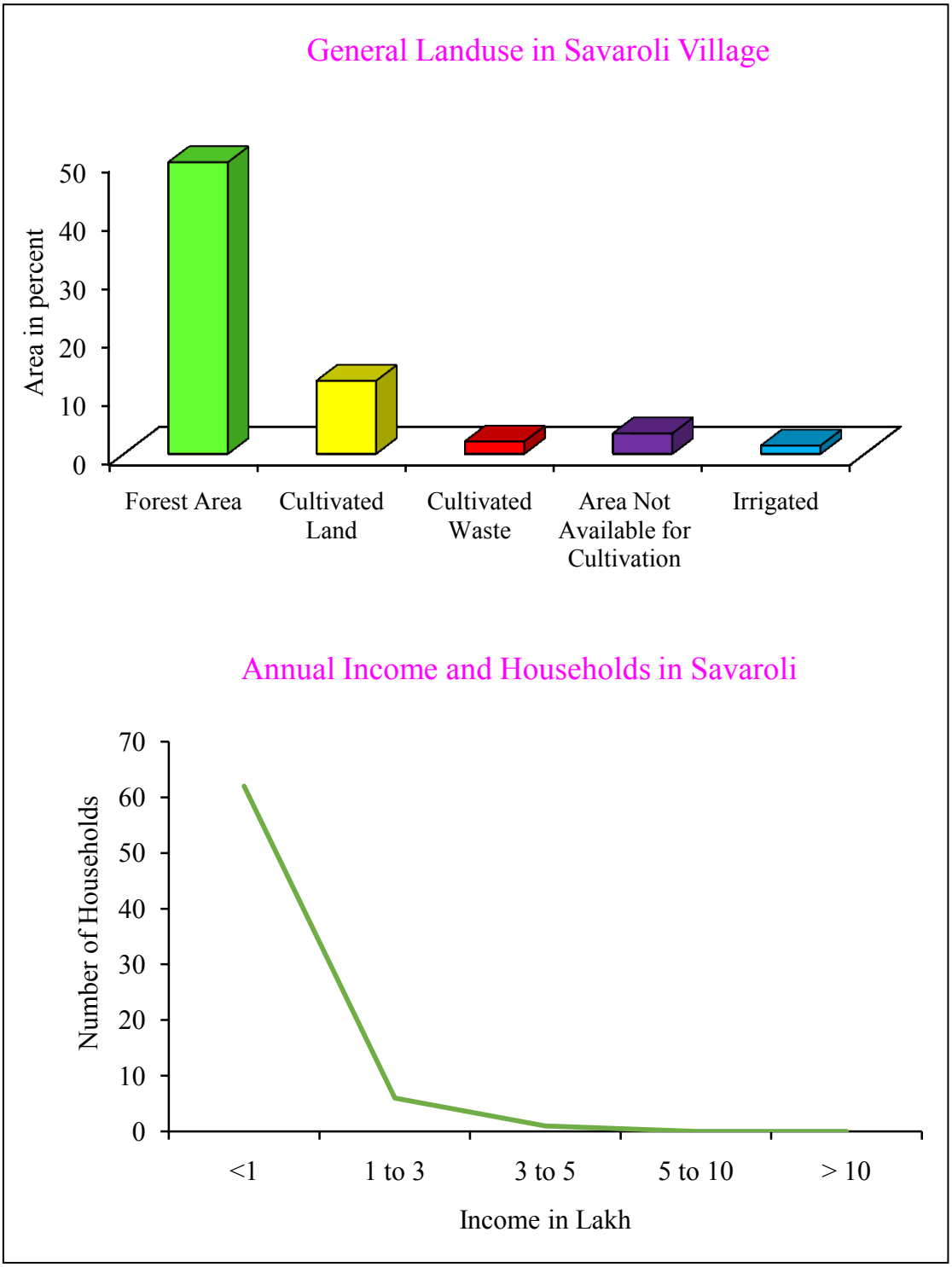

General Landuse in Savaroli Village
Area in percent
50
40
30
20
10
0
Forest Area
Cultivated Land
Cultivated Waste
Area Not Available for Cultivation
Irrigated
Annual Income and Households in Savaroli
Number of Households
70
60
50
40
30
20
10
0
<1
1 to 3
3 to 5
5 to 10
> 10
Income in Lakh

Fig. 5.26

The tribals of this village account 45.63 percent literacy indicating that tribals are not aware of further education. Savaroli village has no primary health centre and private clinic. 45 percent households use the medicinal plants as first aid medicines and 90 percent prefers maternity in hospital for delivery. Well and Hand pumps and are the main source of drinking water in this village. 26 households drink unpurified water and 71 families strain it by cloth. 81 percent households are found chewing tobacco, smoking and drinking alcohol. 63 percent family is habitual for chewing tobacco, 20 percent smoking and 17 percent drinking alcohol (Fig.-5.27). Addiction is common problems among the tribals in this village and thus ultimately affects health and wellbeing ways. It was 69 percent households are not satisfied with their socio-economic condition. 2 families are recorded as immigrant in Savaroli village. 20 persons are noted as outmigration for getting employment and higher education.

### 5.8.5 Problems of Village

This village is located to near Ambarnath a urban places. The political pressure is high among tribals for illegal land acquisition over tribals land. Marginal land-holding, traditional agriculture, low productivity causes poverty major in this village. Water scarcity during summer is severe problem for drinking and irrigation. The irregular electric supply is other problems. The less linking road routes, absence of drainage and toilets are common problems that affecting health. Addiction is another major problem. It is necessary to implement employment guarantee scheme in real sense and essential measures to eradicate addiction habits among tribals which considered major hurdle in their development.

## 5.9 Resume

This chapter has attempted to study sample villages considering geographical locations, physiography, demographic characteristics and socio-economic aspects of tribal population during fieldwork. Thakur is major tribe accounts 95.76 percent found in Zadghar and Aine Village while Thakurs are 0.63 percent in Savaroli village, Warali tribe (60.39 percent) is dominated in Shelti village. Zadghar village has found highest density accounting 189 per square kilometers. Sex ratio among tribal from sample villages found decline expect in Shelti village. It was found that literacy of tribal has increased progressively in sample villages. The highest literacy is found in Aine (73.29) while Zadghar has literacy of 62.33 percent. Proportion of old age group (above 60) population is low indicating less life expectancy in tribal community.

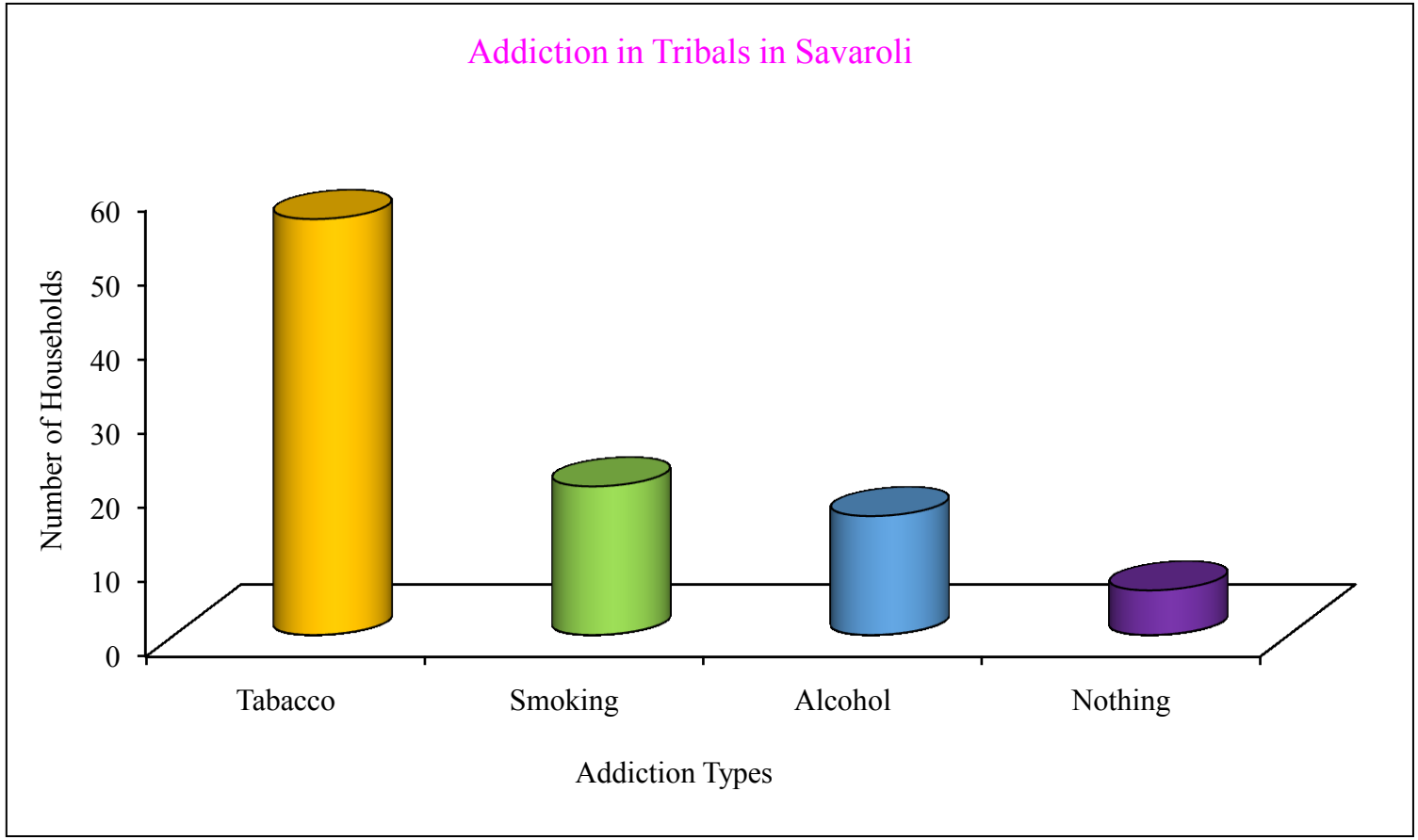

Addiction in Tribals in Savaroli
Number of Households
60
50
40
30
20
10
0
Tabacco
Smoking
Alcohol
Nothing
Addiction Types

Fig. 5.27

The houses both kaccha and semi pakka types in study region reflecting adverse relief, climate and economic condition. Aine and Savaroli have more area under forest accounting 75 percent and 72 percent respectively. Shelti has 10 percent under irrigation. Tribals in Zadghar and Savaroli involved as laboures while tribals from Aine and Shelti are engaged as farm workers as compared to Zadghar and Savaroli village. It was observed that present occupation have failed the needs of food, cloth and shelter. More than 90 percent tribal families have less than one lakh annual income. There is less awareness about health and family planning and tribal suffer from various types of addiction. Water scarcity, electricity shortage and unemployment during summer are severe problems at Aine and Zadghar. Unsure work and unemployment during non-harvesting period is also serious major problem in Aine village in study region.

## CHAPTER-VI

# QUANTITATIVE ASSESSMENT OF TRIBAL POPULATION

### 6.1 General Introduction

The application of qualitative and quantitative methods play assesses the development of region. The statistical analysis derives relevant facts from obtained data sharing typical trends, and demographic characteristics. The present chapter has attempted to find out inter correlation between tribal characteristic and variables. At the planning level, deliberate attempts too achieve development calls for a strategy as it determines the fruitful results of the development programmes. However, the nature of such strategy depends on problems and potentials of a given situation and objectives that are to be achieved as well as goals to be attained which is, pre-requisites for understanding the strategy. Such study will be considering tribals problem solving planning for strategic measures to be undertaken.

### 6.2 Correlation Analysis

In present study has attempted to evaluate the relationship between variables by applied quantitative techniques. Pearson's Correlation Coefficient method has applied to find out the relationship between tribal population characteristics and other variables. For this, nineteen variables have carefully been selected from the set of variables of population characteristics and socioeconomic conditions for fifteen tahsils in Thane district. These variables are, namely,

Table-6.1 : Selected Variables for Computing Correlation Matrix

| Sr. No. | Selected Variables | Sr. No. | Selected Variables |
|---|---|---|---|
| $x_1$ | Total Geographical Area | $x_{11}$ | Percent of Main workers |
| $x_2$ | Percent of Tribal Population | $X_{12}$ | Percent of Marginal workers |
| $x_3$ | Tribal Population Density | $X_{13}$ | Percent of Non Workers |
| $x_4$ | Growth 2001-2011 | $X_{14}$ | Percent of Male Main workers |
| $x_5$ | Tribal Sex Ratio | $X_{15}$ | Percent of Female Main workers |
| $x_6$ | Rural Tribal Sex Ratio | $X_{16}$ | Percent of Male Marginal workers |
| $x_7$ | Urban Tribal Sex Ratio | $X_{17}$ | Percent of Female Marginal workers |
| $x_8$ | Tribal Population Literacy | $X_{18}$ | Percent of Male Non-workers |
| $x_9$ | Male Tribal Literacy | $X_{19}$ | Percent of Female Non-workers |
| $x_{10}$ | Female Tribal Literacy | | |

Source: District Census Handbook, 2011 for Thane district.

### 6.2.1 Results of Correlation Coefficient

The degree of correlation has been computed 15 x 19 data matrix. Pearson Product Movement Correlation Method was applied and at 0.001 significant 't' Value and was identified (Table-6.2) and results have been summarised as under.

**(1) Total Geographical Area**

The total geographical area exhibits positive correlation with marginal workers (0.601), non-workers (0.595), female marginal workers (0.527) and female main workers (0.433). The moderate positive correlation of total geographical area was found with marginal workers (0.601) followed by non-workers (0.595), female marginal workers (0.527) and female main workers, at 0.001 significance level. The total geographical area and spatial distribution of tribal population in study region shows very weak positive correlation (0.144). Due to undulating topography and other have strong negative correlation with tribal population growth (-0.617) during study period followed by tribal population distribution (-0.587), tribal population literacy (-0.575), tribal female literacy (-0.572) and tribal male marginal workers. This indicates that the above negative correlation shows the tribal population distribution is uneven in study region during study period. The population growth and population density has less significant, population density increases with urban density whereas rural tribal sex ratio falling down showing negative relation in study region.

**(2) Percent of Tribal Population**

The distribution of tribal population has strong positive associated with percent of tribal main workers (0.878) due to small landholding and. Tribal population has moderate relation with percent of tribal female non-workers (0.690), percent of marginal workers (0.686) and percent of tribal female marginal workers (0.660). Tribal sex-ratio shows negative correlation with percent of tribal population (-0.737). The distribution of tribal population show negative relation with tribal population literacy (-0.699), male main workers (-0.695), female non-workers (-0.689) and urban sex ratio (-0.648). The negative correlation also established between male marginal workers and female literacy, due to uneven distribution of tribal population in study region. In case of namely, tribal population density and rural tribal sex ratio found less positive relations with percent of tribal population (0.374).

Table-6.2 : Correlation Matrix for 15 Tahsils in Thane District

| Variables | $x_1$ | $x_2$ | $x_3$ | $x_4$ | $x_5$ | $x_6$ | $x_7$ | $x_8$ | $x_9$ | $x_{10}$ | $x_{11}$ | $x_{12}$ | $x_{13}$ | $x_{14}$ | $x_{15}$ | $x_{16}$ | $x_{17}$ | $x_{18}$ | $x_{19}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $x_1$ | 1.000 | g | | | | | | | | | | | | | | | | | |
| $x_2$ | 0.144 | 1.000 | | | | | | | | | | | | | | | | | |
| $x_3$ | -0.587 | 0.161 | 1.000 | | | | | | | | | | | | | | | | |
| $x_4$ | -0.617 | -0.454 | 0.575 | 1.000 | | | | | | | | | | | | | | | |
| $x_5$ | -0.481 | -0.737 | 0.232 | 0.847 | 1.000 | | | | | | | | | | | | | | |
| $x_6$ | 0.445 | 0.374 | -0.535 | -0.766 | -0.691 | 1.000 | | | | | | | | | | | | | |
| $x_7$ | 0.185 | -0.648 | -0.341 | 0.220 | 0.452 | -0.191 | 1.000 | | | | | | | | | | | | |
| $x_8$ | -0.575 | -0.699 | 0.255 | 0.801 | 0.847 | -0.698 | 0.395 | 1.000 | | | | | | | | | | | |
| $x_9$ | -0.519 | -0.655 | 0.318 | 0.789 | 0.809 | -0.734 | 0.358 | 0.978 | 1.000 | | | | | | | | | | |
| $x_{10}$ | -0.572 | -0.674 | 0.256 | 0.805 | 0.840 | -0.709 | 0.395 | 0.991 | 0.973 | 1.000 | | | | | | | | | |
| $X_{11}$ | 0.278 | 0.878 | 0.003 | -0.534 | -0.749 | 0.286 | -0.407 | -0.617 | -0.560 | -0.599 | 1.000 | | | | | | | | |
| $X_{12}$ | 0.601 | 0.686 | -0.007 | -0.525 | -0.733 | 0.446 | -0.197 | -0.784 | -0.731 | -0.767 | 0.634 | 1.000 | | | | | | | |
| $X_{13}$ | 0.595 | 0.628 | 0.058 | -0.509 | -0.722 | 0.421 | -0.257 | -0.775 | -0.713 | -0.766 | 0.588 | 0.960 | 1.000 | | | | | | |
| $X_{14}$ | -0.433 | -0.695 | 0.426 | 0.827 | 0.832 | -0.547 | 0.288 | 0.761 | 0.737 | 0.712 | -0.749 | -0.559 | -0.496 | 1.000 | | | | | |
| $X_{15}$ | 0.433 | 0.695 | -0.426 | -0.827 | -0.832 | 0.547 | -0.288 | -0.761 | -0.737 | -0.712 | 0.749 | 0.559 | 0.496 | -1.000 | 1.000 | | | | |
| $X_{16}$ | -0.527 | -0.660 | 0.360 | 0.822 | 0.853 | -0.866 | 0.369 | 0.894 | 0.897 | 0.906 | -0.617 | -0.637 | -0.647 | 0.703 | -0.703 | 1.000 | | | |
| $X_{17}$ | 0.527 | 0.660 | -0.360 | -0.822 | -0.853 | 0.866 | -0.369 | -0.894 | -0.897 | -0.906 | 0.617 | 0.637 | 0.647 | -0.703 | 0.703 | -1.000 | 1.000 | | |
| $X_{18}$ | 0.233 | 0.690 | -0.402 | -0.647 | -0.627 | 0.584 | -0.312 | -0.666 | -0.742 | -0.681 | 0.677 | 0.420 | 0.343 | -0.716 | 0.716 | -0.747 | 0.747 | 1.000 | |
| $X_{19}$ | -0.235 | -0.689 | 0.402 | 0.648 | 0.628 | -0.586 | 0.306 | 0.666 | 0.742 | 0.682 | -0.678 | -0.423 | -0.345 | 0.716 | -0.716 | 0.748 | -0.748 | -1.000 | 1.000 |

Source: Computed by Researcher Note: 't' Value significant at 0.001 level.

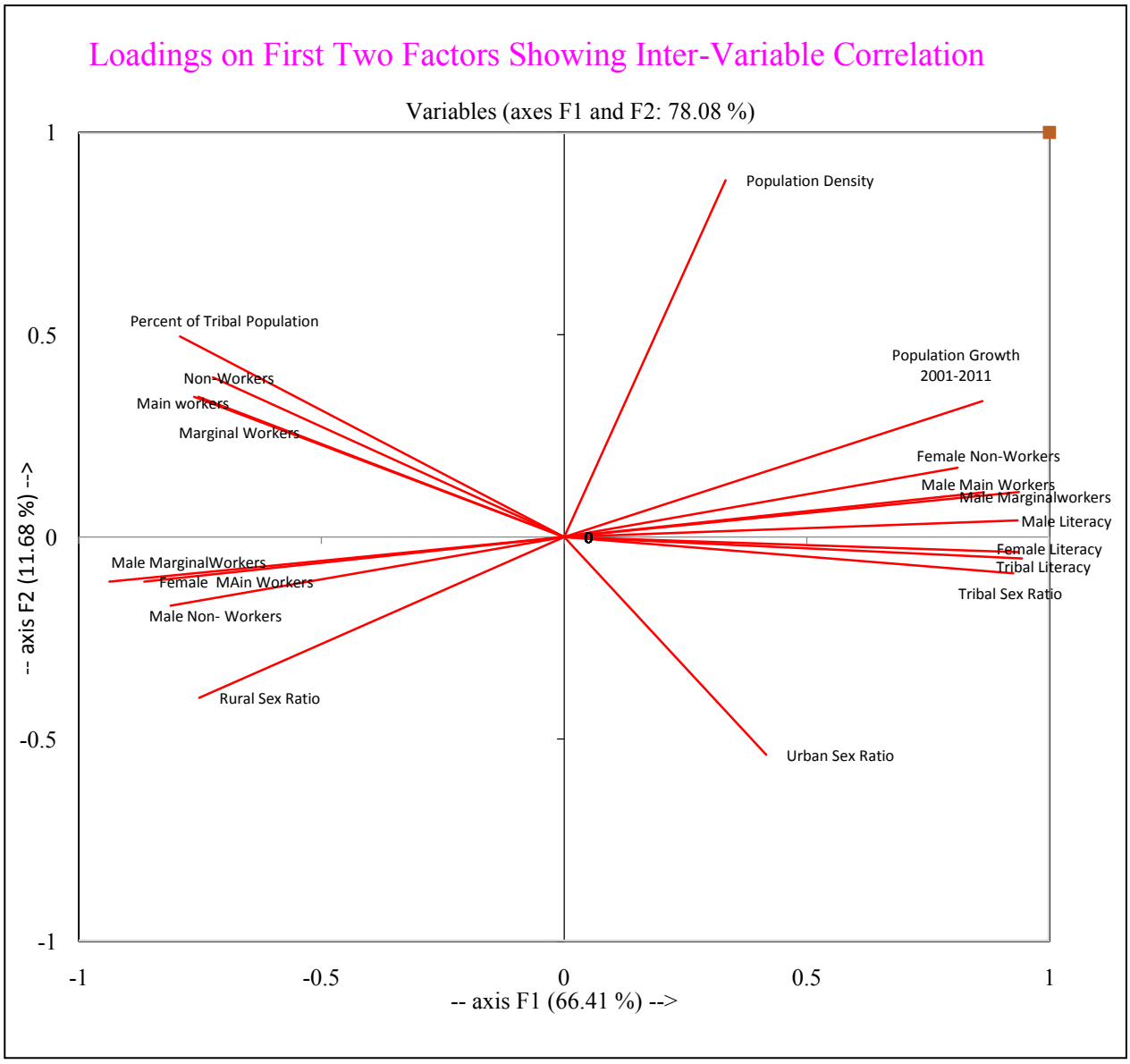

Loadings on First Two Factors Showing Inter-Variable Correlation
Variables (axes F1 and F2: 78.08 %)
1
0.5
0
-0.5
-1
-- axis F2 (11.68 %) -->
-1
-0.5
0
0.5
1
-- axis F1 (66.41 %) -->
Population Density
Percent of Tribal Population
Non-Workers
Main workers
Marginal Workers
Population Growth 2001-2011
Female Non-Workers
Male Main Workers
Male Marginalworkers
Male Literacy
Female Literacy
Tribal Literacy
Tribal Sex Ratio
Male MarginalWorkers
Female MAin Workers
Male Non- Workers
Rural Sex Ratio
Urban Sex Ratio

Fig. 6.1

**(3) Tribal Population Density**

Tribal population density varies from place to place in study region. It is found that tribal population density shows moderate correlation with tribal population growth (0.575) and moderate negative correlate with rural tribal sex ratio (-0.535). Other remaining variables have less positive correlation with tribal population density in study region. Last two decades total tribal population density increases only 43 persons per square kilometers. The population distribution and density of tribal population has less positive relation (0.161) (Table 6.2) as male tribals attracts in urban area for job purpose, other variables have negative relation with percent of female main workers (-0.426), urban sex ratio (-0.341) and male non-workers (-0.402) shows negative correlation to tribal population density 154 persons per square kilometer 154 persons per square kilometer in study region.

**(4) Tribal Population literacy**

Literacy rate among tribals is the major dominant factor in Thane district (58.87 percent) in 2011. Tribal literacy shows strong positive relation with female tribal literacy (0.991) and male tribal literacy (0.978), percent of male main workers (0.761), percent of male marginal workers (0.894) and female non-workers (0.666) whereas literacy rate has strong negative correlation with percent of female marginal workers (-0.894), percent of marginal workers (-0.784), percent of non-works (-0.775) and percent of female main workers (-0.761). Percent of main workers and percent of male workers indicates moderate negative correlation with tribal population literacy (Table-6.2).

**(5) Percent of Main Workers:**

In study region tribal main worker is found 47.76 percent. Main workers have found strongly positive correlation with percents of tribal population (0.878) and percent of female workers (0.749). Main workers present moderately correlation with percent of male non-workers (0.677), percent of marginal workers (0.634) and percent of female marginal workers (0.617). The strong negative correlation have found with percent of male main workers (-0.749) and tribal sex ratio (-0.749) whereas moderate correlation shows with percent of male marginal workers (-0.617), tribal female literacy (-0.599), male tribal literacy (-0.560) and growth of tribal population (-0.534).

### 6.3 Application Factor Analysis

The geographers have recently given more stress on the application of quantitative techniques in geography in order to obtain realistic results. The quantitative techniques are of many types. Factor Analysis is one of them. In present study, Factor Analysis technique has used for searching common variances as a set of new variable. This technique helps to exclude unique variances and shared common variances with that of other variables in the analysis. Moreover, it ruled out all information which is of little significance. Here, rotated factor analysis (Varimax) technique has computed to identify the groups of variables with shared common variances. Two hundred and fiftyfive observations and seventeen variables (17x15) (Table-6.3). The four variables accounted for 93.55 percent variances while remaining twelve variables explain only 6.45 percent variances.

Table-6.3 : Rotated Factor Loadings (Variables Rotation) and Estimation Communalities

| Variables | Factor Loadings | | | | Communality | Specific Variance |
|---|---|---|---|---|---|---|
| | Factor 1 | Factor 2 | Factor 3 | Factor 4 | | |
| Percent of Tribal Population | -0.793 | 0.504 | -0.332 | 0.079 | 1.000 | 0.000 |
| Tribal Population Density | 0.331 | 0.859 | -0.020 | 0.191 | 0.884 | 0.116 |
| Growth 2001-2011 | 0.855 | 0.325 | -0.071 | 0.128 | 0.858 | 0.142 |
| Tribal Sex Ratio | 0.919 | -0.088 | -0.043 | 0.103 | 0.865 | 0.135 |
| Rural Tribal Sex Ratio | -0.742 | -0.374 | 0.236 | 0.230 | 0.799 | 0.201 |
| Urban Tribal Sex Ratio | 0.399 | -0.401 | 0.196 | -0.293 | 0.444 | 0.556 |
| Tribal Population Literacy | 0.943 | -0.060 | -0.215 | -0.030 | 0.939 | 0.061 |
| Male Tribal Literacy | 0.932 | 0.036 | -0.176 | -0.109 | 0.912 | 0.088 |
| Percent of Main workers | 0.935 | -0.043 | -0.233 | -0.095 | 0.940 | 0.060 |
| Percent of Marginal workers | -0.755 | 0.330 | -0.353 | -0.172 | 0.833 | 0.167 |
| Percent of Non Workers | -0.748 | 0.365 | 0.336 | -0.240 | 0.863 | 0.137 |
| Percent of Male Main Workers | -0.722 | 0.422 | 0.436 | -0.202 | 0.930 | 0.070 |
| Percent of Female Main Workers | 0.865 | 0.115 | 0.272 | 0.344 | 0.953 | 0.047 |
| Percent of Male Marginal Workers | -0.865 | -0.115 | -0.272 | -0.344 | 0.953 | 0.047 |
| Percent of Female Marginal Workers | 0.938 | 0.113 | -0.139 | -0.235 | 0.967 | 0.033 |
| Percent of Male Non-Workers | -0.938 | -0.113 | 0.139 | 0.235 | 0.967 | 0.033 |
| Percent of Female Non-Workers | -0.804 | -0.175 | -0.385 | 0.192 | 0.863 | 0.137 |
| Eigen value | 0.804 | 0.176 | 0.380 | -0.188 | 0.858 | 0.142 |
| Total Percent Variance | 65.873 | 10.809 | 6.943 | 4.321 | - | - |
| Cumulative Percent | 65.873 | 76.682 | 83.625 | 87.946 | - | - |
| Common Percent Variance | 74.902 | 12.290 | 7.895 | 4.913 | - | - |
| Cumulative Percent | 74.902 | 87.192 | 95.087 | 100.000 | - | - |

Source: Computed by Researcher.

These seventeen variables show little significance. The first four variables being significant and have influensive have been considered as cut of point for present study. These four variables, are further, computed to compute loadings and scores 0.1 individual factors.

### 6.3.1 Identification of Inter-correlated Groups of Variables

Table-6.3 presents the factor loadings and estimated communalities for first four Factors. The factor loadings uncover the relationship between the variables. It is observed from Table-6.3 that first two factors are significant accounting 74.902 percent and other two factors do not show influence. Factors-I and Factor-II are graphically plotted to show concentration of interrelated variables in the Thane district (Fig.-6.1). First two group have positive inter-correlated while third is weak positive and forth is negative correlation with other groups.

### 6.3.2 Factor Identification and Labelling

Factor Analysis brings out the hidden factors from the set of variables or shared common variances of the variables. 8.53 percent variance has been considered as cut-off point in present study. The four factors have identified in present study:

Factor-1 contributes 74.902 percent variances in study region. This factor has been pulled closer to percent of tribal population literacy and it shared loading is 0.943 followed by percent of tribal main workers (0.935), male tribal literacy (0.932) and tribal sex ratio (0.919). In addition to this, tribal population literacy variable has found comparatively higher loading than other shared variables (Table - 6.3). Therefore, this factor can be labelled as *Tribal Population Literacy Factor*. Factor-II accounts for 12.290 percent variances in present study. This factor shows high loadings on tribal population density and tribal male main workers having 0.859 and 0.422 loadings respectively. It is obvious that these two variables trances relatively high loadings than other variables. Hence, this factor can be labelled as *Tribal Density Factor.* Factor-III traces 7.895 percent of explained variances. This factor has been pulled closer to percent of tribal male main workers and tribal non-workers, loadings is 0.0.436 and 0.336 respectively. This factor can be identified as *Tribal Male Main Workers and Tribal Non-Workers Factor.* Factor-VI accounts for 4.913 percent of explained variances and is closer to percent of tribal male non-workers and rural tribal sex ratio. Tribal male non-workers and rural tribal sex ratio variables have high loadings than other variables involved in factor four. Tribal male non-workers have 0.235 percent and rural tribal sex ratio has 0.230 loadings. Hence, this factor can be labelled as tribal male non-workers and *Rural Tribal Sex Ratio Factor.*

## 6.4 Planning and Development Strategy for Tribal Population

There is increasing recognition among tribal suffering from a 'development deficit,' with slow progress over the past few decades. Despite strategy of Tribal sub-plan (TSP) is in operation for more than 35 years and has not been successful in right perspective. Though there is an attempt by Government of India and State Governments for addressing the needs of tribals. The planning mechanisms requires more pointed attention in term of planning and development strategy for tribals for scheduled tribes, in terms of recommendations of different committees for the development of Scheduled Tribes.

It was noticed that tribals of Jawhar, Mokhada, Vikramgad and Vada tahsils have found cut off from mainstream since long time and are still live primitive way of living. Even today, their economic life depends upon natural forces. The scheduled tribe live in forest and hilly area. Their economic life is like a continuous hurdle race. The poverty is woven in their culture. They do not know what is better life. Their life cycle goes on, in spite of the inhospitable geographical condition. They are isolates and forest produce have been their major source of livelihood. Agriculture to them is recent. In study region topography and terrain have determined the life condition of tribals. The long term objectives of tribal development schemes are narrowing the gaps between the levels of development of tribal to improve the quality of life by eliminating of exploitation in all forms, speeding up of the processes of socio–economic development, building inner strength of people and improving the organization capabilities. There are four components of strategic planning (Fig.-6.2). First is problem overcome by issue analysis; second is management by fulfilling objectives for results; third is team building among tribals and four implementation of plan. The priority should be given for education imparting to scheduled Tribel population. The following strategy can be adopted in regards to education for tribals development in study region

(i) Awareness should be formed concerning education in tribals, as it holds key position.
(ii) Scheme for raising enrolment of scheduled tribe children in Ashram schools and for drops-outs to be taken up.
(iii) Financial support should be given to higher education in tribals in study region.
(iv) Certain new schemes to be introduced to especially talented tribal youths in arts and sports.

All education schemes should apply right from root level very effectively for upliftment of tribal community. Following measures play vital role in development of tribal population in study region :

**(1) Enhancing Capacity For Growth :** Integrate the Scheduled tribe areas into the overall development process where twin objectives of bridging of development gaps and benefits of sustained GDP growth can flow among scheduled tribes.

**(2) Enhancing Skill and Faster Generation of Employment :** Improve the education and training systems particularly in tribal areas in north east by encouraging small and micro enterprises and creating capacity for job markets arising from industrialization and growth.

**(3) Managing The Environment** : Implement 'Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006', to protect both the interests of tribals and balancing environmental and ecological degradation .

**(4) Markets For Efficiency and Inclusion :** Create open, integrated and well-regulated markets for land, labor and capital in tribal areas for goods and services essential for growth, inclusion and sustainability in order to remove the disability of scheduled tribes to avail the benefits of rapid growth and development.

**(5) Decentralization, Empowerment, and Information :** Move towards greater decentralization in planning and implementation processes by giving more powers to State Governments, ITDP/ITDA, Autonomous District Councils and PRIs.

**(6) Technology and Innovation :** Technology has the potential to lower costs and make deliverables easier to implement and monitor besides leading to higher productivity and competitiveness. The mission will be to move towards use of technology for transfer of resources, implementation of schemes and monitoring the programmes and schemes undertaken by government.

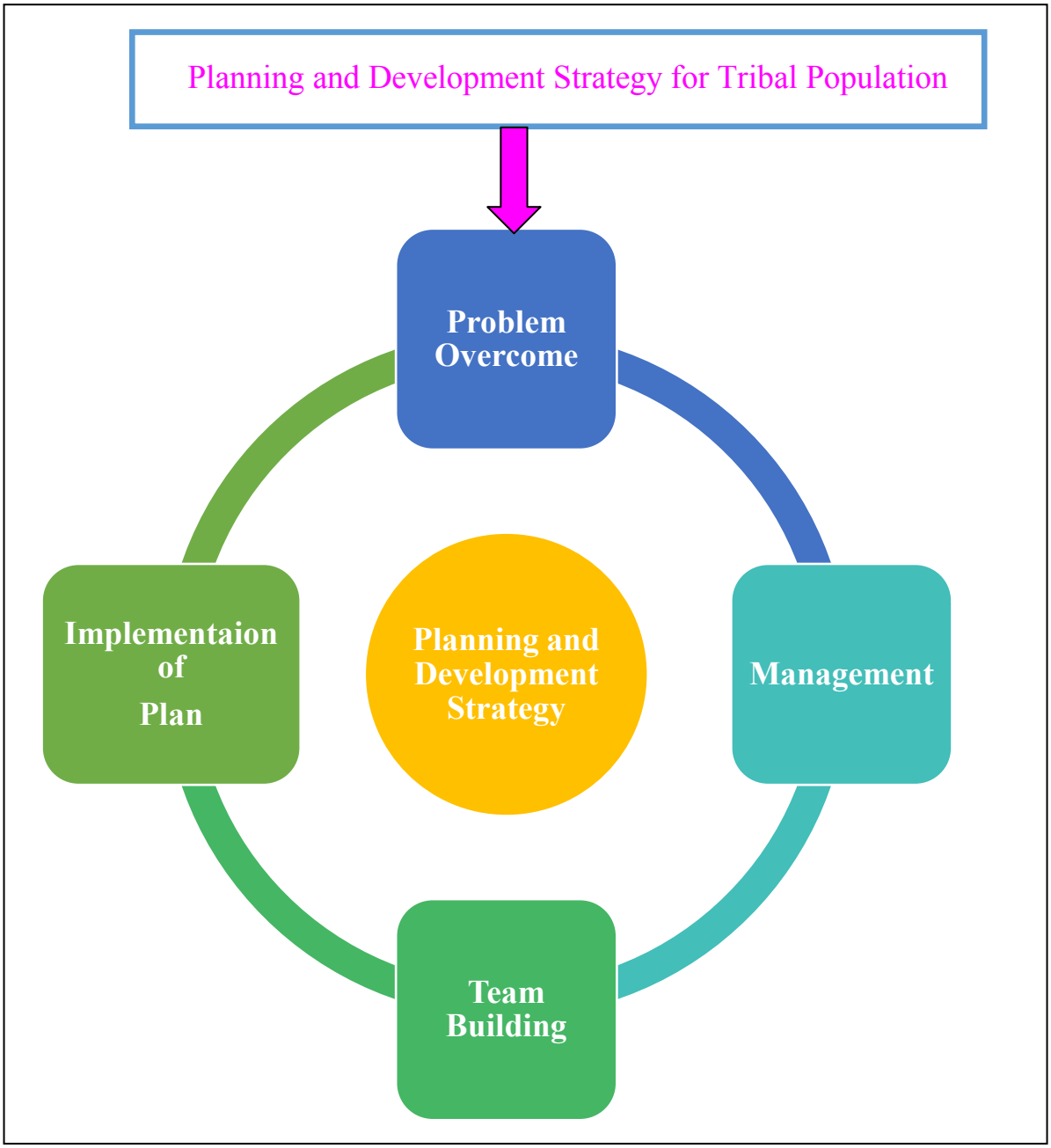

Planning and Development Strategy for Tribal Population
Problem Overcome
Management
Team Building
Implementaion of Plan
Planning and Development Strategy

Fig. 6.2

**(7)** **Securing The Energy Future :** To secure better energy future by harnessing the vast natural resources in tribal areas as the resource rich areas paradoxically are also at the lowest level of energy utilization.

**(8)** **Rural Transformation and Sustained Growth of Agriculture :** Sustained agriculture growth is essential in tribal areas as the communities still live on the margin dependent on vagaries of nature. Promotion of rural development, agriculture and allied activities therefore will be a key feature of the Ministry's endeavor for upliftment of the scheduled tribles

**(9)** **Improved Access to Quality Education :** Bridge the levels of educational attainments between the scheduled tribes and the others in every respect.

**(10)** **Better Preventive and Curative Healthcare :** Ensure better healthcare, both curative and preventive.

**6.5 Proposed Model for Tribal Development**

The priority should be given to compulsory education among tribal as it enhances the quality for overall development of human being. First stage involves three strategies. Firstly, it is essential to create awareness regarding education among tribal especially among women. Secondly, to provide free and compulsory quality education at their places. Second stage comprises creation of quality human resources by gaining skills, benefit of employment for increasing standard of living and lastly, use of these quality resources for creative work by adopting government schemes for them. This will support for eradication of poverty among tribal community (Fig.-6.2). Inclusive development of tribal is holding key position. While considering welfare of backward tribals, the attempt to be made for rural development, agriculture, power, irrigation and nutrition here is proposed a model for tribal development. This model consists of six stages, namely, compulsory primary education, soft skill development programme and capacity building, create interest in various sectors, marketing and management and economic development.

**(a)** **Compulsory Primary Education :** To provide educational facilities to tribals. Emphasis is being laid on vocational and technical training. According to these measures, concessions, stipends, scholarships, books, stationery and other equipments should be provided. More residential schools to be set up for them having indepth field surveys in study region.


Proposed Model For Tribal Development in Thane District
Compulsory Primary Education
Soft Skills Development Program
Capacity Building Program
On Their Own Interest and Eligibility Selection of Courses
Government Job and Promotions
Modern Agriculture
Tourism Sector
Food Processing
Handcraft
Animal Husbandry
Private Business
Marketing and Market Management
Overall Development of Tribals

Fig. 6.3

**(b)** **Soft Skill Development Programme and Capacity Building:** Involvement of beneficiaries is second impotent aspect. Skill and knowledge are the driving forces of economic growth and social development of a country. In rapidly growing economies with a vast and ever-increasing population, the problem is two-fold. On one hand, there is a severe paucity of highly trained quality labour while on other large sections of population possess little or no job skills. After achieving the goals strategy should be withdrawal by formation of people organization like self-help groups. This will help to capacity building in particular tribal region.

**(c)** **On Their Own Interest and Eligibility Section of Courses:** While considering need base problems and tribal participation be prepared policy. The short term training courses will be helpful for tribal youth.

**(d)** **Representative in Governed Provide Various Sectors**: This is a need to participate tribals in government and private jobs. Government has made provisions for their adequate representation in services. To facilitate their adequate representation certain concessions have been provided, such as exemption in age limits, relaxation in the standard of suitability and inclusion at least in lower category for purpose of promotion is otherwise than through qualifying. On the other hand, they will have motivated in animal husbandry, local tourism industry, wild food processing, private business and handcraft. After preparation of plan, there should be exclusive implementation of strategy with time limit to achieve desired goals.

**(e)** **Marketing and Market Management:** Government should establish the market centers for collection the finished products in tribal areas in study region. To arranged the training regarding marketing condition and its behavior for less loss.

**(f)** **Economic Development of Tribals:** This stage play very crucial role in overall planning and development process. Economic satiability is more important than other needs. By imparity education, tribals knows their rights, money value and futures.

**6.6 Resume**

The various physical, demographic and socioeconomic factors are influencing development in study region. This chapter has assessed the correlation between various variables. Correlation matrix for nineteen variables in fifteen tahsils were computed (Table-6.1). The total geographical area exhibits positive correlation with marginal workers, non-workers,

female marginal workers and female main workers. The moderate positive correlation of total geographical area has found with marginal workers (0.601) and non-workers (0.595), female marginal workers (0.527) and female main workers. The total geographical area and spatial distribution of tribal population in study region shows very less positive correlation (0.144).Tribal literacy shows strong positive relationship with female tribal literacy (0.991) and male tribal literacy (0.978). Percent of male main workers (0.761), percent of male marginal workers (0.894) and female non-workers (0.666). It indicates that the literacy rate positive in study region. Factor Analysis technique has applied for bringing out the hidden factors from the set of variables or shared common variances. In this study 85.3 has been considered as cut-off point. Literacy factor has been pulled closer to percent of tribal population literacy and shared loading is 0.943 followed by percent of tribal main workers (0.935), male tribal literacy (0.932) and tribal sex ratio (0.919) in study region.

The basic problems to overcome that tribal have less illiteracy. For the successful implementation of tribal development schemes, tribal people should have more access to these schemes. Tribal offices should be within their reach hence Integrated Tribal Development Office should be established at tahsil level. Moreover, complicated procedure and documentation of schemes should be made simple. More shares of funds are used for individual beneficiary schemes. At the same time, necessary action should be taken to control mass level corruption in implementation of tribal development plans. The suggested models should be implemented genuinely for the uplift of tribal population in study region.

# CHAPTER-VII
# SUMMARY AND CONCLUSIONS

## 7.1 General Introduction

In this chapter, an attempt is made to bring out a brief summary of all earlier six chapters. The demographic characteristics of tribal population in study region have changed since last three decades from 1991 to 2011. On the contrary, it is true that the tribal community have less aware of the long-term effects. The spatial information of tribal population characteristics both at micro and macro levels. The present research work has carried out to evaluate, examine, explain and interpret the tribal population characteristics in Thane district and has considered decadal changes in demographic characters, occupational structure and socio-economic conditions of tribal population, distribution, concentration, density, growth, sex ratio, literacy, dependency ratio, caste composition, educational profile, occupation, available infrastructures and to provide strategy for elevate of the tribals in study region. In this chapter, an endeavor is made to present findings and suggestions of research work in brief.

## 7.2 Summary

The work entitled "A Study of Tribal Characteristics in Thane District, Maharashtra State" have been undertaken for study. The study of tribal population in the northwestern parts of Maharashtra is based on primary and secondary data and to bring out the grass root level realities of their living conditions in the remote areas which have been rarely studied. Primary data have collected from households of four sample villages whereas the secondary data have acquired from District Census Handbooks of Thane District, Socio-economic Abstract, Thane District Annual Plan, Tribal Development Department, Thane. Concentration index, location quotient index, child-women ratio, dependency ratio, index of ageing, growth rate, projection, activity rate, Lorenz curve, Karl Pearson's correlation coefficient method and Factor Analysis have applied and interpreted in present study and then summaries findings in text.

The region under study is located in northwest part in Maharashtra state consisting 15 tahsils (9558 square kilometers) out of which Shahapur tahsil is the largest area (1555 square kilometers) and Talasari tahsil is smallest (268 square kilometers). Physically, study region is divided into four divisions, namely, coastal

region, central region, Vaitarna river valley, Sahyadri Foothill Region. The undulating topography and slope towards west from Sahyadri rages. The study region drains by major two rivers, namely, Vaitarna and Ulhas rivers flowing towards central and south part in study region. Due to coastal location study region consisting saline, black shallow soil, black deep and coarse soils. The climate is characterised by high humidity throughout the year and well distributed heavy rainfall (1000 millimeters to 3750 millimeters) during southwest monsoon season. The mean daily maximum temperature experiences (32.9° centigrades) during summer and minimum 22° centigrades in winter. The study region covers 3,879.52 kilometers 40.58 percent forests. According to 2011 Census of India total population was 1,10,60,148 persons. During study period from 2001-2011 study region has recorded 49.7 percent of growth. The density of population was 1157 persons per square kilometers in 2011 and Ulhasnagar and Thane tahsils have density 38931 and 11125 persons per square kilometers respectively in study region causing urbanization. Mokhada and Shahapur recorded density 100 to 200 persons per square kilometers. The study region has 76.99 percent urban and 23.01 percent rural population (Census of India, 2011). Literacy was 84.55 percent and sex ration found 886 females per 1000 males in 2011. The scheduled tribes are accounting 13.9 percent and have concentrated more than 50 percent in Palghar, Shahapur, Talasari, Thane, Vada and Vasai tahsils. There are three major national highways and sixteen state highways in study region having total length of 33,439 kilometers. The major district road and other roads length consists of 17,463 kilometers. More than 31 percent population involves in agriculture.

The tribal population is distributed in northwest hilly and remote part in study region mainly in Jawhar, Mokhada, Talasari, Vada and Dahanu tahsils have high concentration of tribal population. Ulhasnagar tahsil has highest tribal population density (506 persons per square kilometers) due to urbanization, employment and better educational facilities where Murbad tahsil. The decadal growth rate tribal population was observed 50.97 percent in year 1991-2011 whereas, 62.18 percent growth rate found in decadal year 2001-2011. The highest growth of tribal population was observed in Vasai (38.59 percent) tahsil. The total tribal population in study region in 2011 was 15,42,451 persons. The tribal sex ratio was 977 and 1018 female per 1000 males in 1991 and 2011 respectively. Kalyan tahsil has highest rural tribal sex ratio (1064) whereas Ulhasnagar has recorded highest urban tribal sex ratio accounting 1147 in study region. Warli tribes has ranked first accounting 45.87 tribal

population followed by Koli Malhar. Thakur/Thakar, Kathodi, Koli Mahadev, Kokana and Koli Dhor are major tribes in study region. Literacy rate among tribal population was found increasing from year 1991 to 2011. It was 25.84 percent in 1999 and 58.87 percent in 2011 respectively. Female literacy is found less than males in study region. The dependency ratio of tribal population as high (72.1) to total population due to poverty. In tribal area has 52 PHC's in the percent of tribal population inmigration was high nearest district, namely, Nashik (22.61), Mumbai Metropolitan Region (13.33), Ahemadnagar (11.27) and Pune (10.23) percent due to better transportation facility, various job opportunity in urban area and educational facility. On opposing the female in-migrant proportion is high as compared to male in-migrant in study region.

Main workers have expressively decreased by 13.11 percent whereas the percent of marginal workers have increased rapidly. Non-workers percent have found increasing by 5.47 indicating positive change in occupation among tribal community in study region in 2011. The main workers have found contrasting mainly in north and central parts in study region. The percent of agriculture labours has increased by 7.57 percent due to increasing landless households and wages earn have increased in agriculture sector. However, other workers are household and industry workers. The highest percent of other workers was found in Ulhasnagar tahsil (95.69 percent) due to urbanization, gray market industries, Maharashtra Industrial Development Corporation (MIDC), raw material processing industries and good transport networks for outside commuters.

Crude and economic activity rate was assessed and reveals that crude activity rate is reducing male (-0.69) and female (0.98) tribal workers. Whereas, general activity rate was very high as compared to crude activity rate among tribals accounting 82.29. The relationship between workers and literacy was computed. In 1991 relationship between labours and literacy is negative (R=-0.73) but high for main marginal workers (R=0.83) whereas 2011 has found strongly negative relationship (R=-0.78) for main works and strongly positive relation for marginal workers (R=0.91).

Thakur is a major tribe with 95.76 percent of total population in Zadghar village and has population is 718 persons. 51.53 percent male and 48.47 percent female shows imbalance in sex ratio (941 females per 1000 males). This village has found highest tribal density accounting 189 per square kilometers due to proximity of

Thane and Ambarnath city. This village has 62.33 percent literacy among tribals. Water scarcity, electricity and unemployment during summer are severe problems at Zadghar. Unemployment during non-harvesting period is serious major problem in this village. The land holdings are marginal (less then 3 acres) hence it is found low income. To conclude, marginal landholding, less productivity, and unemployment are the difficulties of this village.

The physiography of Aine village lie on undulating and is situated along Pinjal river. 318 males and 296 females are in this village is found. The sex ratio is 930 females per 1000 males. It shows low sex-ratio of Thakur tribe in village. It is found that 8 percent households do not have electricity facility. The forest is accounts for 21 percent area and 50 percent area is under cultivation. It is noticed that 82 households found using mobile phones followed by televisions accounting 56 which shows awareness within tribals.

Shelti village covers 69 hectares area having population of 154 persons and 42 households. The density of population is 26 persons per square kilometer, which is lowest among selected sample. 48.05 percent males and 51.95 percent females are found in the village. The sex ratio is 1081 which is higher as compared to selected sample villages. Houses of this village are built by stones, mud and bricks. It was noted that tribal people increased their standard of living by selling cash crops at Dahanu and Vangaon railway line. Tribals use televisions and mobile phones more preferably and articles like radio, music system, cooking gas, sewing machine, two wheelers and vehicles.

Village Savaroli has literacy 45.63 percent. The tribal people in this village are engaged in primary activities accounting 45 percent in agriculture and allied sector, 42 percent workers involves as laboures, 11 percent are in service sector and 2 percent possess their own businesses. Poverty is a serious problem.

**7.3 Problems**

(1) Tribals face educational problems in study region. Hence literacy is low for male (68.52 percent) and female (49.32 percent). Poor enrollment and lack of awareness about education among tribals are major cause in education. Ashram schools are in existence imparting education at level but they are not.

(2) Less health facilities are another problems found in study region. Tribal generally prefer medicinal plants to cure their health related problems.

Moreover tribals are not aware about HIV and family planning. Tribals are addicted to alcohol and similar habits and hence have high infant mortality, malnutrition and less life expectancy.

(3) Poverty among the tribal community is common problems. Starvation and malnutrition among Katkari, Bhil and Warali tribals are found. Forest based economy of the tribals have been ruined due to cutting of trees of the forest.

(4) The small landholding among tribals resulting less productions. Now there is no scope of pasture of land and domestication of animal.

(5) Water scarcity is acute for drinking is always problem in study region particularly. Drinking water facility is not adequate by the sanitation facilities are also poor.

(6) Natural hazards i.e., landslides, erosion, floods, storms. Large scale deforestation invites severe problems in study region as one of the vulnerable regions. Moreover poor transport and less available communication facilities are the main obstacle for their socio-economic development.

**7.4 Suggestions**

A few suggestions towards the Development of Tribals in study region can be listed are below:

(i) Afforestation programme has to be implemented extensively and indigenous species has to be planted. People participation is required to confirm the success of afforestation programme. Without the revival of the forest-based economy of tribals, the real development is not possible.

(ii) Tribalpara lies in the regions of adverse agro-ecological conditions in respect of crop production. Therefore, focus has to be diverted from the efforts of enhancing crop production. Tribals have enormous knowledge about the medicinal plants. Commercial production of medicinal plants is a viable alternative for development of tribal economy.

(iii) Special emphasis has to be given on the domestication of animals rather than crop production. Development of grasslands, veterinary hospitals and proper markets for the disposal of these animal products are needed for the reduction of their poverty.

(iv) Middlemen should be eliminated for the marketing of their animal produces and custard apple base product. Cooperative banking facilities at minimum

interest has to be promoted. Some exceptional cases found 'Self Help Groups' but they not in active condition.

(v) Many campaigns and awareness programmes among the tribals have been organized through Government and Non-Government levels to change their endogamous marriage custom. Only five to six cases have been found where marriage of the tribals was practiced outside the tribal community. However, the question is posed whether the Non-Tribals.

(vi) 'Traditional Village Council'. Special financial grants and more freedom have to be given to Traditional Village Council to retain the uniqueness of their culture.

(vii) Tourism activities should promote at Dahanu and Murbad tahsil to enhance tribal economic conditions.

(viii) Reservation and training should be given to tribals in private sectors and such amendment in law should be made by government.

(ix) The unit of Tribal Department should establish at every tahsil place where tribal population is more than fifty percent and consider the opinion of tribals before the starting the policies and implementing schemes. Booklets should be provided to create awareness regarding policies schemes to every household in study region.

(x) It was suggested that 15 percent financial assistance of total Maharashtra state budget should be allotted on higher education for tribal dominating tahsils in study region.

(xi) The effort should be made to eradication of alcohol, tobacco and smoking habits among tribals in tribal villages.

(xii) The tribal workers in Jawhar, Murbad and Shahapur tahsil should get work during non-harvesting period guaranty schemes.

**7.5 Concluding Remark**

Human resources hold important position in the development process of human being. Population and their efficient interface in surrounding environment are highly active in nature. The tribal educated youth and government should lead for development of tribal community. However, there is need to improve potential, literacy, standard of living, team building approach and create maximum quality

services by producing employment within study region. Such study may has abundant potential and attract attention of experts belonging experts from tribal department, geographers, anthropologists and regional planners for future indepth study and better improvement of tribal community in Thane district. In this admiration, there is a sufficient scope for research in general for preparing planning policy for tribals and population planning in geography, analysis and experiment in tribal population study in planning.

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APPENDIX-A

POPULATION DISTRIBUTION IN THANE DISTRICT, 2011

| Sr. No. | Tahsils | General Population | | | Total Population | | |
|---|---|---|---|---|---|---|---|
| | | Persons | Male | Female | Persons | Male | Female |
| 1 | Ambarnath | 565340 | 295358 | 269982 | 36221 | 18505 | 17716 |
| 2 | Bhiwandi | 1141386 | 653758 | 487628 | 92664 | 47645 | 45019 |
| 3 | Dahanu | 402095 | 199574 | 202521 | 277904 | 135842 | 142062 |
| 4 | Jawhar | 140187 | 69333 | 70854 | 128462 | 63280 | 65182 |
| 5 | Kalyan | 1565417 | 820492 | 744925 | 54516 | 28127 | 26389 |
| 6 | Mokhada | 83453 | 41691 | 41762 | 76842 | 38246 | 38596 |
| 7 | Murbad | 190652 | 97228 | 93424 | 47343 | 23662 | 23681 |
| 8 | Palghar | 550166 | 288514 | 261652 | 168152 | 83424 | 84728 |
| 9 | Shahapur | 314103 | 160466 | 153637 | 112183 | 56594 | 55589 |
| 10 | Talasari | 154818 | 76417 | 78401 | 140273 | 68699 | 71574 |
| 11 | Thane | 3787036 | 2022949 | 1764087 | 74940 | 38928 | 36012 |
| 12 | Ulhasnagar | 506098 | 269048 | 237050 | 6576 | 3513 | 3063 |
| 13 | Vada | 178370 | 91990 | 86380 | 101709 | 51160 | 50549 |
| 14 | Vasai | 1343402 | 709771 | 633631 | 98298 | 48921 | 49377 |
| 15 | Vikramgad | 137625 | 68489 | 69136 | 126368 | 62646 | 63722 |
| | District Total | 11060148 | 5865078 | 5195070 | 1542451 | 769192 | 773259 |

Source : District Census Handbook, Thane District for 2011.

APPENDIX-B

TRIBAL POPULATION CHARACTERISTICS IN THANE DISTRICT

| Sr. No. | Tahsils | Tribal Population | | Percent | | Growth | | Density | | Sex Ratio | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1991 | 2011 | 1991 | 2011 | 91-01 | 01-011 | 1991 | 2011 | 1991 | 2011 |
| 1 | Ambarnath | 0 | 36221 | 0 | 6.41 | 0 | 37.51 | 0 | 118 | 0 | 1045 |
| 2 | Bhiwandi | 54078 | 92664 | 8.64 | 8.12 | 35.77 | 26.21 | 87 | 133 | 938 | 1058 |
| 3 | Dahanu | 178878 | 277904 | 65.99 | 69.11 | 20.28 | 29.16 | 182 | 232 | 996 | 956 |
| 4 | Jawhar | 125624 | 128462 | 89.3 | 91.64 | -20.45 | 28.55 | 148 | 201 | 1007 | 971 |
| 5 | Kalyan | 33412 | 54516 | 3.24 | 3.48 | 4.44 | 56.23 | 105 | 171 | 906 | 1066 |
| 6 | Mokhada | 76836 | 76842 | 93.46 | 92.08 | -20.66 | 26.04 | 160 | 156 | 985 | 991 |
| 7 | Murbad | 33845 | 47343 | 23.26 | 24.83 | 13.81 | 22.91 | 39 | 50 | 954 | 999 |
| 8 | Palghar | 119175 | 168152 | 35.57 | 30.56 | 18.09 | 19.48 | 143 | 134 | 973 | 985 |
| 9 | Shahapur | 69631 | 112183 | 31.76 | 35.72 | 29.25 | 24.65 | 45 | 69 | 950 | 1018 |
| 10 | Talasari | 85081 | 140273 | 91.53 | 90.61 | 26.21 | 30.63 | 318 | 482 | 1010 | 960 |
| 11 | Thane | 40873 | 74940 | 3.15 | 1.98 | 19.24 | 53.76 | 115 | 220 | 915 | 1081 |
| 12 | Ulhasnagar | 13974 | 6576 | 3.24 | 1.30 | -74.72 | 86.13 | 43 | 506 | 948 | 1147 |
| 13 | Vada | 61157 | 101709 | 53.63 | 57.02 | 22.94 | 35.28 | 81 | 131 | 965 | 1012 |
| 14 | Vasai | 58641 | 98298 | 23.54 | 7.32 | 38.59 | 20.95 | 146 | 174 | 990 | 991 |
| 15 | Vikramgad | 0 | 126368 | 0 | 91.82 | 0 | 22.42 | 0 | 231 | 0 | 983 |
| District Total | | 897127 | 1542451 | 18.23 | 13.95 | 26.08 | 28.61 | 111 | 154 | 977 | 1018 |

Source : District Census Handbook, Thane District for 1991 and 2011.

APPENDIX-C

MALE-FEMALE TRIBAL POPULATION IN THANE DISTRICT

| Sr. No. | Tahsils | 1991 | | 2001 | | 2011 | |
|---|---|---|---|---|---|---|---|
| | | Male | Female | Male | Female | Male | Female |
| 1 | Ambarnath | 0 | 0 | 13463 | 12878 | 18505 | 17716 |
| 2 | Bhiwandi | 25439 | 24322 | 37456 | 35963 | 47645 | 45019 |
| 3 | Dahanu | 85675 | 85432 | 105978 | 109184 | 135842 | 142062 |
| 4 | Jawhar | 61128 | 61705 | 49447 | 50485 | 63280 | 65182 |
| 5 | Kalyan | 3231 | 3090 | 18047 | 16847 | 28127 | 26389 |
| 6 | Mokhada | 38700 | 38136 | 30682 | 30282 | 38246 | 38596 |
| 7 | Murbad | 17317 | 16528 | 19514 | 19004 | 23662 | 23681 |
| 8 | Palghar | 60411 | 58764 | 71346 | 69386 | 83424 | 84728 |
| 9 | Shahapur | 35710 | 33921 | 45580 | 44417 | 56594 | 55589 |
| 10 | Talasari | 42319 | 42762 | 52722 | 54657 | 68699 | 71574 |
| 11 | Thane | 4393 | 3974 | 25393 | 23346 | 38928 | 36012 |
| 12 | Ulhasnagar | 5452 | 5248 | 1847 | 1686 | 3513 | 3063 |
| 13 | Vada | 31119 | 30038 | 37954 | 37231 | 51160 | 50549 |
| 14 | Vasai | 25845 | 25721 | 40866 | 40406 | 48921 | 49377 |
| 15 | Vikramgad | 0 | 0 | 50514 | 52709 | 62646 | 63722 |
| District Total | | 481209 | 469996 | 600809 | 598481 | 769192 | 773259 |

Source : District Census Handbook, Thane District for 1991 and 2011.

APPENDIX-D

RURAL AND URBAN TRIBAL POPULATION IN THANE DISTRICT

| Sr. No. | Tahsils | 1991 | | | 2001 | | | 2011 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Rural | Urban | Total | Rural | Urban | Total | Rural | Urban | Total |
| 1 | Ambarnath | 0 | 0 | 0 | 13651 | 12690 | 26341 | 18822 | 17399 | 36221 |
| 2 | Bhiwandi | 48993 | 768 | 49761 | 66435 | 6984 | 73419 | 75333 | 17331 | 92664 |
| 3 | Dahanu | 171107 | 0 | 171107 | 204354 | 10808 | 215162 | 265761 | 12143 | 277904 |
| 4 | Jawhar | 122833 | 0 | 122833 | 96347 | 3585 | 99932 | 124259 | 4203 | 128462 |
| 5 | Kalyan | 3231 | 0 | 3231 | 10141 | 24753 | 34894 | 14864 | 39652 | 54516 |
| 6 | Mokhada | 76836 | 0 | 76836 | 60964 | 0 | 60964 | 76842 | 0 | 76842 |
| 7 | Murbad | 32899 | 946 | 33845 | 37687 | 831 | 38518 | 46166 | 1177 | 47343 |
| 8 | Palghar | 116751 | 2424 | 119175 | 126544 | 14188 | 140732 | 145132 | 23020 | 168152 |
| 9 | Shahapur | 68764 | 867 | 69631 | 81781 | 8216 | 89997 | 97498 | 14685 | 112183 |
| 10 | Talasari | 85081 | 0 | 85081 | 107379 | 0 | 107379 | 140273 | 0 | 140273 |
| 11 | Thane | 884 | 7483 | 8367 | 0 | 48739 | 48739 | 733 | 74207 | 74940 |
| 12 | Ulhasnagar | 5452 | 0 | 5452 | 0 | 3533 | 3533 | 0 | 6576 | 6576 |
| 13 | Vada | 58363 | 2794 | 61157 | 71146 | 4039 | 75185 | 96523 | 5186 | 101709 |
| 14 | Vasai | 48510 | 3056 | 51566 | 68058 | 13214 | 81272 | 39847 | 58451 | 98298 |
| 15 | Vikramgad | 0 | 0 | 0 | 103223 | 0 | 103223 | 123109 | 3259 | 126368 |
| | District Total | 848042 | 103163 | 951205 | 1047710 | 151580 | 1199290 | 1265162 | 277289 | 1542451 |

Source : District Census Handbook, Thane District for 1991 and 2011.

APPENDIX-E

AGE -SEX OF TRIBAL POPULATION IN THANE DISTRICT, 2001

| Age-Group | Rural | | | Urban | | |
|---|---|---|---|---|---|---|
| | Persons | Males | Females | Persons | Males | Females |
| 0-4 | 146626 | 74105 | 72521 | 24792 | 12704 | 12088 |
| 5-9 | 167445 | 84589 | 82856 | 27834 | 14350 | 13484 |
| 10-14 | 155966 | 80479 | 75487 | 29227 | 15186 | 14041 |
| 15-19 | 120325 | 61567 | 58758 | 27657 | 14388 | 13269 |
| 20-24 | 118639 | 56794 | 61845 | 29857 | 15049 | 14808 |
| 25-29 | 101837 | 51287 | 50550 | 28516 | 14351 | 14165 |
| 30-34 | 85709 | 42025 | 43684 | 24212 | 12310 | 11902 |
| 35-39 | 79677 | 39313 | 40364 | 22113 | 11273 | 10840 |
| 40-44 | 68326 | 33778 | 34548 | 17973 | 9794 | 8179 |
| 45-49 | 58989 | 28959 | 30030 | 13612 | 7003 | 6609 |
| 50-54 | 46064 | 22705 | 23359 | 10144 | 5353 | 4791 |
| 55-59 | 35533 | 16930 | 18603 | 7048 | 3643 | 3405 |
| 60-64 | 31475 | 13984 | 17491 | 5398 | 2609 | 2789 |
| 65-69 | 21904 | 9380 | 12524 | 3178 | 1348 | 1830 |
| 70-74 | 12990 | 5399 | 7591 | 2127 | 857 | 1270 |
| 75-79 | 5029 | 2012 | 3017 | 893 | 383 | 510 |
| 80+ | 5211 | 2244 | 2967 | 1344 | 602 | 742 |
| Age not stated | 3417 | 1738 | 1679 | 1364 | 701 | 663 |
| Total | 1265162 | 627288 | 637874 | 277289 | 141904 | 135385 |

Source : District Census Handbook, Thane District for 2001.

# APPENDIX-F

## SCHEDULED TRIBAL POPULATION IN THANE DISTRICT, 2011

| Sr. No. | Name of Tribes | Population | Sr. No. | Name of Tribes | Population |
|---|---|---|---|---|---|
| 1 | Varli | 707494 | 24 | Khairwar | 449 |
| 2 | KoliMalhar | 230593 | 25 | BhariaBhumia etc. | 280 |
| 3 | Thakur etc. | 173331 | 26 | Korku etc. | 265 |
| 4 | Kathodi etc. | 124507 | 27 | Kamar | 245 |
| 5 | KoliMahadev etc. | 97917 | 28 | Kol | 226 |
| 6 | Kokna etc. | 84980 | 29 | Rathawa | 219 |
| 7 | KoliDhor etc. | 16511 | 30 | Bhunjia | 185 |
| 8 | Dubla etc. | 13485 | 31 | Kondh etc. | 128 |
| 9 | Gond etc. | 12424 | 32 | Barda | 120 |
| 10 | Bhil etc. | 11789 | 33 | Kharia | 102 |
| 11 | Dhodia | 10877 | 34 | Parja | 87 |
| 12 | Oraon etc. | 6277 | 35 | Sawar etc. | 82 |
| 13 | Halba etc. | 4898 | 36 | Bavacha etc. | 61 |
| 14 | Pardhi etc. | 4478 | 37 | Koya etc. | 61 |
| 15 | Gamit etc. | 2293 | 38 | Baiga | 60 |
| 16 | Kawar etc. | 1493 | 39 | Bhaina | 57 |
| 17 | Kolam | 1135 | 40 | Vitolia etc. | 53 |
| 18 | Andh | 994 | 41 | Binjhwar | 45 |
| 19 | Pardhan etc. | 885 | 42 | Birhul etc. | 32 |
| 20 | Dhanka etc. | 807 | 43 | Nagesia etc. | 25 |
| 21 | Dhanwar | 533 | 44 | Bhattra | 11 |
| 22 | Patelia | 510 | 45 | Pomla | 8 |
| 23 | Naikda etc. | 489 | | District Total | 1511501 |

Source : District Census Handbook, Thane District for 2011.

APPENDIX-G

SEX AND EDUCATION OF TRIBAL POPULATION, 2011

| Sr. No. | Educational Attainments | Persons | Male | Female |
|---|---|---|---|---|
| 1 | Literate without educational level | 61293 | 33540 | 27753 |
| 2 | Below primary | 263829 | 145401 | 118428 |
| 3 | Primary School | 191577 | 108072 | 83505 |
| 4 | Middle School | 110736 | 68036 | 42700 |
| 5 | Matric/Secondary | 62118 | 39935 | 22183 |
| 6 | Higher secondary/Intermediate | 37388 | 24323 | 13065 |
| 7 | Non-technical diploma or certificate not equal to degree | 192 | 137 | 55 |
| 8 | Technical diploma or certificate not equal to degree | 2895 | 2167 | 728 |
| 9 | Graduate & above | 23355 | 15235 | 8120 |
| 10 | Unclassified | 7738 | 3808 | 3930 |
| | Total | 761121 | 440654 | 320467 |

Source : District Census Handbook, Thane District for 2011

APPENDIX-H

AGE GROUPS AND TRIBAL EDUCATION, 2011

| Age-Group | Male | Female | Total |
|---|---|---|---|
| 0-5 | 9420 | 9129 | 18549 |
| 6-14 | 138194 | 123905 | 262099 |
| 15-19 | 35840 | 26128 | 61968 |
| 20-24 | 12269 | 7522 | 19791 |
| 25+ | 8994 | 9925 | 18919 |
| Age not stated | 135 | 113 | 248 |
| All age groups | 204852 | 176722 | 381574 |

Source : District Census Handbook, Thane District for 2011.

APPENDIX-I

IN-MIGRATION TRIBAL POPULATION IN THANEDISTRICT, 2011

| Sr. No. | Name of Districts | Total Population | | | Rural Population | | | Urban Population | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Persons | Males | Females | Persons | Males | Females | Persons | Males | Females |
| 1 | Nashik | 10,160 | 4,612 | 5,548 | 4,000 | 1,477 | 2,523 | 6,160 | 3,135 | 3,025 |
| 2 | Mumbai | 5,717 | 2,608 | 3,109 | 687 | 275 | 412 | 5,030 | 2,333 | 2,697 |
| 3 | Ahmadnagar | 5,065 | 2,684 | 2,381 | 1,040 | 537 | 503 | 4,025 | 2,147 | 1,878 |
| 4 | Pune | 4,598 | 2,316 | 2,282 | 557 | 223 | 334 | 4,041 | 2,093 | 1,948 |
| 5 | Raigarh | 3,669 | 1,554 | 2,115 | 1,105 | 275 | 830 | 2,564 | 1,279 | 1,285 |
| 6 | Jalgaon | 3,015 | 1,582 | 1,433 | 658 | 330 | 328 | 2,357 | 1,252 | 1,105 |
| 7 | Nagpur | 2,583 | 1,332 | 1,251 | 152 | 77 | 75 | 2,431 | 1,255 | 1,176 |
| 8 | Dhule | 1,619 | 867 | 752 | 296 | 160 | 136 | 1,323 | 707 | 616 |
| 9 | Nandurbar | 817 | 446 | 371 | 170 | 89 | 81 | 647 | 357 | 290 |
| 10 | Solapur | 736 | 375 | 361 | 112 | 55 | 57 | 624 | 320 | 304 |
| 11 | Akola | 700 | 382 | 318 | 254 | 143 | 111 | 446 | 239 | 207 |
| 12 | Ratnagiri | 530 | 288 | 242 | 78 | 55 | 23 | 452 | 233 | 219 |
| 13 | Bhandara | 496 | 280 | 216 | 26 | 20 | 6 | 470 | 260 | 210 |
| 14 | Sindhudurg | 442 | 238 | 204 | 17 | 10 | 7 | 425 | 228 | 197 |
| 15 | Amravati | 427 | 237 | 190 | 81 | 43 | 38 | 346 | 194 | 152 |
| 16 | Yavatmal | 385 | 210 | 175 | 54 | 30 | 24 | 331 | 180 | 151 |
| 17 | Chandrapur | 380 | 189 | 191 | 43 | 27 | 16 | 337 | 162 | 175 |
| 18 | Satara | 373 | 200 | 173 | 88 | 47 | 41 | 285 | 153 | 132 |
| 19 | Wardha | 330 | 161 | 169 | 28 | 16 | 12 | 302 | 145 | 157 |
| 20 | Buldana | 321 | 167 | 154 | 89 | 45 | 44 | 232 | 122 | 110 |

Continnued…

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 21 | Latur | 300 | 166 | 134 | 39 | 22 | 17 | 261 | 144 | 117 |
| 22 | Osmanabad | 289 | 141 | 148 | 77 | 42 | 35 | 212 | 99 | 113 |
| 23 | Parbhani | 283 | 142 | 141 | 153 | 81 | 72 | 130 | 61 | 69 |
| 24 | Mumbai (Suburban) | 274 | 140 | 134 | 7 | 2 | 5 | 267 | 138 | 129 |
| 25 | Nanded | 261 | 131 | 130 | 33 | 16 | 17 | 228 | 115 | 113 |
| 26 | Sangli | 232 | 124 | 108 | 27 | 17 | 10 | 205 | 107 | 98 |
| 27 | Aurangabad | 222 | 110 | 112 | 34 | 16 | 18 | 188 | 94 | 94 |
| 28 | Bid | 213 | 114 | 99 | 15 | 8 | 7 | 198 | 106 | 92 |
| 29 | Jalna | 160 | 77 | 83 | 34 | 20 | 14 | 126 | 57 | 69 |
| 30 | Washim | 104 | 55 | 49 | 38 | 19 | 19 | 66 | 36 | 30 |
| 31 | Kolhapur | 91 | 49 | 42 | 15 | 9 | 6 | 76 | 40 | 36 |
| 32 | Gadchiroli | 77 | 41 | 36 | 7 | 4 | 3 | 70 | 37 | 33 |
| 33 | Gondiya | 40 | 27 | 13 | 4 | 4 | 0 | 36 | 23 | 13 |
| 34 | Hingoli | 29 | 11 | 18 | 11 | 6 | 5 | 18 | 5 | 13 |
| 35 | Unclassifiable | 1,641 | 916 | 725 | 1,113 | 622 | 491 | 528 | 294 | 234 |
| District Total | | 46,579 | 22,972 | 23,607 | 11,142 | 4,822 | 6,320 | 35,437 | 18,150 | 17,287 |

Source : District Census Handbook, Migration Table, Thane District for 2011

## APPENDIX-J

## TRIBAL POPULATION MAIN WORKERS OCCUPATIONAL STRUCTURE, THANE DISTRICT

| Sr. No. | Tahsils | Cultivators | | Agricultural Labours | | Household Industry | | Other Workers | |
|---|---|---|---|---|---|---|---|---|---|
| | | 1991 | 2011 | 1991 | 2011 | 1991 | 2011 | 1991 | 2011 |
| 1 | Ambarnath | 0 | 585 | 0 | 2496 | 0 | 64 | 0 | 1832 |
| 2 | Bhiwandi | 4654 | 1993 | 11650 | 11233 | 622 | 518 | 7385 | 9817 |
| 3 | Dahanu | 50762 | 36969 | 20969 | 41107 | 178 | 1362 | 13675 | 13303 |
| 4 | Jawhar | 49445 | 18173 | 12864 | 18638 | 32 | 380 | 1935 | 1589 |
| 5 | Kalyan | 289 | 340 | 1920 | 1375 | 8 | 89 | 997 | 2770 |
| 6 | Mokhada | 24251 | 10842 | 8883 | 19286 | 9 | 219 | 1736 | 1055 |
| 7 | Murbad | 9544 | 5980 | 6891 | 10267 | 178 | 359 | 1011 | 1954 |
| 8 | Palghar | 24750 | 13616 | 24934 | 23681 | 269 | 537 | 8560 | 11636 |
| 9 | Shahapur | 13380 | 8569 | 15080 | 17149 | 92 | 333 | 4078 | 6766 |
| 10 | Talasari | 27697 | 14230 | 5562 | 10433 | 31 | 443 | 2787 | 8888 |
| 11 | Thane | 87 | 41 | 233 | 56 | 59 | 0 | 2746 | 83 |
| 12 | Ulhasnagar | 1412 | 16 | 2718 | 21 | 25 | 68 | 956 | 2067 |
| 13 | Vada | 12243 | 6140 | 15095 | 19500 | 59 | 242 | 2043 | 3910 |
| 14 | Vasai | 3622 | 1295 | 14980 | 9999 | 137 | 343 | 6775 | 3216 |
| 15 | Vikramgad | 0 | 28908 | 0 | 19810 | 0 | 387 | 0 | 2420 |
| | District Total | 222136 | 147697 | 141779 | 205051 | 3690 | 5344 | 56675 | 71306 |

Source : District Census Handbook, Thane District for 1991 and 2011.

APPENDIX-K

TRIBAL POPULATION OCCUPATIONAL STRUCTURE, THANE DISTRICT,1991

| Sr. No. | Tahsils | Main Workers | | | Marginal Workers | | | Non workers | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Total | Male | Female | Total | Male | Female | Total | Male | Female |
| 1 | Bhiwandi | 24883 | 14496 | 10387 | 2700 | 321 | 2379 | 21754 | 10464 | 11290 |
| 2 | Dahanu | 85584 | 46958 | 38626 | 8705 | 1205 | 7500 | 76816 | 37512 | 39306 |
| 3 | Jawhar | 64276 | 31193 | 30083 | 6120 | 791 | 5329 | 52437 | 26144 | 26293 |
| 4 | Kalyan | 3216 | 1966 | 1250 | 356 | 37 | 319 | 2749 | 1228 | 1521 |
| 5 | Mokada | 34887 | 21448 | 13439 | 8510 | 394 | 8116 | 33439 | 16858 | 16581 |
| 6 | Murbad | 17683 | 9643 | 8040 | 1247 | 180 | 1067 | 14915 | 7494 | 7421 |
| 7 | Palghar | 58513 | 33440 | 25073 | 5971 | 878 | 5093 | 54691 | 26093 | 28598 |
| 8 | Sahahpur | 32650 | 19249 | 13401 | 4076 | 521 | 3555 | 32905 | 15940 | 16965 |
| 9 | Talasari | 38603 | 21495 | 17108 | 7535 | 811 | 6724 | 38943 | 20013 | 18930 |
| 10 | Thane | 3125 | 2273 | 852 | 145 | 45 | 100 | 5097 | 2075 | 3022 |
| 11 | Ulhasnagar | 5118 | 3082 | 2036 | 650 | 107 | 543 | 4932 | 2263 | 2669 |
| 12 | Vada | 29443 | 16447 | 12996 | 3878 | 526 | 3352 | 27836 | 14146 | 13690 |
| 13 | Vasai | 25514 | 14384 | 11130 | 1002 | 121 | 881 | 25050 | 11340 | 13710 |
| District Total | | 423495 | 236074 | 184421 | 50895 | 5937 | 44958 | 391564 | 191570 | 199996 |

Source : District Census Handbook, Thane District for 1991.

APPENDIX-L

TRIBAL POPULATION OCCUPATIONAL STRUCTURE, THANE DISTRICT, 2011

| Sr. No. | Tahsils | Main Workers | | | Marginal Workers | | | Non workers | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Total | Male | Female | Total | Male | Female | Total | Male | Female |
| 1 | Ambarnath | 5844 | 4091 | 1753 | 2799 | 1340 | 1459 | 11080 | 4631 | 6449 |
| 2 | Bhiwandi | 28642 | 17571 | 11071 | 12184 | 6106 | 6078 | 43660 | 19256 | 24404 |
| 3 | Dahanu | 99097 | 55579 | 43518 | 33631 | 13718 | 19913 | 135853 | 61992 | 73861 |
| 4 | Jawhar | 39474 | 21003 | 18471 | 25000 | 11456 | 13544 | 59785 | 28752 | 31033 |
| 5 | Kalyan | 5554 | 3863 | 1691 | 2180 | 1189 | 991 | 9918 | 4031 | 5887 |
| 6 | Mokhada | 31979 | 16974 | 15005 | 9010 | 3823 | 5187 | 35853 | 17499 | 18404 |
| 7 | Murbad | 19300 | 11204 | 8096 | 5922 | 2610 | 3312 | 22121 | 9848 | 12273 |
| 8 | Palghar | 54097 | 33290 | 20807 | 22633 | 10773 | 11860 | 81702 | 34611 | 47091 |
| 9 | Shahapur | 34978 | 21860 | 13118 | 17311 | 7710 | 9601 | 59894 | 27024 | 32870 |
| 10 | Talasari | 37419 | 23505 | 13914 | 20775 | 9296 | 11479 | 82079 | 35898 | 46181 |
| 11 | Thane | 197 | 127 | 70 | 92 | 63 | 29 | 444 | 184 | 260 |
| 12 | Ulhasnagar | 2160 | 1732 | 428 | 355 | 234 | 121 | 4061 | 1547 | 2514 |
| 13 | Vada | 31411 | 18440 | 12971 | 19135 | 9524 | 9611 | 51163 | 23196 | 27967 |
| 14 | Vasai | 16505 | 9562 | 6943 | 4401 | 2188 | 2213 | 19902 | 8390 | 11512 |
| 15 | Vikramgad | 52778 | 27745 | 25033 | 15864 | 6674 | 9190 | 57726 | 28227 | 29499 |
| | District Total | 406657 | 266546 | 192889 | 191292 | 86704 | 104588 | 675241 | 305086 | 370205 |

Source : District Census Handbook, Thane District for 2011.

# APPENDIX - M

## QUESTIONNAIRE FOR TRIBAL STUDY IN THANE DISTRICT

Household No : ☐

1) Name of Family Head - _____

2) Name of Village - _____ Tahsil - _____

District – Thane

3) Family Details –

| Sr. No. | Name of Persons | Relation with F.H | Sex | Age | Marital Status | Education | Occupation |
|---|---|---|---|---|---|---|---|
| 1 | | | | | | | |
| 2 | | | | | | | |
| 3 | | | | | | | |
| 4 | | | | | | | |
| 5 | | | | | | | |
| 6 | | | | | | | |
| 7 | | | | | | | |
| 8 | | | | | | | |
| Total | | | | | | | |

4) Is their birth during the last year? a) Yes b) No

5) Is their death during the last year? If yes age. a) Yes b) No

6) Is their you take any religion? If yes mention. a) Yes b) No

7) Name of the caste you belong?

a) Open b) SC c) ST d) OBC e) Others

8) Name of the sub-caste?if ST.

a) KoliMahadev b) Kokna c) Thakur/ Thakar

d) Varli e) Kathodi f) Other……

9) Mother toung you possessing?

a) Marathi b) Hindi c)----------

10) Type of Houses.

a) Kaccha b) Semi pakka c) Pakka

11) How many rooms you have in your house?

a) i b) ii c) iii d) iv e) > v

12) How much is the area of your house (sq. ft.)?

a) < 100 b) 101–200 c) 201–300 d) 301–400

13) Do you have separate kitchen in your house? a) Yes b) No

14) Toilet facility is available in your house?

a) Within house b) Common d) Public e) No facility

15) What type of fuel used for cooking?

a) Wood/ Crop residues b) Coal/ Coke/Charcoal c) Kerosene

d) Electricity e) Liquid Petroleum Gas f) Others

16) What type of accommodation do you have?

a) Owned b) Rented per month (Rs.)_____

c) Govt. or Company's Quarters

17) Do you have electricity in your house? Are you facing the problem of power cut? If Yes, how many hours?

a) Yes b) No c) Hours_____

18) Does the household possess any of the following articles:

1) Radio / Transistor 2) Television 3) Music systems / DVD

4) Telephone / Mobile 5) Refrigerator 6) Washing machine

7) Cooking gas 8) Sewing machine 9) Bicycle

10) Scooter / Two Wheeler 11) Car / Jeep / Van

12) Tempo / Trucks 13) Any others (specific) _____

19) Which was your last residence place? If migrant.

a) Within tahsils b) Within district c) With in state

d) With in nation e) no migration

20) How many people from your family migrated out? Where?

a) _____ b) Place-_____

21) Are you filling safety at this place? a) Yes b) No

22) Name the first aids you use in an emergency?

a) Medicinal plants b) Tablets c) First aid box

23) Is there an availability of Primary health center in village? a) Yes b) No

24) Do you prefer maternity hospital during delivery? a) Yes b) No

25) What is the main source of drinking water for your household?

a) Private b) Common c) Public

d) Hand pump e) Well f) Others_____

26) What do you do to purify the drinking water?

a) Strain by cloth/water filter b) Boiling

d) Others d) Nothing

27) Are you having bad habits?

a) Chewing tobacco b) Smoking c) Alcohol

d) Drugs e) Redline

28) Which types of school levels are available within 3km. Radius?

a) Primary b) Secondary c) Higher secondary

d) College e) Non

29) Which educational materials are available?

a) Newspapers b) Journals c) books

d) Educational channel (T.V.) e) Internet

30) What are the educational problems?

1) _____

2) _____

31) Which is your occupation?

a) Agriculture b) Labour c) Forest

d) Own business e) Service f) Others

32) Yearly total income from all sources in lac.

a) <1 b) 1-3 c) 3-5 d) 5-10 f) >10

33) How much land is own by you? In Acre.

a) <1 b) 1-3 c) 3-5 d) 5-10 f) >106) No

34) Are you working as a labor in farm? a) Yes b) No

35) Is irrigation facility available in your farm? a) Yes b) No

If yes, types of irrigations.

a) Well b) Tube well c) Canal d) River f) Non

36) Give name of produced crops in your farm?

a) _____ b) _____

c) _____ d) _____

37) Do you use fertilizer in your farm? a) Yes b) No

38) If yes, type of fertilizers.

a) Bio fertilizer b) Chemical fertilizer c)Both

39) Do you use Pesticides in your farm? a) Yes b) No

40) Are you satisfied with your present occupation? a) Yes b) No

41) How much annual gross income you get from agriculture? In lac

a) <1 b) 1-2 c) 2-5 d) 5-10 e) >10

42) Are you fill satisfy in your society? If no what are the reasons?

a) Yes b) No Reason

43) Name the types of expectations from the government?

a) Economic package b) Education c) Social facility

d) Employment e) Other_____

44) What are the identical tribal problems?

a)

b)

c)

d)

45) Suggest the measures for development of your area or community?

a)

b)

c)

d)

Signature: _____

Date: Name of Surveyor : _____



Photo-1: ‘Tarpa’ Typical Tribal Dance



Photo-2: Male-Female Dance in Local Festival

# PHOTOGRAPHS OF ZADGHAR VILLAGE



Photo-3: Thakar Female at Zadghar village in Murbad Tahsil



Photo-4: Thakar Male at Zadghar village in Murbad Tahsil



Photo-5: Typical House Built by Mud and Grass Roof at Zadghar village in Murbad Tahsil



Photo-6: Tribal God and Goddess- Waghoba, Gavlibaba and Kalamjadevi at Zadghar village in Murbad Tahsil




Photo-7: Primary School at Zadghar village in Murbad Tahsil




Photo-8: NGO Multipurpose Hall at Zadghar in Murbad Tahsil

# PHOTOGRAPHS OF AINE VILLAGE



Photo-9: Rice Harvesting at Aine Village in Jawahar Tahsil.



Photo-10: Wood Collection by Tribal Women at Aine Village in Jawahar Tahsil.



Photo-11: Dispersed Settlement at Aine Village in Jawahar Tahsil.



Photo-12: Apparel Style of Thakar Tribes at Aine Village in Jawahar Tahsil.




Photo-13: God and Goddess (Gramdaivat) at Aine Village in Jawahar Tahsil.

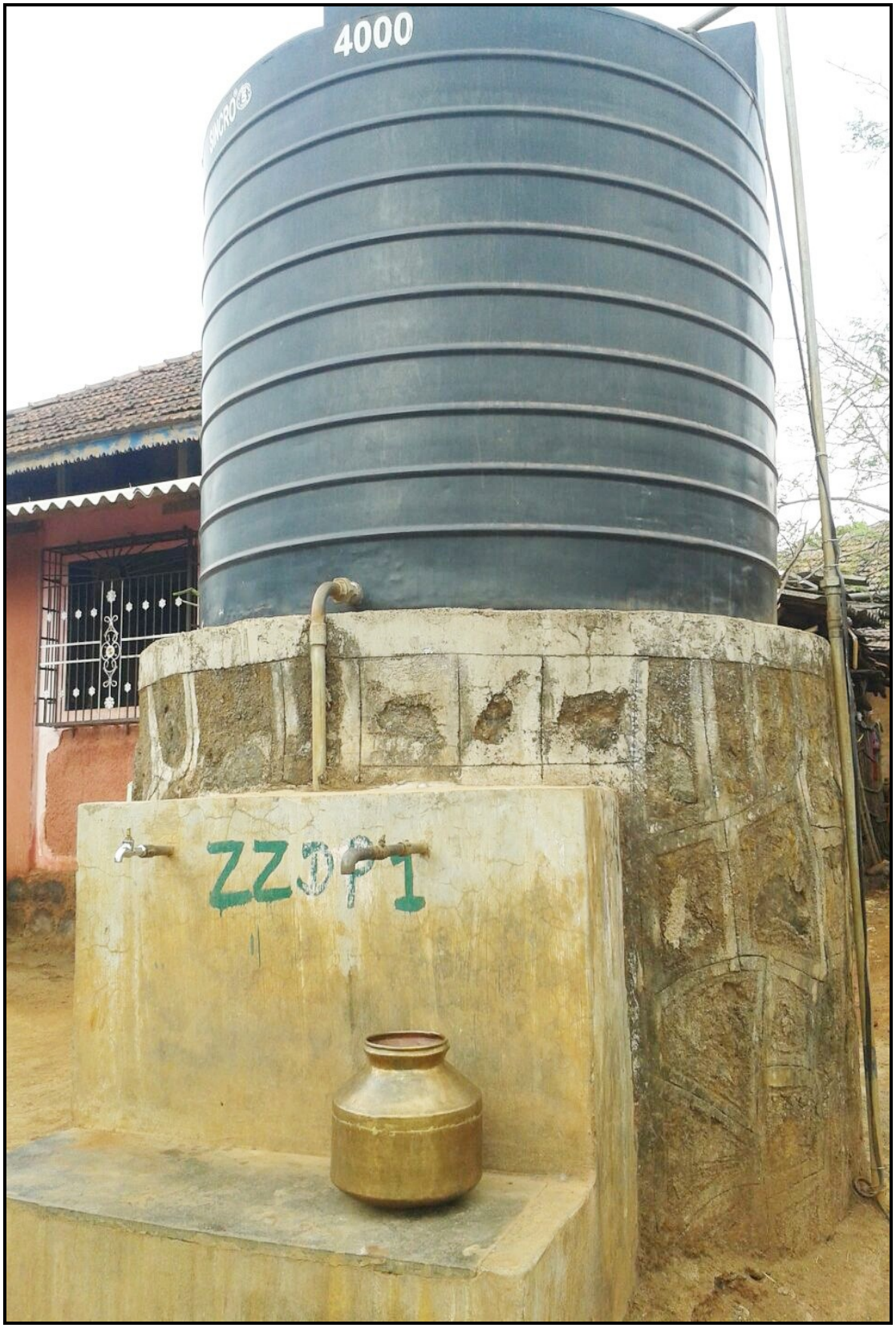



Photo-14: Public Water Distribution at Aine Village in Jawahar Tahsil.

# PHOTOGRAPHS OF SHELTI VILLAGE



Photo-15: Warali House at Shelti Village in Dahanu Tahsil.

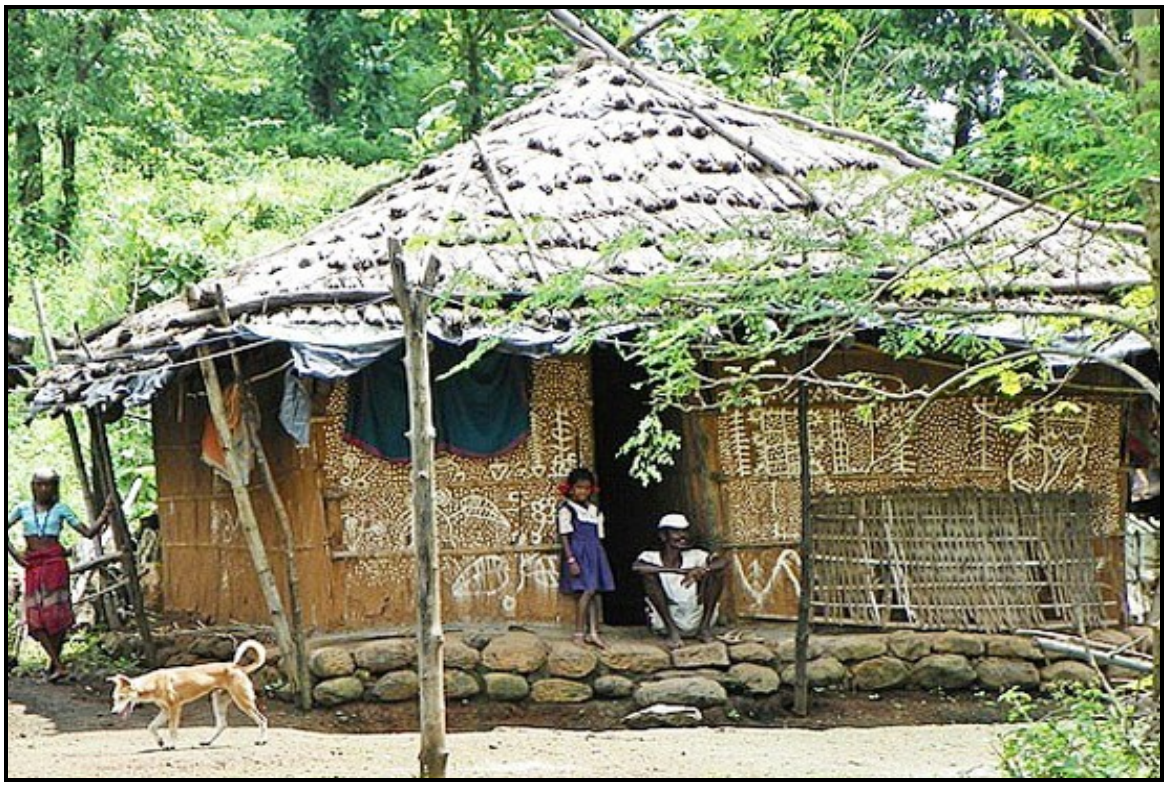


Photo-16: Warali House Mantain With Cow Dung Wash at Shelti Village in Dahanu Tahsil.



Photo-17: Drinking Water Extract from Handpump at Shelti Village in Dahanu Tahsil.



Photo-18: Tribals Belief on Natural God; Example at Shelti Village in Dahanu Tahsil.

# PHOTOGRAPHS OF SAVROLI VILLAGE



Photo-19: Savaroli Village Settlement in Ambarnath Tahsil



Photo-20: Tribal Female Agriculture Workers at Savroli Village in Ambarnath Tahsil



Photo-21: Mid-day Meal in Primary School at Dhamanwadi near Savaroli Village in Ambarnath Tahsil.



Photo-22: Tribal Womens Self-help Group at Savaroli Village in Ambarnath Tahsil.



Photo-23: Tribals seller of Local Fruit (Karvande) near Badalapur in Ambarnath Tahsil.



Photo-24: Tribals Bricks Workers at Savaroli Village in Ambarnath Tahsil.