ISSUES ON URBAN GROWTH AND LAND VALUE PATTERN IN NEPAL (WITH SPECIAL REFERENCE TO FAR-WESTERN DEVELOPMENT REGION)

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DECLARATION

I, Lok Bahadur Bista solemnly declare that this thesis entitle 'ISSUES ON URBAN GROWTH AND LAND VALUE PATTERN IN NEPAL (WITH SPECIAL REFERENCE TO FAR-WESTERN DEVELOPMENT REGION)' is orginal and is based on the proven facts. I further certify that it is my orginal piece of work and incase at any stage copyright violation is reported regarding my thesis; I will be fully responsible for the same.

Lok Bahadur Bista

PREFACE

Nepal is a landlocked country, bordered by the Tibet region of China on the north and India on the south, east, and west. Situated on the lap of the high Himalayas, Nepal has unique geographical profile; the country rises from 65 m. above sea level to more than 8,000 m., resulting in a highly versatile landscape with six different climate zones within the country with average width of 193 km. and length of 885km. Nepal is broadly divided into three ecological belts, Mountains, Hills and Terai plain separated by three mountain ranges, Chure, Mahabharat and Himalayas.

The growing rural-urban migration combined with the absence of planned urban development is causing an increasingly worrying situation in Nepal's cities. The situation has been aggravated by the ten years of insurgency and the political uncertainties of last few years, resulting in an ever increasing trend of migration in search of employment and security. The pressure on existing urban infrastructure is enormous and cities are unable to cope with the demand for housing and basic services such as water supply, power, garbage collection and transportation.

Serviced land is in great demand in Far-western urban areas; agricultural areas are being converted into residential and commercial land at an alarming rate, rapidly reducing fertile agricultural land, slope land swampy land, forest and other environmentally sensitive areas.

Meanwhile land prices in cities have soared to unprecedented hiegts. The combination of soaring land prices and the increasing stream of rural- urban migration is making it difficult for the poor to afford housing, especially in the quickly growing urban areas. The current predicament is to such a point that many are unable to pay the rent or price demanded therefore, the right of

the migrants to find a shelter in urban areas stands denied due to in accessible land- values. This study investigates in to the emerging issues in urban growth and land value patterns in Nepal.

Lok Bahadur Bista

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Lok Bahadur Bista

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ABBREVIATIONS

B.S	Bikram Sambat
CBS	Central Bureau of Statistics.
CEDA	Centre for Economic Development and Administration.
CDPS	Central Department of Population Studies
CIUD	Centre for Urban Development.
e.g.	For example
etc	And all the others
FWDR	Far-Western Development Region.
hect.	Hector
HDR	Human Development Report.
HMGN	His Majesty Government of Nepal.
KM	Kilometer
KMC	Kathmandu Metropolitan City.
LU	Land Use
NGS	Nepal Geographical Society.
NNBC	Nepal National Building Code.
Rs	Rupees
SN	Symbol Number
Sq.	Square
TU	Tribhuvan University.

Chapter 1: CONCEPTUAL FRAMEWORK AND METHODOLOGY OF THE STUDY-

(i) Statement of the Problem

Nepal is experiencing population explosion and rapid urbanization. The total population of the country during the last decades has increased by the average annual growth rate of 2.25 per cent and during the decade (1991-2001) alone it has registered an increase of 23.5 per cent. This trend has been accompanied by a phenomenal increase in urban population also. Urbanization or the growth in the proportion of persons living in urban areas has been one of the most significant demographic features of the present day. Since last four decades there has been rapid population growth in the municipalities and the number of new urban areas has been increasing significantly in the country. The main reason behind such population growth in urban areas is the high influx of population from rural area. On the other hand, quite a large part of the total urban population growth is due to annexation and extension of areas into the existing municipalities as well as natural growth of population.

The inflow of population and resources from the surroundings is helpful for faster economic development of the city. To some extent urbanization is taken as an indicator of economic development of the region or the country. Urbanization extends not only the cities but also changes in the occupation, livelihood and social behavior of people. In other words, urbanization is an inevitable consequence of economic development or the administrative organization of the town.

Economic development is an essential requisite for the effective organization of the town, which leads the core role in the process of

urbanization. In reality, the higher rate or population growth in the urban areas needs housing, drinking water and sewage, schools and hospitals etc. The whole range of service, demanded by inhabitants of the town, can be satisfactorily provided only by analyzing individual towns as a unit of study, in general and for the whole process as national system.

The serious problem in Nepal is the striking inequality of income distribution between urban and rural areas. Such disparities constitute a barrier to the development of country in balanced form. In general regional and rural -urban disparities are wider. These gaps between urban and rural areas related to well being are health and education facilities. The problems of urbanization are linked to those of development and no intelligent solution of both can be achieved unless their nature and interrelationship are perfectly clear.

Land is a natural resource. It has to be utilized where it is found. Land is the base on which all economic activities of human beings take place; its return, however, is derived by those who know the best of it. Land can be utilized for different purposes e.g. agriculture, forest, grazing, settlement and road etc. As the intensity of utilization increases the amount of return from the land, cities do not choose areas and grow purely by change but conforms to the general principle of location and growth because the land use pattern in the city results from a multitude of choices and decisions about location. These are made by individuals, planners, architects, companies and by both local and central administrative units. These decisions are influenced by use in urban areas and result from the base economic forces, and the arrangement of activities at a strategic point of the web of transportation.

The problems identified under following points are the main concern of present time rapid urbanization processes in Nepal:

- What is the tempo of urbanization?
- How and in which direction, urbanization is growing?
- What are the geo-demographic and socio- economic characteristics of urbanization?
- In which speed, the urban areas are growing?

This study attempts to answer of these questions which are very essential for proper planning of urban areas and control and guide the urbanization process in sustained basis.

(ii) Concept of the Study

Urban Growth

Urbanization is a process which leads to increasingly large number of people living in small places and basically engaged in non- agricultural occupations. It leads to economic and social transformation, which necessities concentration of people as well as activities. The phenomenon of urbanization is an essential component of industrialization and consequently economic development. Thus urbanization is considered as an index of modernization. The urbanization process is one of the commonest present day phenomenaon, and it is axiomatic and universally accepted that urbanization is the proportion of urban residents in the total population of the unit area of enumeration. Being a complex process it is the epitome of a society advancing towards industrial and technological enrichment. Any explanation of this emerging pattern requires a thorough understanding of a

growth dynamics of urban settlements at different levels. The concept of urbanization is an outcome of declaring urban population at the time point within a space, which depends largely on the development of industrialization, infrastructure within cities, towns and their neighborhood. The economic system within a country generating migration opportunities at locations is a refined input in urbanization as well. Particularly, the census of any country has to provide a frame of urban spaces with population parameters to assess' development and urbanization. The context from this association in the historical context of development and developing countries has remained controversial, but in general, the structural shift in employment from agricultural to non- agricultural activities is considered as most fundamental tenet of urbanization. Urbanization therefore is a territorial response to sectional changes in the economy.

As it is a complex process because of effective change in socio-economic and cultural parameters and relationships, there can hardly be a single definition of the concept of urbanization which could be applicable in all situations. Demographers, economists, statisticians and geographers see urbanization with specific views and tools in several ways. Demographers usually try to see urbanization according to urban population, accretion of population in urban areas. Economists usually try to relate population growth, pattern of defined technology on the process of urbanization. Geographers consider urbanization in relation to distribution of urban spaces and see proportions and the growth of urban population at a level usually given in the censuses, leading to opine on the process of urbanization. To sum up them, geo- demography that may be more reliable, which refers to urbanization as the proportion of total population that concentrates in urban

settlements or an increase in the proportion of urban population over a period of time. Different disciplines develop their own perspectives towards urban phenomena. Terms like the city, urban and urbanization related to a wide range of phenomena, which have varied widely through history and between world regions. Hauser narrates the town as the standpoint of history of urbanization, which is centered upon the town itself, would entail a breakdown of the whole set of complicated factors as well as political, military, economic, religious etc. Which permitted its emergence and growth? We may regard a reasonably large and permanent concentration of people within a limited territory as the common characteristics of all cities and other urban places.

The rapid rate of urbanization in the underdeveloped areas of the world during the second half of the 19th century has attracted wider spread attention. Urbanization is supposed to have come about because rural migrants have been pushed rather than pulled into the urban areas in these countries, as a result of great and mounting population pressure in the rural areas. The pull and push factors are not independent of one another but are complementary. They do not work singly but work only by reinforcing each another.

Nepal is a mountainous country and large per centages of people are inhabited in hilly region since historic past. Therefore, Nepal is a nation with very low degree of urbanization both in terms of urban population and number of towns. The urbanization is, however, likely to grow with expanding tertiary section and industrialization.

Land-Value Pattern

The terms 'land value' refers to the process of valuation in money as to howmuch a particular plot of land can fetch. In a bonafide sale there is an actual market value per unit of land from which, the price of land is arrived in free and open agreement between a well informed seller and well informed buyer. Land has peculiar characteristic features. Because of its immobile and heterogeneous character, its use differs from place to place, and on those various uses the land value has been reflected. So there exists a close relationship between land value and land use. The value changes because of change in its use. Similarly, the use of land also varies with changes of value. So land economists argue that the retail activities are the dominant urban function at central business district. Then after manufacturing, wholesale, agriculture and other activities are located respectively at the distance from the central business district. The valuation is related to inherent features like fertility, situation, use pattern and standard value fixed by taxation authority. Ricardo claimed that rents emerge due to rising prices.

Changing pattern of land value is associated with the competitive use of land. There may be a lot of confusion between value and price of land. Value is an overall general quality of worth which exists in a thing, while the price can be quoted in terms of sale price registered in the market. Recent years have shown reawakening of interest in land value in the Far- western cities. The increasing trend of urban encroachment on agricultural land has greatly changed the financial value of land in the cities. The changes in the use of a plot of land may involve significant and on earned increasement of land value. Scarcity of land in demanded locations promotes the land values and speculation leads to jumping land values over time.

(iii) Objectives of the Study

The main objectives of the study are as follows:

( ) To study the growth pattern of urbanization and urban centres.

(i) To discuss the socio-economic, demographic and other characteristics of urban population.

(ii) To analyse the changing pattern of land value in Far-western development region, Nepal.

(iii) To show the trend of population migration from rural to urban areas.

(iv) Hypotheses of the Study

The main hypotheses propounded and explored for this study are as follows:

- Encroachment and conversion of agricultural land into other land uses is the result of rapid development of residentil areas.
- The physical situation of land, land scarcity status and land use possibilities determine land values.
- The pace of expansion of urban civic amenities and services like water, transport, markets, health, education and accessibility from vast populated areas determine pace of urbanization and demand for urban land.
- New openings like avenues of employment and income attract the rural population to the urban centres which pushes up land values.

(v) Literature Survey

Most urbanization studies focus on analyzing data for trends in urbanization. Different scholars have emphasized on trends and characteristics with various views. Some important and relevant literature for this study have been reviewed here. The coverage is likely to expand as this study advances ahead.

Harris and Ullman (1945) recognized two patterns of urbanization: Primary and secondary. In the primary phase a pre-civilized folk society is transformed by urbanization into a peasant almost entirely with in the frame work of a core culture that develops in an indigenous civilization, Secondary urbanization follows primary urbanization when a folk society, pre-civilized, peasant or partly urbanized, is further urbanized by contact with peoples of widely different cultures from that of its own membeUS Doller

Hoselitz (1955) recognizes yet another set of cities on the basis of their role in the economic development of an area as process of urbanization. According to him a city is generative of its continued existence and growth is one of the accountable for the economic development of the area, in which it is located. It is considered as parasitic if it exerts negative impact. Further the process of primary urbanization through leading reinforcement of existing cultural patterns may be generative of economic growth. In the same way cities in certain stages of secondary urbanization may exert an unfavorable effect upon economic growth of the wider geographical unit of which they form a part.

A useful study supporting some of these arguments is by Jones (1983) which is a study on some Asian countries. He classified Asian countries into two groups. i.e., rapidly developing countries (such as Korea, Tiwan, Malaysia) where agriculture no longer plays a dominant role in the economy and where the employment transition is being effective in two ways by the movement of workers from rural to urban areas (normally from agriculture to non- agricultural employment), and by a modification of occupational structure in rural areas increasing the share of non-agricultural employment. The another group comprises the poorer, South Asian countries, where the employment transition is sluggish and continued rapid population growth is adding vast numbers to both the rural and the urban workforce. This paper is more concentrated in the change of employment structure in the process of urbanization.

Rakesh Mohan (1984) depicts various theories of urbanization and tries to explain the regional differences in urbanization as well as the size distribution of cities in India. The relationship between urbanization and economic development is linked with economic base theory and explains well the regional pattern of urbanization in India. It was that population, employment in agriculture largely generate the demand for urban population in small towns while manufacturing employment in large towns. As the demand for agro- inputs and expertise grows in village closer to urban centres, the peripheral suburbans come-up to fill in the emerging scape of greater and better avenues.

Another study on analysis of urbanization in India is presented from a geographical standpoint. In this book some theoretical and policy aspects of urbanization are discussed. The book is concerned with urbanization as a

whole including the process of urbanization, the urban system and urban regional interrelationships and deals with the Indian city and includes consideration of city structure, population density etc.

Land use models have been put forward on the basis of the idea that urban areas tend to develop in a distinctive patterns of land use. Relative context of distance cost and time have influenced the flow of commodities, labour, capital, goods, through which production, consumption and distribution of commodities takes place, and as a result determines the land use. According the Von Thunen (1825), the economic return of land varies with respect to location from the market. The model explains that the land rent decreases proportionately to the distance from the urban centre.

Similarly Jonasson, Van Volkengurb and Held applied the Von Thunen model and found out that, with the improvement of the transportation, the radius of land use zones becomes greater but the concentric zone is still recognized in the model. A uniform transport system results in a transport cost directly proportional to distance from the town. These two factors together exert influence upon the spatial pattern of land use.

Burgess (1925) observed that there was a correlation between the distance from the urban centre and socio economic status of the inhabitants, Burgess also observed that the urban centre would cause it to expand outwards from the urban centre, as the city grows making the pattern outward growing concentric rings.

Hoyt (1939), while accepting the existence of urban centre and central business district suggested that various socio economic groups expand outwards from the city centre along the main transportation arteries and theorized that cities tend to grow in a wedge shaped patterns emanating from the city centre and centered on the main transportation routes.

The multiple nuclei model as applied to urban areas was first suggested by R.M. Hurd and R.D. Mckenzie and later elaborated upon by C.D. Harris and E.L. Ullman (1964). The basis notice of the multiple nuclei model is that urban land use concentrate around several nuclei rather than a single core. The model is the amalgam of Burgess and Hyot's model with the addition of multiple nucleuses. The model suggests the several growth centres for a particular kind of land use such as industry, retail or high quality housing and these nuclei expand and merge to form a single urban area.

The influence of multiple urban centres and flow of goods and services, information and technology has been suggested by spatial interaction models such as gravity model based on Newtonain physics. The model of interaction between two centres is shown by Zipf in 1949 suggesting that interaction between two centres is directly related to the product of their mass and inversely related to the square of the distance between them.

Haggerstand in 1968 developed a model to describe the diffusion of innovation over space and time. Based on the theory of distance decay, he pointed out the probability of information being passed decline with the

distance between two individuals. So the adoption of new technology is likely to be more in a nearby area of city core than in the peripheral region.

Allan in 1986 illustrated in his model with the combination of economic activity and how the access and infrastructure overcome altitudinal zonation and diffusion. He suggested that with the advent of road network and bridge connection, the gradient and barrier elements are removed. Diffusion of technology and economic integration into marketing network bring changes in land use inaccessible areas as the agricultural land use becomes most intense and commercialized close to the road. Similarly, many schools of thought have been developed in order to explain the processes of the change due to income inequality, flow of people, goods and services and its effects.

Nepal's Case

There are many studies attempted in context of Nepal about urbanization and urban growth by different scholars focusing mainly on its trend of growth. Some of them are mentioned here in relation with present study.

Conway and Shrestha (1985) studied urban growth and urbanization in Nepal. It examines the character of and the differences between urban growth rates and urbanization rates in two successive periods 1952-1961 and 1961-1971 and locates the regional trends in urbanization levels. In this a model is presented addressing the associations and relationships between regional urbanization levels and a potential set of influential factors, to provide insight into the urbanization process.

Rajbhandary (2004) has studied the process of urbanization in Kathmandu valley towns. This study deals with general concepts of urbanization and concern with the aspects of urbanization process. He depicts that urbanization has been at very low pace in Nepal, but valley cities have experienced a very high rate of natural increase in population as well as migration from rural to urban areas. This analysis shows that there is great tendency of rural people to move towards urban areas for white color jobs and urban amenities. The study covers only valley towns rather than the whole country.

Banstola (1995) studied urbanization in Nepal. The study focuses on comparison of 2001 census with 1991 census data. He studied various demographic aspects of urbanization and the major implications of the growing urbanization in Nepal. He also outlined the future of urbanization in the country.

This study found that the average annual growth rates of urban population during the last two decades have been increasing rapidly. These rates indicate that the country is at an accelerating phase of urbanization process and a large number of medium sized towns would be more desirable than a small number of very large cities. Industrialisation, transport, tertiary sector growth, infrastructure grow in small towns only gradually before these grow into big towns.

Kansakar (1990) made a study covering the Hill area of Nepal since 1952/54 to 1981 data. This study focused on the analysis of trends and distribution of urban areas and residing population among the ecological regions of Nepal. The paper depicts the slow process of urbanization which

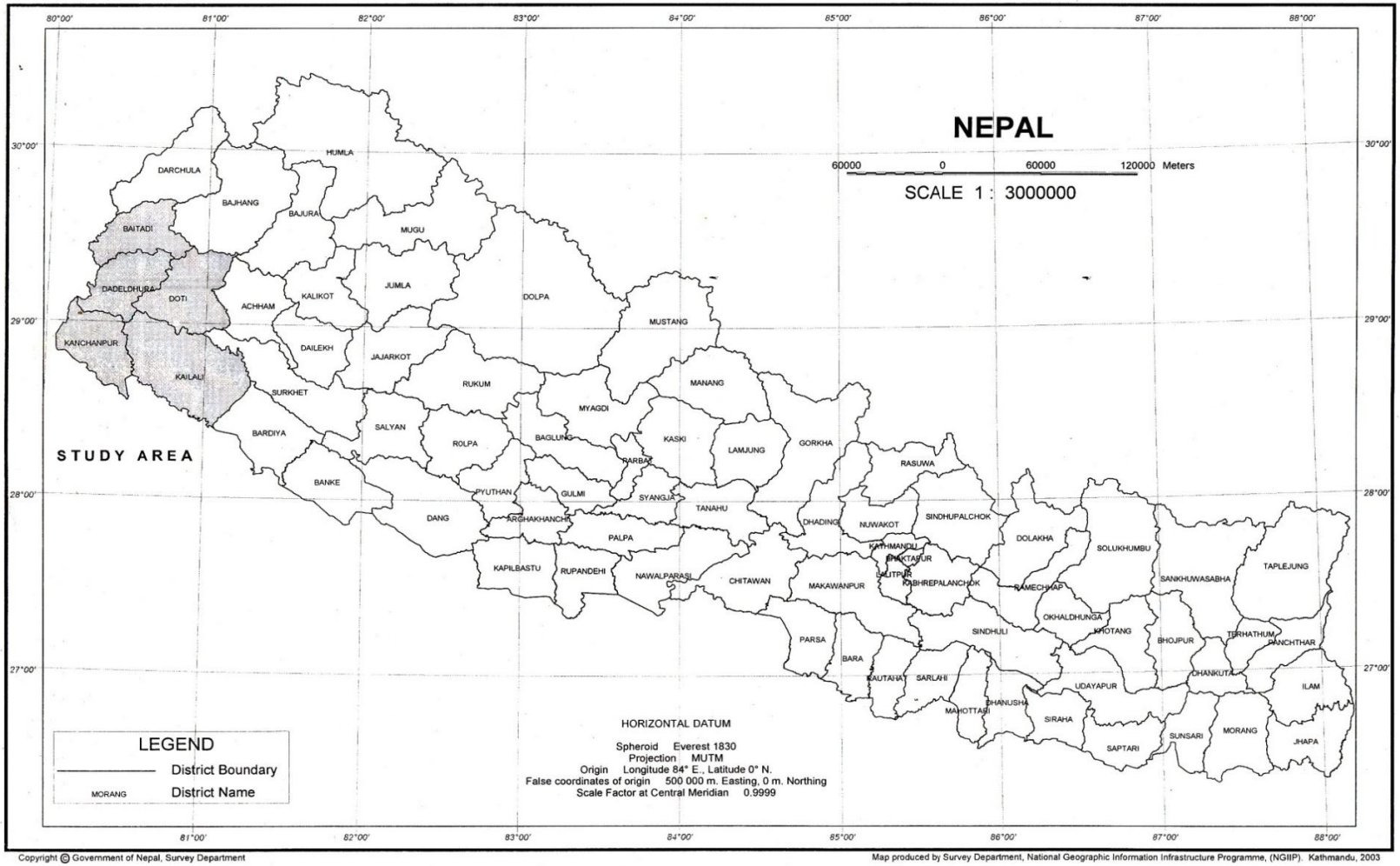
characterizes the period before 1951. This trend drastically changed afterwards and process of urbanization was enhanced after 1951 due to malaria control and concluded that the movement of people towards the market centres from scattered hill settlements mainly due to the construction of new highways as one of the main contributing factor of urbanization in Nepal.

Most of the authors have agreed, the rapid rate of urbanization in the Nepal, due to rural migrants who have been pushed rather than pulled in to the urban areas as a result of great and mounting population pressure in the rural areas the natural growth and increase in the number of urban areas.

(vi) Research Methodology

There have been various methodologies in existence. But a single research methodology may not necessarily be applicable in all fields. Both primary and secondary sources of data were used in the study. Secondary data were used from various sources both published and unpublished documents. The Central Bureau of Statistics (CBS) is only the major source of data. Data on different aspects for individual urban areas which are declared as incorporated urban area after 1991 census in particular were collected through unpublished printouts and they were shortened and calculated according to the needs of the study. All discussion for 1991 is based on 33 Municipalities and for 1997 is based on 58 Municipalities where as the population for both times were taken from 1991 census. Besides the

census journals, Magazines and research papers were also taken as source of data.



Map produced by Survey Department, National Geographic Information Infrastructure Programme, (NGIIP). Kathmandu, 2003

Data Collection and Tools

The present study is based on both primary as well as secondary source of data. This study is a micro level analysis of urban growth focusing on Far-western urban centres. Secondary data were collected from municipalities' offices, Department of Housing and Urban Development, Topological Survey Department, Land Resource Office, numerous books, and various publications of different government institutions.

Necessary views, opinions, suggestion and data were collected by means tools like questionnaire, interview forms and formal and non-formal discussion.

Field Data Collection Procedure

Field observations were made in every municipality that covered the entire municipal area. Collection of data related to socio-economic pattern of population and distribution of settlement, verification of newly built-up urban spaces, pattern of the changes in the land use and land value etc. have been done. In these studies necessary suggestions, views, opinions and data were collected by applying the following procedure.

Sample Size

The sampling size was prepared on the basis of the total households of the study areas. The sample size in urban areas with the help of systematic random sample method and ten per cent of household has been included in this study.

Personal Interviews

Focus group discussions were held in each municipality that involves senior citizens, historians, retired government officers and native resident of the municipalities. The discussions were held in order to detect temporal changes, urban historical development pattern and socio- economic characteristics of the municipalities. Formal and informal processes of data collection were used wherein opinions, views, suggestions etc. were collected from the persons related to the urban land value patterns.

Secondary Source of Data

- The Central Bureau of Statistics (CBS) is only the major source of data.
- Different books Research reports, Booklets, Magazines, journals and other valuable study-related materials prepared and published by central Bureau of statistics, National planning commission,
- Different books of authors, Encyclopedia, yearbooks, text books, research books, published by different persons, organizations and publications.
- Published different statistical data, Abstracts of Research reports, Newspaper, journals, conference reports, Articles and unpublished different thesis, Dissertations, documents and other research reports.

Data Analysis

Collected data were analyzed and manipulated with the help of appropriate statistical techniques. Coorelation and time series analysis

technique has been applied to present the urban growth, land value pattern, trend of urban growth in Far- western municipalities. Suitable cartographic techniques, diagrams, figures, maps and charts etc have been used.

(vii) Significance of the Study

Nepal is among the least urbanized of the developing countries. The country is just at the beginning of urban transition. Although, the present urban population is not large, the rate of growth during the recent years has been quite significant. The number of municipalities has increased from 10 to 58 during 50 years period; even then the increasing trend of urbanization is clear since 1952/54. This urban share of population has been increasing decade by decade, now it is about 14.2 per cent. It was only 2.9 per cent in 1952/54. This increasing growth rate is indicative of the future trend of urbanization in the country.

This growth is by no means a temporary phenomenon but it will continue to increase dramatically. In future, it will increase rapidly due to push factors from rural areas as a result of over densification on the land in economic development and possibility of employment. The country has been already been facing many problems in improving the level of living of its dwelleUS Doller Today, most urban centres have a range of problems of housing, water supply, drainage, roads, health, traffic congestion, air and noise pollution due to the increasing population pressure in urban areas of the country.

This study carries a great importance because comparative studies aiming at deriving generalization with regard to various aspects of Far-western Town are still rare. The study of various aspects of urban geography

the growth, size and spacing of urban function and changing pattern of land value derives special consideration, especially for facilitating the task of regional planning. This study will provide some insight into land value which will be valuable for knowledge, base for making policies for controlling land prices in future and improving land tax. At present the government of Nepal has imposed land tax only on the bases of potential physical value of land so far. The present work will play vital role in the speculative value of agricultural land so as to enable the government to get some basis for formulating policies on imposition of land tax based on speculative value. Furthermore, this study will be an important base for its planned development.

Similarly, urban research is still in a relatively primary stage of development. So much more work is needed to provide a comprehensive understanding of the complex growth structure and functional establishment of the urban area in Nepal.

(viii) Limitations of the Study

Limitation of the study is essential for the research worker to reduce the research problem to a workable size and set boundaries by limiting its scope through delimitation. Therefore, delimitation of the study is a most essential part of a research work. If a research study is unnecessarily lengthy, the research worker cannot escape the unlimited problems in course of study. In the situation, the researcher cannot complete his research work in time. Therefore, the present study has some limitations, upon which, interpretation, and validity of findings are based. Some of its limitations are as follows:

- It was until 1952/54 census, that the decineal census of country did not contain specific data for urban centres and urban population, in view of this limitation the present study has been limited for the period after 1952/54 census.
- Generally, the study is focused on trend of urbanization and characteristics of urban population based on available secondary information on demographic, socio-economic and other aspects.
- Demographic and socio-economic study of urban population characteristics include only, age structure, dependency, sex ratio, literacy, economic activity and occupational affiliation.
- It is based on the secondary data (published or recorded by different authorities) upon which the reliability of the study is depended.
- To analyze and to show the present state of the characteristics of urbanization or urban population, more attention has been paid for 2001 census data than census data taken before 2001.

Chapter 2: PHYSIO-CULTURAL PROFILES OF THE STUDY REGION-

(i) General Identity of the Region

Nepal, a sovereign independent Himalayan Country, wedged between two giant neighbors, the Republic of India in the south, east,west and the People's Republic of China in the north, extends between 80°26' and 88°12' East longitudes, and 26°26' and 30°27' North latitudes with an area of 147181 Square Kilometres. The country, stretching for 885 kilometres from east to west with a width of 193 kilometres from south to north, resembles an elongated rectangle.

Nepal is one of the smallest countries in the world. Administratively it is divided into 5 development regions, 14 zones and 75 districts. The study area 'FAR- WESTERN DEVELOPMENT REGION' in terms of government

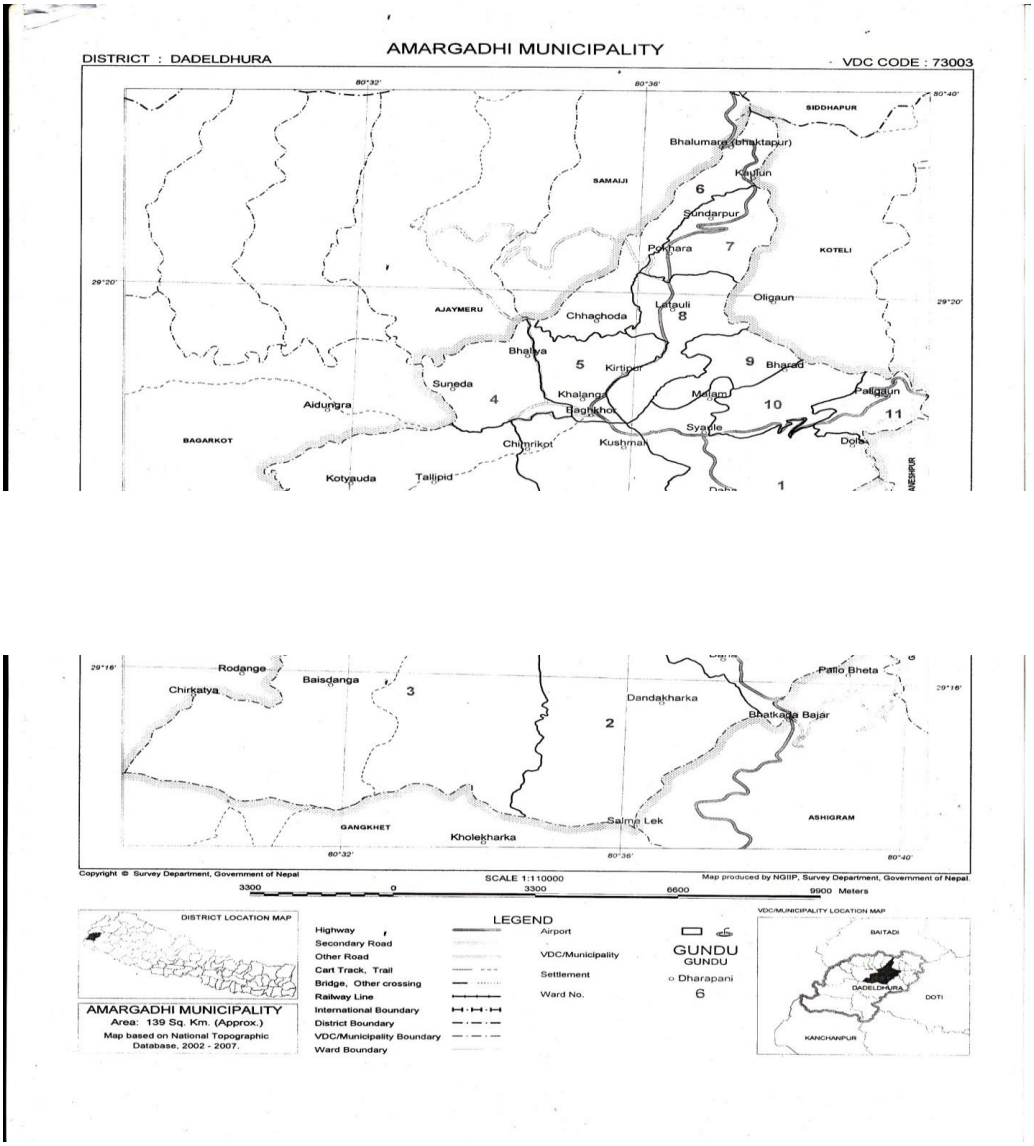
declaration in 1980. Among the five development regions of the country the Far- Western development region is the smallest in area, density of population and development efforts.

The region is surrounded by India in the west and south, China in the north and Mid-western development region of Nepal in the east. It covers an area of 19539 sq. km. According to 2001 census the population of study region is 2191330 which are 9.47 per cent of total population of the country.

Map produced by Survey Department, National Geographic Information Infrastructure Programme, (NGIIP). Kathmandu, 2003

Amargadhi Municipality

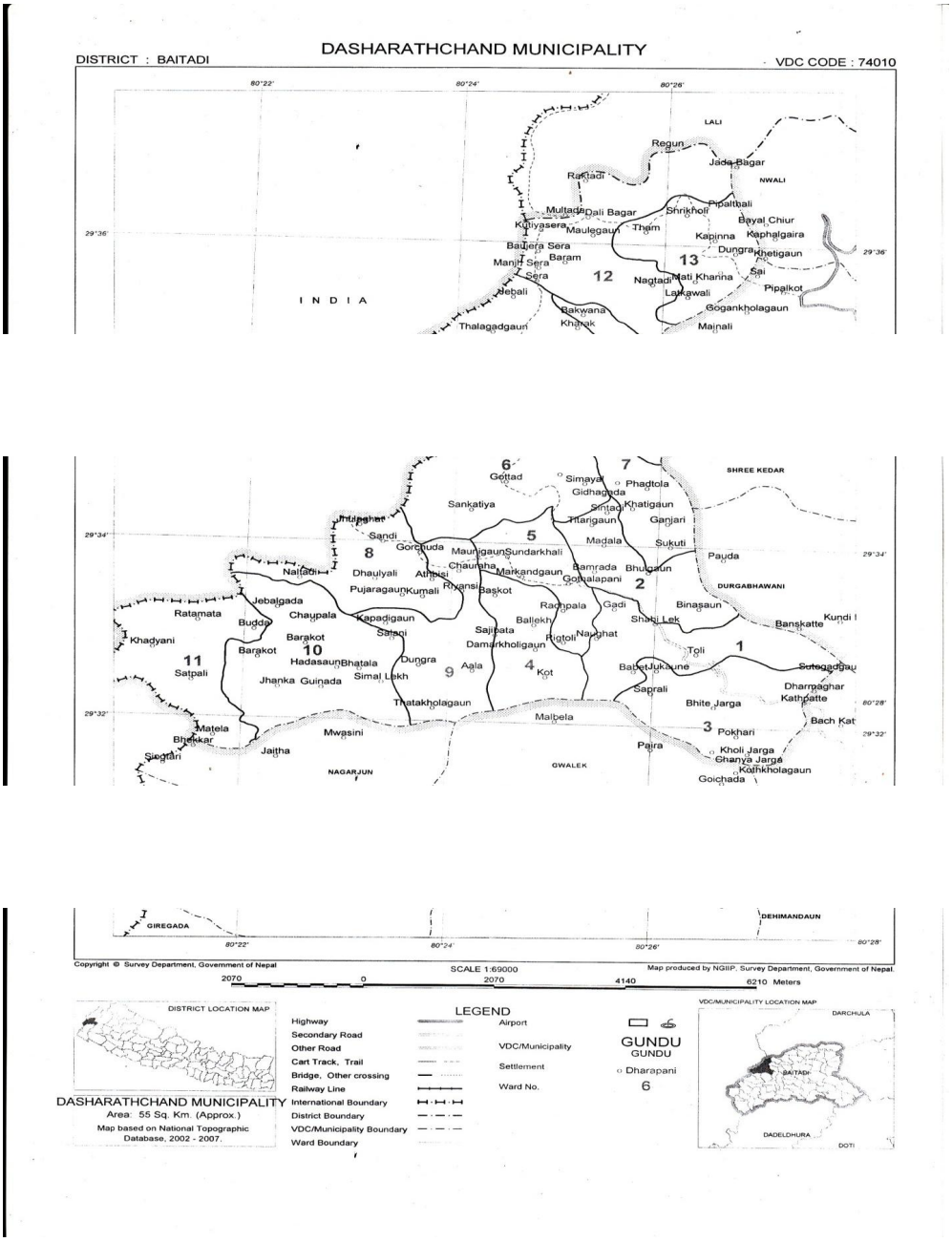
Amargadhi municipality lies in Dadeldhura district of Far-western Development Region. It covers an area of 138.95 sq. km. According to Population Census 2001, this municipality had a density of 132.4 persons per sq. km. It was declared municipality in 1996.



Dasharathchanda Municipality

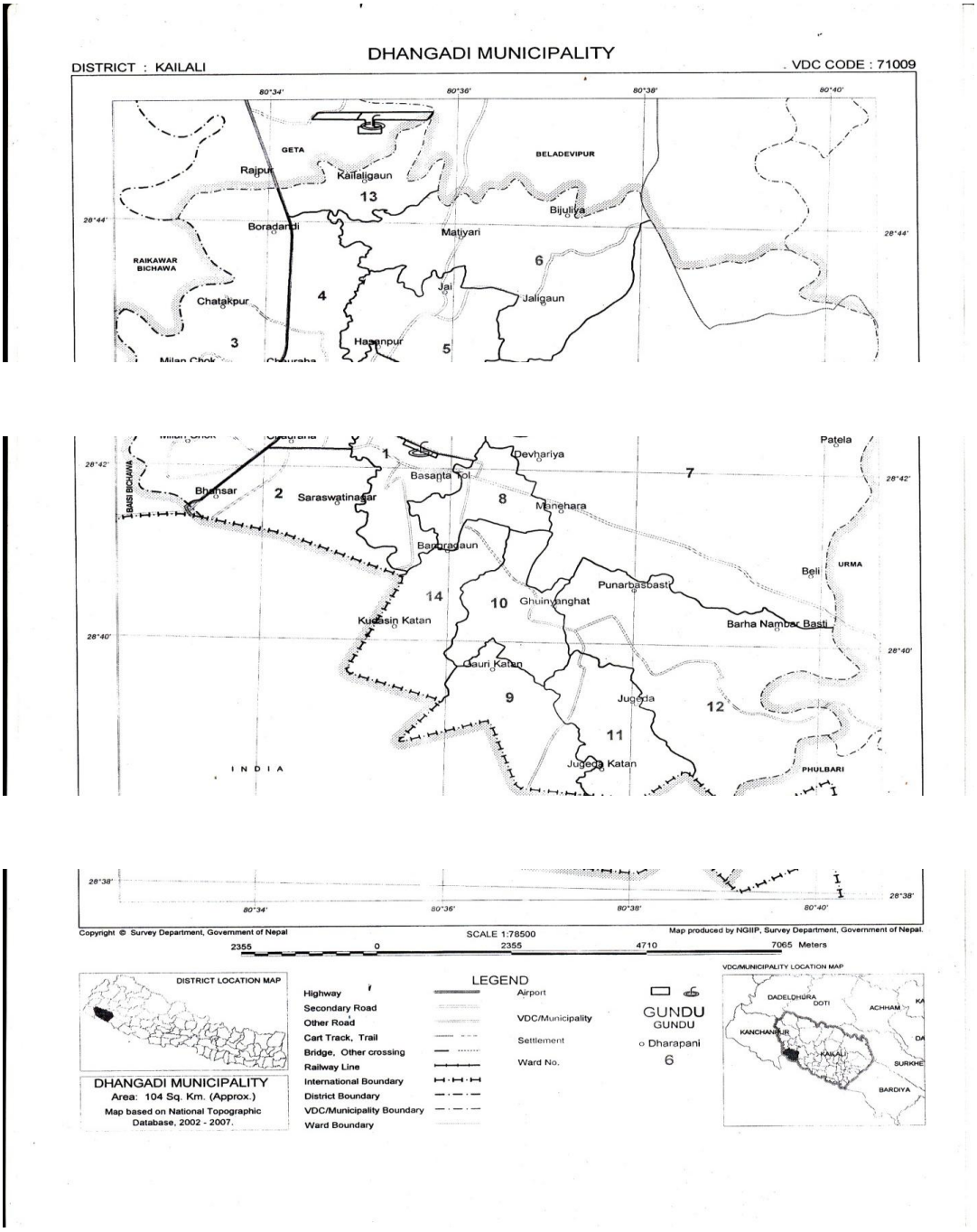
Dasharathchanda municipality lies in Baitadi district of Far-western Development Region. It covers an area of 55.01 sq. km. According to

Population Census 2001, this municipality had a density of 333.5 persons per sq. km. It was declared municipality in 1996.



Dhangadhi Municipality

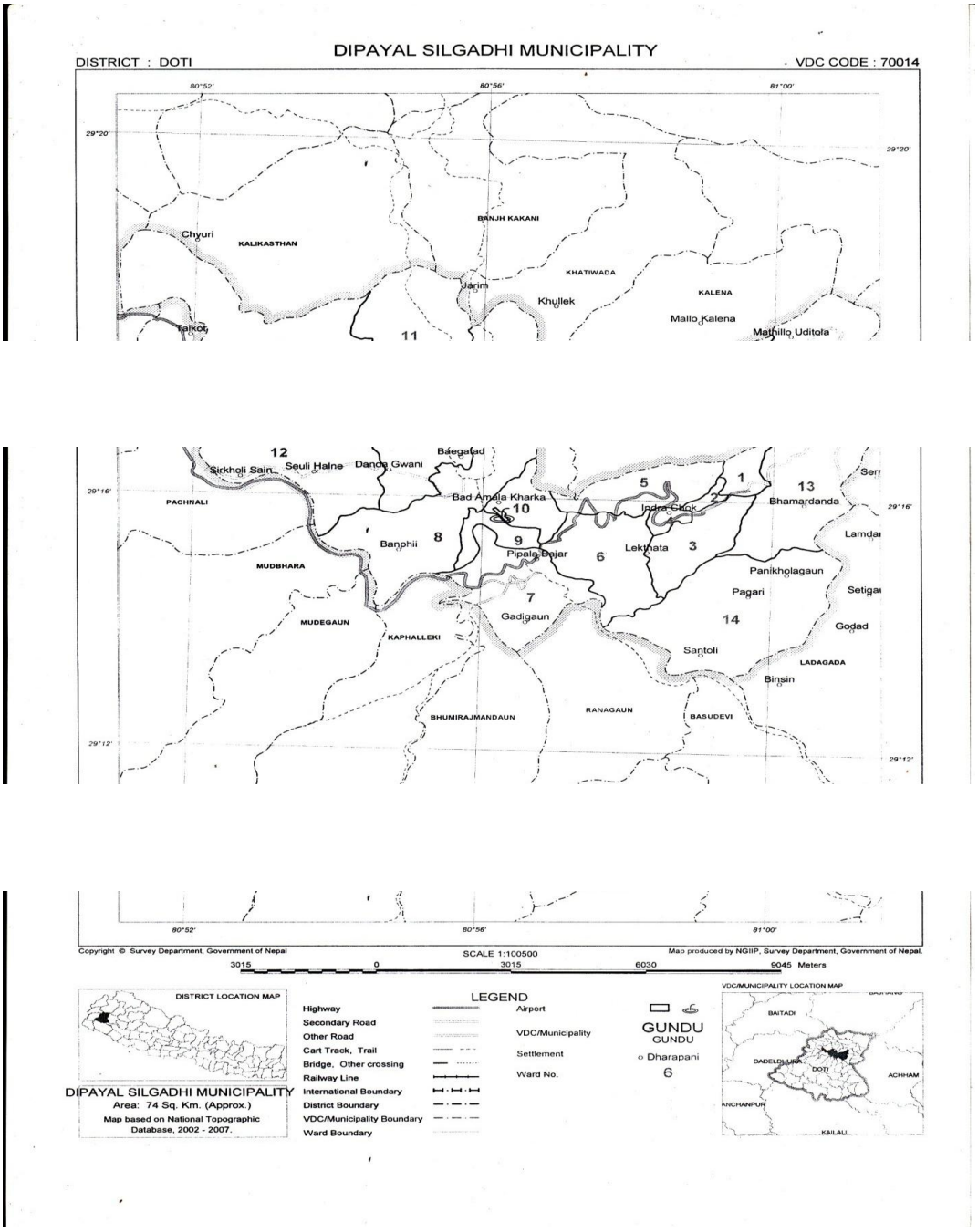
Dhangadhi municipality lies in Kailali district of Far-western Development Region. It covers an area of 95 sq. km. According to Population Census 2001, this municipality had a density of 650.2 persons per sq. km. It was declared municipality in 1977.



Dipayal Silgadhi Municipality

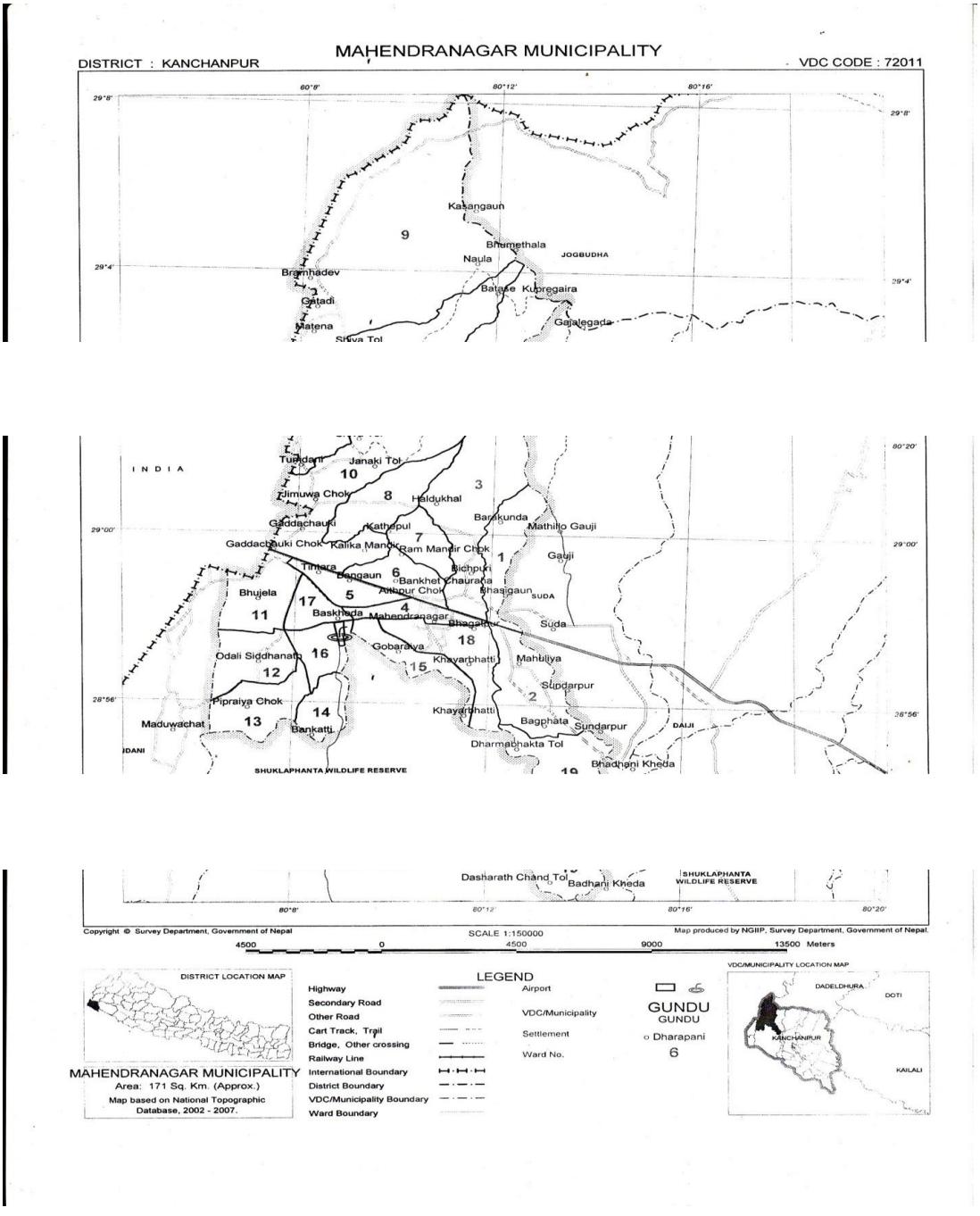
Dipayal Silgadhi municipality lies in Doti district of Far-western Development Region. It covers an area of 73.13sq. Km. According to

Population Census 2001, this municipality had a density of 298.2 persons per sq. km. It was declared municipality in 1981.



Mahendranagar Municipality

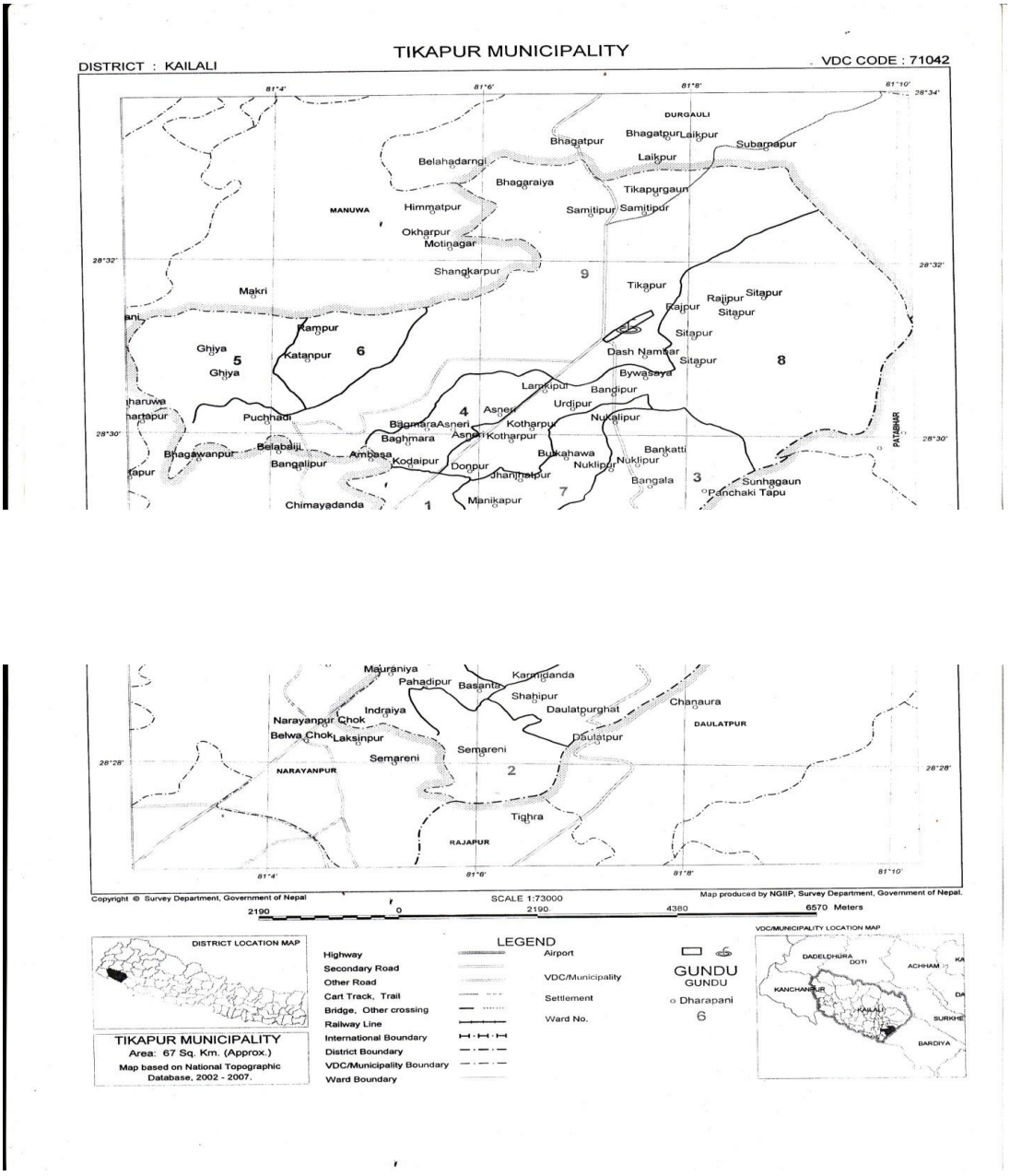
Mahendra Nagar municipality lies in Kanchanpur district of Far-western Development Region. It covers an area of 171.24 sq. km. According to Population Census 2001, this municipality had a density of 472.1 persons per sq. km. It was declared municipality in 1978.



Tikapur Municipality

Tikapur municipality lies in Kailali district of Far-western Development Region. It covers an area of 71.04 sq. km. According to

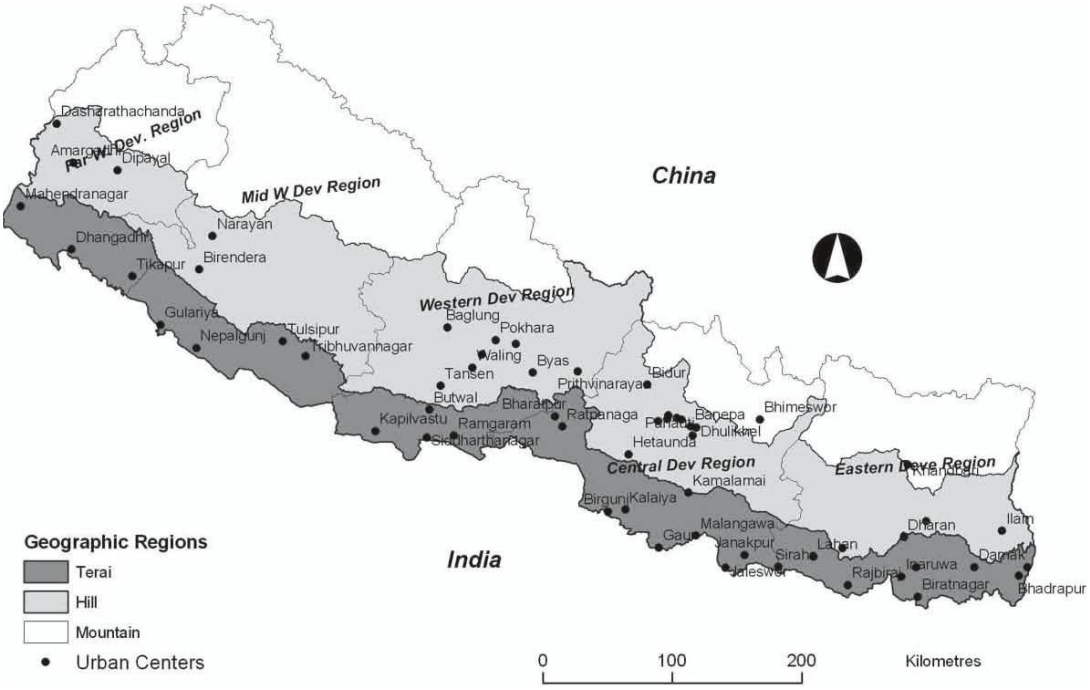
Population Census 2001, this municipality had a density of 577 persons per sq. km. It was declared municipality in 1996.



(ii) Physical Profile

v Physiography

Geographically Nepal is a transitional zone wedged between the Tibetan Plateau in the north and the Ganga plains in the south. Within an average width of 193 kilometres and the altitude culminating from less than 100 meters above sea level to the south in the Terai to more than 8000 meters above sea level in the north, Nepal exhibits a wide range of rugged topography. Physiographically, the country is roughly divisible into two broad regions: (a) the plains in the south, and (b) the mountains in the north.



The plains in the south

A narrow strip of low alluvial plains extends from east to west to the foothills of the Himalayan Mountains (the Churia Hills). The alluvial plains, which are the northern extension of the Ganga plains, are only 200 metres above sea level. Their average width is nowhere more than 45 kilometres. The boundary between Nepal and India runs along these plains. The east west continuity of the plains is broken at two places, one to the south of the Chitawan valley and the other to the south of the Deukhuri valley, where the out wash soils of the Churia Hills form the boundary between Nepal and India. A few kilometres east of the Kosi River, the plains extend up to the foot of the lower Himalayas (Mahabharat Lekh). The plains have been formed by the deposition of alluvium brought down by multitudes of rivers having their sources in the glaciers, springs and rains. On entering the plains the rivers assume braided and meandering courses.

The southern part of the plains is known as the Terai, which has been formed by the alluvial soils whose depth increases towards the south as the *Churia* Hills gradually disappear beneath it. A few decades back the Tarai was highly malarial, but nevertheless densely populated. The malaria control programme in the late 1950s has led to the inflow of people to the Terai from the hills as well as from India. The Terai which is extensively cultivated is known as the granary of the country and is responsible for 60 per cent of the country's G.N.P. and 75 per cent of the revenue. In many parts of the eastern Terai raising of crops throughout the year is possible without the aid of irrigation, while in the central, western and far western Terai irrigation is necessary to raise more than one crop a year. A large part of the Western and Far Western Terai is still covered with dense forest. The eastern and central Terai were also densely forested in the past and used by the cattle herders of

the Champaran and other districts of Bihar for grazing the cattle by paying taxes to the Government of Nepal.

A narrow strip of plains to the north of the Terai is known as the *Bhabar* where the alluvium at depth is mixed with sands, pebbles and gravels as most of the *Churia* Hills disappear below the alluvial fans. In this region most of the minor rivers have their courses underground during the dry seasons, but they reappear on reaching the Terai. The region in the past was covered with eight miles wide dense forests known as the *Charkose Jhari*. Reclamation of land for cultivation is extending in the *Charkose Jhari* up to the foot of the *Churia* Hill and very few patches of this famous forest still survive.

The Mountains in the north

The mountain in the north constitutes more than four-fifths of the total area of the country. They are composed of three parallel ranges extending east to west and are collectively known as the Himalayas.

The Churia Hills or the Outer Himalayas

They form the foothills of the Nepal Himalayas and rise straight out of the plains in the south. These foothills have a general elevation from 700 metres to 1500 meters, which is exceeded in the western sector. The *Churia Hills* are composed of young tertiary rocks and have been formed by the folding up of the detritus materials, e.g. sands, pebbles, clays, gravels, etc. And the rocks are loosely consolidated. The hills are made up of a series of anticlines and synclines. They have marked hogback landscape and are characterised by dissected escarpments. East of the *Kos*i River, the *Churia* Hills have be obliterated due to heavy rainfall and in the far western part of the country they converges with the *Mahabharat Lekh*.

The *Mahabharat Lekh* or the Middle Himalayas

The *Mahabharat Lekh* lies to the immediate north of the foothills. Their average height is 2500 meters above sea level. They are striking in the sense that they extend continuously from east to west providing only four passages to the rivers, namely, the Kosi, the Bagmati, the Gandaki and the Karnali. The Mahabharat Lekh is marked by steep escarpments in the south and gentle slopes in the north. They form a natural protective wall above the Midlands and have played decisive role against invasions from the south and thus preserved the characteristic cultures of the Nepal Valley or the Kathmandu Valley. The Mahabharat Lekhs are composed of little differentiated and rather uniform crystalline rocks.

The Great Himalayas

The Great Himalayas are the main range, which extend from east to west. They are not continuous, but are composed of independent ranges know as the Himals separated from one another by deep antecedent gorges and mountain passes. The important Himals are Kanchanjungha, Kumbhakarna, Mahalangur, Gaurishankar, Langtang, Ganesh, Manaslu, Annapurna, Dhawalagiri, Hiunchuli, Kanjiroba-Humla, Gurlamandhata, Api-saipal, etc. The average height of the main Himalaya is 6500 metres and snowline occurs at an elevation of 5000 metres. On the southern slopes and 6000 metres on the northern slopes. The Himals are characterised by high spurs in diverse directions. There are nearly 50 peaks in the main Himalaya having elevation above 7000 metres above sea level with eight of the world's ten highest peaks. The important peaks are Sagarmatha or the Mount Everest (8848 metres), the highest peak in the world, Kanchanjungha (8598 metres), Lhotse (8410 metres), Makalu (8475 metres), Dhawalagiri (8137 metres), Manaslu (8156 metres), Cho-Oyu, etc. The Himalayas are in no way as effective a barrier as the Mahabharat Lekhs owing to the existence of numerous mountain passes

and deep gorges which provide an easy access to the Midlands. The higher passes, however, are snow bound during the winteUS Doller

The Trans Himalayan Ranges

In the Western Nepal from the Trisuli river in the east to the north-western corner of the country are the Tibetan marginal mountains or the Trans Himalayan ranges, which are the southern margin of the Tibetan Plateau. They form a natural boundary between Nepal and China in the western part of the country. The important ranges are the Yangra Himal, Thaple Himal, Kulung Himal, Larkya Himal, Peri Himal, Langu Himal, Damodar Himal, Chandi Himal, Nalakankar Himal, etc. The significance of these marginal mountains lies in the fact that they form the real watershed between the Tsangpo and the Ganges, separating two district topographies of the Himalayas and the Tibetan Plateau.

The parallel Himalayan ranges are separated by inter-montane valleys each is having distinct habitat, people and economy. These are the Inner Terai, the Midlands, and the Inner Himalayan valleys.

The Inner Terai

It lies within the Churiya Hills themselves, and in between the Churiya Hills and the Mahabharat Lekhs. The longitudinal valleys are synclinal in origin and are known as Bhitri Madesh or Inner Terai. The extensive Inner Terai includes Dang, Deukhuri, Nawalpur, Chitawan and Sindhuli Madhi. The Inner Terai is also found in the area where east-west flowing rivers between the Chure and the Mahabharat Lekh have carved longitudinal basins as in the case of Jogbura, Surkhet, Marim, Kamala, Trijuga and Kankai. Up to the first half of the present century they were covered with dense subtropical forests and were highly malarial. With the eradication of malaria

in Chitawan in 1956 and subsequent reclamation and rehabilitation, the movement of the hill people in the Inner Terai started with such rapidity that it is marked by the highest growth rate in the country. The abundance of highly fertile land in these regions has made them the centre of population immigration.

The Midlands

They lie in between the Mahabharat Lekhs in the south and the main Himalayas in the north having an average width of 60-100 kilometres with height ranging from 600 to 2000 metres. The transverse and longitudinal river valleys of the Karnali, the Gandaki and the Kosi have formed the Midlands. The valley of Kathmandu and Pokhara are parts of the Midlands. The Midland region not only provides an agreeable climate for habitation, but also favors farming and agriculture. These regions are intensively cultivated and have been the cradle of Nepalese culture and civilization and the traditional centre of population concentration in the Hills.

The Inner Himalayan valleys

Beyond the main Himalayas lie the high level valleys known as the Bhot remnicent of the Tibetan landscape, their elevation ranges from 2400 to more than 5000 metres above sea level. The important Inner Himalayan valleys are Humla, Mugu, Dolpa, Mustang and Manang. They form distinct regions with inhabitants of Tibetan origin. Climatically they constitute a transitional zone between the north Indian Monsoon region and the arid high plateau of Tibet.

Nepal covers 147181 Sq. km. of area and is roughly rectangular in shape with an average width of 193 Km. and an average length of 885 km. It has approximately north-west to south- east orientation between 80º15' and 88 º 15' east longitudes and 26º20' and 30º10' north latitude.

Far-Western Development Region is situated as geographical location 28º22' to 30º15' north latitude and 80º04' to 81º44' east longitude.

This region has the zones and districts as following.

Zones	Districts
Seti: -	Bajhang, Bajura, Achham, Doti and Kailali
Mahakali:-	Darchula, Baitadi, Dadeldhura and Kanchanpur

On the basis of topographical variations, three major physical zones from south to north can be differentiated: (a) Terai (b) Hill (c) Mountain.

Kailali and Kanchanpur districts are situated in Terai region, Achham, Doti, Baitadi and Dadeldhura in hill and Bajhang, Bajura and Darchula in mountain region.

- **Drainage Network**

The rivers of Nepal fall into three drainage basins the Karnali basin, the Gandaki basin and the Kosi basin. The Karnali river system draining western Nepal between Byasrikhi Himal and Dahulagiri Himal is the most extensive system as it covers a considerable are in the north of the main Himalayas, The important rivers of this system are Humla-Karnali, Mugu-Karnali, Tila Nadi, Seti River, Buri Ganga and Bheri. The Gandaki system draining the Central Nepal west of the Kathmandu Valley has Bari Gad, Kali Gandaki, Seti, Marsyandi, Darondi, Buri-Gandaki and Trisuli as its main riveUS Doller Excepting Bari Gad, Seti and Darondi all the main streams are Trans-Himalayan rivers flowing through deep gorges. The Kosi river system draining the whole length of Nepal east of the Kathmandu Valley has Indrawati, Sun Kosi (Bhote Kosi), Tamba Kosi, Likhu Khola, Dudh Kosi, Arun and Tamor as the main tributaries. The Bagmati, though not rising in the Himalayas, is also an important river having its source in a spring a few kilometres north of the Kathmandu Valley.

The most notable characteristic of the above mentioned rivers is their transverse or north to south courses until they reach the Mahabharat Lekh. In the geological past when they had transverse courses throughout and drained in the Tethys geosyncline, the final orogenetic phase of the Himalayas took place with such rapidity that the course of the rivers was dammed by the rising Mahabharat Lekh resulting in the formation of lakes, e.g., the Kathmandu Valley lake, but in most of the cases the rivers had to flow along the northern foot of the Mahabharat Lekh, until they got weaker points as their outlets. Thus the main river systems including the Bagmati have only four outlets in the Mahabharat Lekh, Chisapani of Karnali, Devghat of Gandaki, Kotwar of Bagmati and Chatra of Kosi. The other rivers of the country, which do not fall into the above mentioned river systems, are Mahakali (forming Indo-Nepal boundary in the west), Babai, Rapti, Kamala, Kankai and Mechi (forming Indo-Nepal boundary in the east). Excepting the bordering rivers, all the other rivers have their sources in the southern slopes of either the Mahabharat Lekh or the Churiya Hills.

As the rivers of Karnali, Gandaki and Kosi systems are snow-fed they have water throughout the year and have remained as a barrier to the movement of population. During monsoons when both the snow-fed and the rain-fed rivers are swollen the movement becomes still more difficult. In the absence of bridges across many rivers, the rains and the snows, frequently separate, for much of the year, people living in close proximity. This has resulted in the difference of language, economy, religion and culture of the people living at short distances. At many places the rivers have to be crossed with the help of dugouts risking one's own life. Besides, dugout-crossing points in the rivers of the hills are very limited. Equally dangerous are the

bridges of logs without support, suspension bridges made of ropes of plaited bark and bast, and crossing of the river torrent on foot.

Though the rivers in the hills separate different ethnic groups they, nevertheless, work as the main channel of communication, especially for trade. Most of the mule tracks in the hills follow the transverse river courses from north to south, between the people of the Midlands and those of the Himalayan region. The Kali Gandaki river and its gorge between the Dhaulagiri and the Annmapurna range provides the only access between the Midland and the Tibetan Highlands. Similarly, the antecedent river gorges of the Humla Karnali, the Buri Gandaki, the Bhote Kosi and the Arun provide access between Nepal and Tibet throughout the year. The longitudinal valleys of Sun Kosi, Trisuli Gandaki, Kali Gandaki, Bheri and the Seti provide channels of communication in the east and the west in the Midlands.

Excepting the big rivers like the Karnali, Gandaki and Kosi, all the rivers in the Terai can be crossed on foot or on bullock-carts during the winter and the dry season. Even the big rivers and the rivers swollen during the monsoons can be crossed by boat and ferry crossing points are to be found all along the courses of the Terai RiveUS Doller Thus the rivers of the Terai are in no way barriers to communication and it is because of this factor that the Terai regions are charactrised by homogeneity of culture, language and religion.

Amargadhi Municipality

The second grade river is found in Amargadhi municipality. The second grade streams Saileshwa Gad lies in East and North part, Raduwa Khola lies in East, Dahatala khola, Maduwa Gad, Doti Gad lies in southern and Satkada Khola, Doti Gad and Chauri Gad lies in West part of Amargadhi. Second Grade River mostly originated from the Mahabharat range. Mahabharat range comparatively has low rainfall so all the mostly second Grade Rivers are dry in the winter season and where as in the summer season the rivers are more destructive in nature.

Dasharathchand Municipality

The first grade (permanent) and second grade river are found in Dasharathchand Municipality. First grade river (Mahakali River) flows to

the Western part of the municipality. The second grade streams Jamir Gad lies in North, Parmol Gad, Ishwari Gad lies in East, Kedari Gad lies in South part of Dasharathchand Municipality. Other streams like Dumuni Gad, Dhari Gad, Dhobad Khola, Chirui Gad, Ala khola, Ghalto Gad are the tributary of Kedar Gad.

Dhangadhi Municipality

The second grade river is found in Dhangadhi municipality. The second grade streams Mohana Nadi lies in West and South part of Dhangadhi. Khutiya Nadi lies in Eastern part of Dhangadhi. Other streams like Kailali Nala, Shukuti Nala, Kani Nala and Pokhari Nala are the tributary of Mohana Nadi. Second Grade River mostly originated from the Mahabharat range. Mahabharat range comparatively has low rainfall so all the mostly second Grade Rivers are dry in the winter season and whereas in the summer season the rivers are more destructive in nature. Yearly they are cutting their banks and widening them.

Dipayal Silgadhi Municipality

The first grade (permanent) and second grade river are found in Dipayal Silgadhi Municipality. First grade river (Seti River) flows to the Southern part of the municipality. The second grade streams Rauwa Gad lies in North, Koireli Gad, Gaddi Gad and Thulo Khola lies in East, Seti River, Khopadi Gad and Sasam Gad lies in West prt of Diapyal Silgadhi Municipality.

Mahendranagar Municipality

The first grade (permanent) and second grade river are found in Mahendranagar Municipality. First grade river (Mahakali River) flows to

the West and South part of the municipality. The second grade stream Saj Khola lies in East and North part of Mahandranagar Municipality.

Tikapur Municipality

Tikapur Municipality is situated between Karnali and Pathariya River. Jamara Nadi and Rani Kulo are the major tributary rivers of Patharaiya River. They are originated from Karnali River and passes through the middle part of the Municipality, flowing north-east to south-west direction. These are the main veins of this municipality body.They are very useful for the irrigation purpose. In winter season, they have low volume of water but in summer they are more destructive. Yearly they are cutting their banks and widening them.

v **Forest**

Forests of Nepal once considered as an important asset of the country have been largely depleted by reckless destruction. In the hills the felling of trees for cultivation, fuel, forage and timber has led to the serious problem of soil erosion. Deforestation in Nepal is due to the practice of shifting cultivation. Today most of the hills of the Midlands are devoid of forest cover. Only the forests of the Terai and the Inner Terai are of any commercial importance. However, the increasing immigration of the people from within and outside the country has led to a drastic reduction in the forest cover in these regions. Apprehension had been expressed regarding the economic importance of the Terai forests as early as 1954 when it was estimated that forests occupied 32.5 per cent of the total area

of the country. In 1954 the denudation of forest was proceeding at the rate of 31 million cubic feet per year; now it has jumped to 42.5 million cubic feet per year. It is regretted that a large part of the young forest is being destroyed by the cattle resulting in the devastating soil erosion, landslides and floods. Increasing deforestation has threatened the very existence of the precious wild animals and the Government has been compelled to establish protective sanctuaries for wildlife conservation in many parts of the country. Deforestation may also affect climatic conditions in Nepal.

The natural vegetation of the country can be divided into the following:-

(i) Tropical Deciduous Forest extends in the Terai, the Inner Terai, the Churiya Hill and upto 1000 metres above sea level in the low lying valleys of the Midlands. This forest is noted for its luxuriant growth of vegetation and is the most important commercial forest of the country. The important forest products are sal (Shorea Robusta), Sisoo (Dalbargia sisoo), Khair (Acacia excatacheu), Simal (Bombax malabaricum),Karma (Adina cordifolia), Chanp (Michelia champaca), Sati sal (Dalbergia latifolia), Latikarma (Hymenodictyon excelsum), Sabai grass (Emplopsis binata), etc.

(ii) Sub-tropical Evergreen Forest is found between the altitudes of 1000 and 2000 metres above sea level. The dominant trees are Chilaune (Schima walichii), Untis (Alnus nopalensis), Katus (Castronopsis indica), Baji (Quercus glauca), Bamboos (Denirocalamus), Khote sallo (Pinus roxburghii), Gobre sallo (Pinus walichii), Pipal (Ficus religiosa), Gunras (Rhododendron arboreum) etc.

(iii) Temperate Evergreen Forests prevail from 2000 meteUS Doller Above sea level to timber line (3900 metres). The higher ridges of the Mahabharat Lekh are clad with thick forests of rhododendron, oak, and magnolia. In the Himalayan hills the important trees are pines (pinus longifolia and walichii), Juniper (Juniperus recurval), Kharsa (Quercus semicarpifolia), Okhar (Juglan regia), Rhododendron aboreum, deodar (Cedrus deodara), tuni (Cedrus toona), fir (Abies spectalis), bhojpatra (Betula utilis), Spurce (Licea morinda), larches (Larix griffithii), etc. In the wetter slopes of the hills are found *nigalo* (Arundinaria) which is widely used for making different kind of baskets.

(iv) Alpine meadows extend from timberline to snowline (5500 metres). Dwarf varieties of rhododendron, juniper and birches are found in these parts.

The important forest of the study areas are Sal (shorea robusta), sisoo (dalbargia sisoo), khair (acacia catacheu) and simal (bombax malabaricum). Community user groups are responsible for protecting the forests and in return they can collected fuel wood from dead trees.

Large part of the forests in the urban centres has been destroyed. Deforestation has been due to many reasons. Due to population increase, more land has been cleared for cattle and grazing of cattle has also resulted in deforestation.

v **Soil**

Soil formation is the directly correlated to the physiographic zone. In Terai, the soil is alluvial and fine to medium textured. In the Hills, the soil is made up of sedimentary and conglomerate rocks sandy in texture, while in the mid-hills it is medium to light in texture with a predominance of coarse-grained sand and gravel.

The soil of the study area is rich in mineral resources and is very fertile. In the newly reclaimed land from the forest in the urban centres has somewhat different type of soil composition and is not as fertile as those reclaimed earlier, because they are located in the higher ground. In these study areas different type of soil is found like sandy-loam, clay-loam, salty loam etc. The colures of the soil ranges from red, brown to black. Terai lies in the southern part of the country with low altitude, plain land alluvial soil and hot type of climate with sub-tropical evergreen forest. In the middle there lays hill area formed by many high hills, up and down, valleys and taUS Doller Soil is sandy loam and gravelly.

(ii) Culture Profile

v **Land Utilization**

Land is defined as a physical entity in terms of its topography and is spatial in nature. The broader integrative view includes natural resources: the soil, minerals and waters that the land comprises. These components are organized in ecosystems which provide a variety of services essential to the maintenance of the integrity of life support systems and the productive capacity of the environment. Land is a finite resource, while the natural resources it supports can vary over time and according to management conditions and uses. Land is associated with the economic values and change in the use of land for maximum commercial profit and competition has resulted sub optional use of land and land resources.

Land cover is the biological state of the earth surface and immediate subsurface, which includes biotic diversity, soil quality etc. Land cover is the distribution of physical characteristics of earth surface in the form of

vegetation, water-body, desert, ice, forest and other coverage features on the earth surface including human activities such as mine exposure and settlement. Land use involves the manner in which the natural land cover is manipulated by a human agent as well as the intent of manipulation of the purpose for which the land is utilized. The land use pattern is a resultant of the interaction of various physical, socio-economic, environmental and political factors and people's responsiveness towards these factoUS Doller The shift in the intent and utilization of the existing land use in response to the economic, physical, environmental or other factors constitute the land use change.

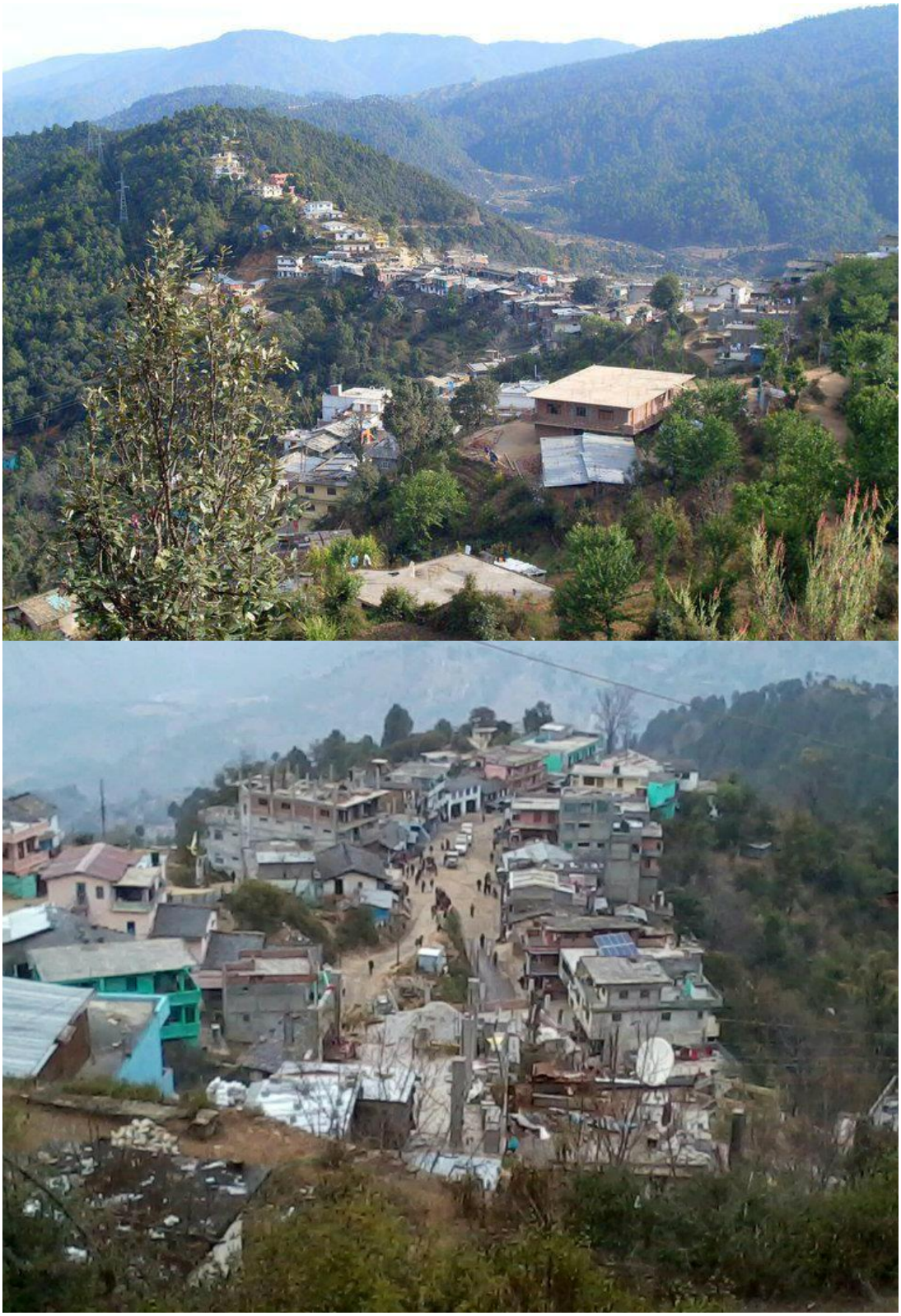
The process of land use change is very complex phenomenon and takes the pathways with different magnitude and place. Among the factors responsible for land use change, economic factor is seems to be a most predominant one. In economic terms, land is valued as per its utility and return from it and the competition exists for the best use of land which will yield maximum profit. Ricardo in 1951 has postulated the rent theory to explain the land use change in economic terms. According to him, if land is intensively cultivated, the law of diminishing returns is applied and increase in demand makes it necessary to bring in a new and inferior land into use. This suggests that human beings seek to maximize their gains by obtaining that highest possible return for any given resources and seek to economize using the smallest quantity of resources to obtain certain result.

- **Society Habitant and Economy**

Nepal remains one of the poorest countries in the world. A number of fundamental constraints have hindered Nepal's development efforts. Nepal's population is growing rapidly at 1.4 per cent a year. The resulting

pressure on limited natural resources contributes to low productivity, poverty, denudation of forest and consequent environmental degradation. The situation is aggravated by Nepal's difficult mountainous terrain and land locked location, under-developed physical and social infrastructure, inadequate institutional capacities and limited human resources. Until recently heavy regulation of industry and imports and reliance on a large and inefficient public enterprise sector tended to suffocate private sector initiatives and undermine efficiency. Furthermore public resources management has been weak contributing to problems economic growth and development has been slow, social indicators remain unsatisfactory and serious structural weaknesses in the economy persist.

Amargadhi Municipality (Market centre)



Dasharathchand Municipalities (Market centre)

Dhangadhi Municipality (Market centre)

Dhangadhi Municipality (Market centre)

Dipayal Silgadhi Municipality (Market centre)

Mahendranagar municipality (Market centre)

Mahendranagar municipality (Market centre)

Tikapur Municipality (Market centre)

Tikapur Municipality (Market centre)

- **Cultural Resources**

Seti and Mahakali zone of Nepal has a distinct language, culture and history. Various dialects of Kumauni language are spoken in this region. Doteli dialect of Kumauni language is spoken in Amargadhi, Dasharathchand, Dipayal Silgadhi and Mahendranagar municipality.

In Dhangadhi and Mahendranagar, the Tharu people themselves say that they are a people of the forest. They have lived in the forests for hundreds of years practicing a short fallow shifting cultivation. They planted rice, mustard, corn and lentils, but also collected forest products such as wild fruits, vegetables and materials to build their houses; hunted deer, rabbit and went fishing in the rivers and oxbow lakes.

The ethnic Tharu and Ranatharus people celebrate Dhikri and Maghi festival while Brahmin and Chhetri of Far-western urban areas, origin primarily celebrate Goura parba. Later Dipawali or Diwali appears as a major festival which includes laxmi puja, gai tihar and Bhaitika. More recently Dashain has been accepted as a major festival. Deuda, Jhoda, Chhpeli, Chhaliya, Sakiya etc. are the traditional dance of the region.

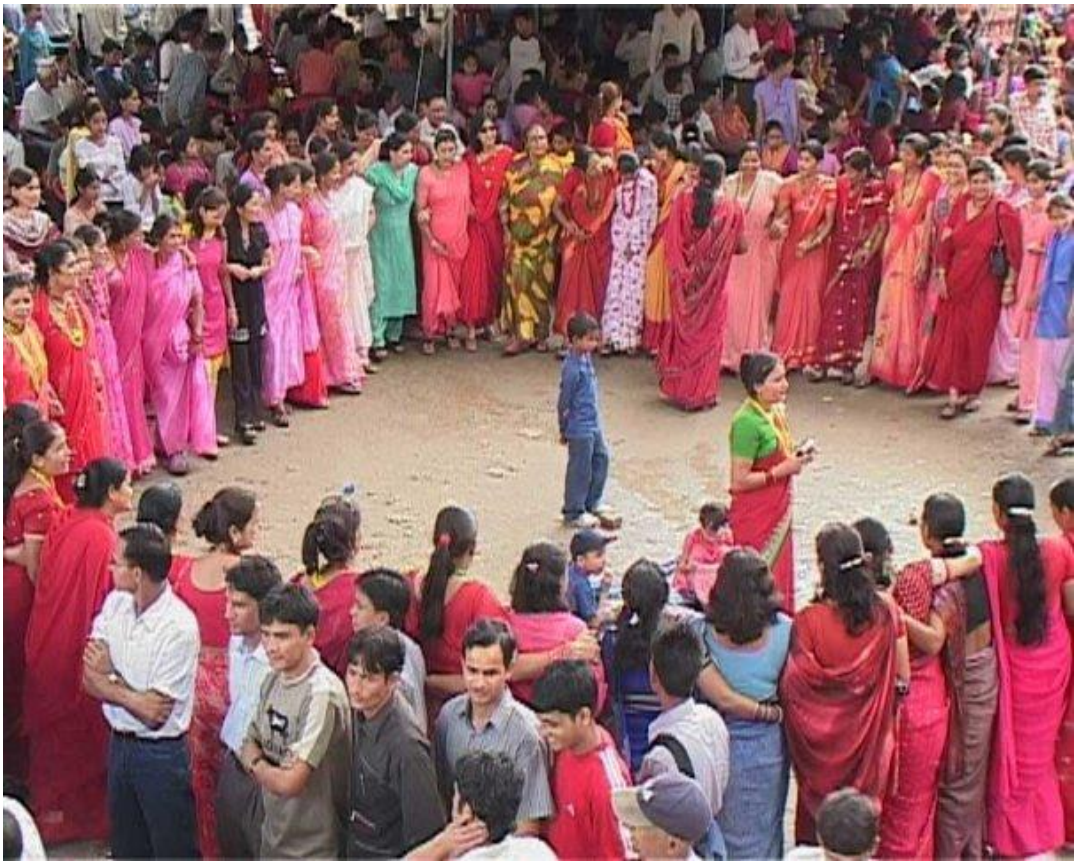
Indigenous people are Tharu,and Ranatharus but now people from all over country have migrated to the areas but mostly from the districts such as Doti, Achham, Baitadi, Dadeldhura, Darchula, Bajhang and Bajura. Dhangadhi and Mahendranagar are now the unique combination of all ethnic groups representing the overall society of Nepal. The festivals celebrated by people in Dhangadhi and Mahendranagar fully reflect the blind of all groups.

Tharu culture in Dhangadhi

Ranatharu culture in Mahendranagar

Gaura Parba in Dasharathchand

Chhaliya Nach in Amargadhi



Dauda in Dipayal Silgadhi

CHAPTER 3: GROWTH PATTERN OF URBANIZATION

(i) Growth of urban centres

The rate of growth of urban population in the country between 1952/54 and 1961 was 3.6 per cent per annum as against the national rate of growth of 1.78 per cent for all the population. However, the growth of urban centres is characterized by the variation. The growth is not always related to immigration, rather in many cases the growth is limited to the natural, and in some cases it is even lower than that of the rural areas. Growth of urban population at a rate higher than the country's average is characteristic of almost all the districts except Bhaktapur, Birgunj, Kirtipur and Tansen. Average growth of urban population exceeds in Biratnagar, Dharan, Rajbiraj, Nepalganj, Dhangadhi,and Mahendranagar. As the total area of different urban centres is not known and data on population born outside urban centres and that of the area of the urban centres at different censuses are not available, it is difficult to arrive at any conclusion whether the high growth rate is due to immigration or spatial expansion of the urban centres. The growth of the urban population of Biratnagar at the rate of 17.90 per cent per annum, the highest among the urban centres, is the result of spatial expansion, but immigration also seems to have assisted the growth. It is not known if there has been spatial expansion of the other urban centres too. A study of the growth pattern of the different urban centres indicates that rural-urban migration, which seems to be significant in the other countries, is not, in fact, prominent in Nepal. The urban centres which are marked by growth below that of the rural areas, excepting Birgunj, are characterized by excess of emigration over immigration. As regards the low growth in Kathmandu

city as compared to its rural area, it is due to the expansion of modern residential buildings in the suburb of the city and also due to emigration exceeding immigration. The sphere of influence of Bhaktapur as a trade centre for the Eastern Hill has been shifted to Kathmandu after the opening of the Kathmandu-Kodari Highway. The trade of Bhaktapur dwindled and subsequently the traders moved to Kathmandu city and other parts of the country. The decline in the urban population of Kirtipur seems to be the result of the procurement of land for the site of Tribhuvan University in 1956. Agriculture being the main occupation of the population, the affected persons seems to have moved to Chitawan and other parts of the country. The low rate of population growth in Birgunj is the result of the spatial reduction of the city in 1961 as compared to 1952/54. As already noted the low growth of urban population of Tansen as compared to the rural population is the result of the development of trade in Butwal in the south.

Though data on rural-urban migration is not available, yet on the basis of difference in the sex-composition it can be traced out to a certain extent. In 1952/54, the sex ratio of the urban centres indicates that most of the centres excepting Malangawa, Banepa and Pokhara were characterised by the preponderance of males over females (Table 9:3). Biratnagar has the highest preponderance of males constituting nearly three-fourths of its total population. In Rajbiraj and Dharan which were not urban centres at that time, 61.56 and 54.50 per cent of the population respectively were males. But in 1961 Pokhara was the only urban centre having preponderance of females over males. The sex ratio of Pokhara has increased from 1127 female per 1000 males in 1952/54 to 1163 females in 1961. It indicates that there is out-migration of the indigenous Gurungs of Pokhara. None of the

remaining urban centres, however, are marked by decline in the preponderance of males. On the contrary, Biratnagar, Dharan, Rajbiraj, and Tansen shows increase in the per centage of females in 1961 as compared to 1952/54. In the case of Biratnagar, Dharan and Rajbiraj marriage immigration and joining of the family members seem to be the cause behind increase in the sex ratio. As regards Tansen out-migration of the males seems to be the cause behind increase in the ratio of females.

Population dynamics, the forces behind the growth and movement of population, plays a central part in the process of urbanization. The process of urbanization started and gathered momentum in the early industrializing countries as an outcome of industrial revolution and commercial expansion, but in the less developed countries the process is different from them. It is also essential to distinguish between urban growth and urbanization. Urban growth refers to the growth of population in designation urban areas, and urbanization refers to the proportion of total population living in designated urban areas of specific region or country. The rate of urban population growth refers to a change in the number of population in urban areas, whereas rate of urbanization refers to change in the level of urbanization relative to the initial number at the beginning of a given period.

The period of urbanization in Nepal can be discussed dividing into two different periods- before 1951 and after 1951.

Before 1951

The period before 1952/54 census marked the very slow process of urbanization in Nepal, with no significant development of urban centres in the country outside the Kathmandu valley. The factors responsible for this was the slow growth in urban population were mountainous terrain of the

country, prevalence of malaria below the altitude of 4000 feet, absence of modern transport facilities, infrastructures and slow growth of industries. The prevalence of malaria in low lying areas which had wide fertile of flat lands and suitable for the expansion of settlement led to the growth of urban settlements in the ridges and slopes of hills, where nature of physiographic restricted the expansion of settlements and market centres.

After 1951

Nepal began to step into new economic activities after the fall of Rana regime. Periodic development plans were commenced. The country was divided into development regions for regional balance, after the political change of 1951. This change had resulted significant impact on the growth of towns as well as the wellbeing of the people and country. Nepal was opened for outside world, which was closed before 1951. The development activities, most of which through foreign assistance result the dramatic change in the growth of towns and urban centres in far western Nepal.

Table 3.1: Growth of Urban Centres in Nepal

Census year	Urban population (in thousands)	No of urban places	Per cent of urban population
1952/54	238.3	10	2.9
1961	236.2	16	3.5
1971	461.9	16	4.1
1981	956.7	23	6.3
1991	1695.7	33	9.1
2001	3227.9	58	14.2
2011	4525.8	58	17.0

Source: Central Bureau of Statistics 1995, 2001and 2011

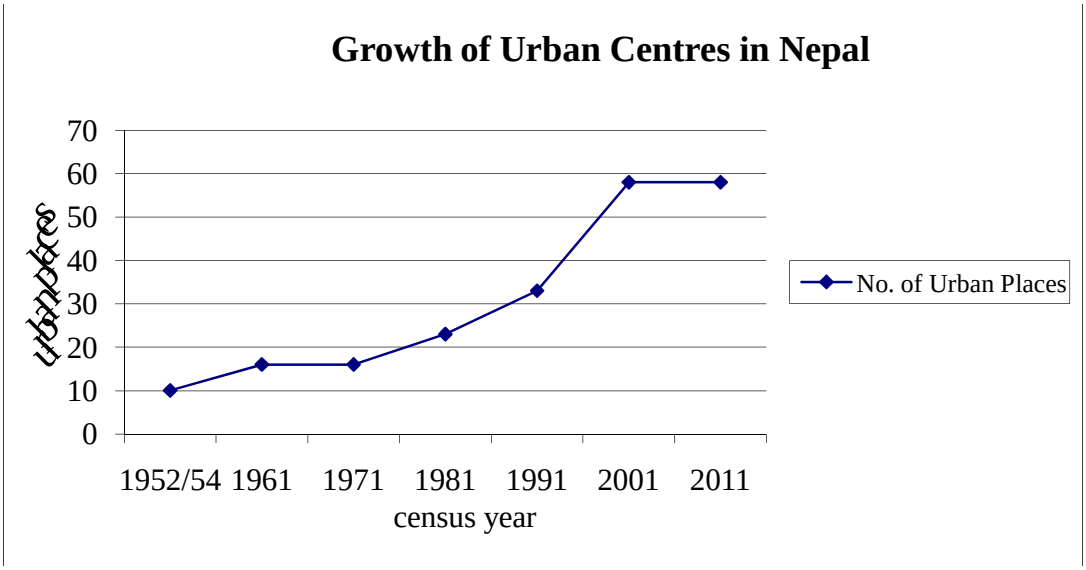

Growth of Urban Centres in Nepal
70
60
50
40
30
20
10
0
urban places
1952/54
1961
1971
1981
1991
2001
2011
census year
No. of Urban Places

Figure 3.1

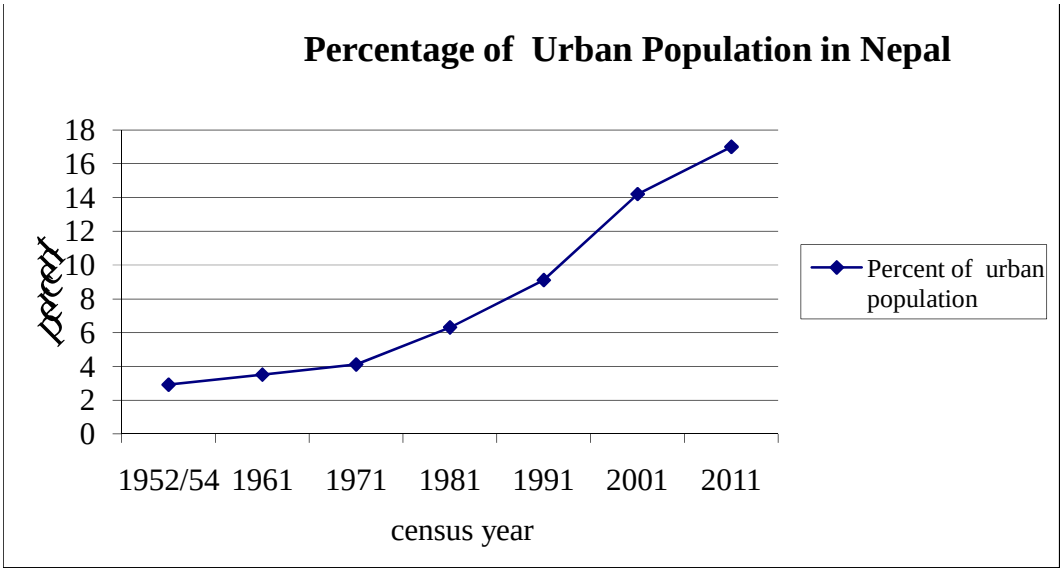


Figure 3.2

The 1952/54 population census recorded 2.9 per cent urban population from 10 urban areas. In 1961, the number of designated urban areas were increased and reached 16. New six urban areas were recognized in this period. The 1971 population census also recorded 16 urban areas. The 1981 population census listed 23 urban localities. The two among seven new urban areas recognized in this census were Dhangadhi and Mahendranagar. During the period of 1981-1991, the urban growth rate of the country as a whole has recorded 9.1 per cent and listed 33 urban areas. Between 1991-2001 census 25 new urban areas were declared and growth rate of the country has recorded 14.2 per cent of total population. 2001 to 2011 census period, the urban growth rate of the country as a whole has recorded 17.0 per cent.

Table 3.2: Growth of Urban Centres in Far-Western Nepal

Urban centres	1981 (in per cent)	1991(in per cent)	2001 (in per cent)
Amargadhi	-	13.7	14.6
Dasharathchand	-	6.8	7.8
Dhangadhi	10.6	10.7	10.9
Dipayal Silgadhi	-	7.4	10.7
Mahendranagar	25.9	24.1	21.4
Tikapur	-	6.1	6.3

Source: Central Bureau of Statistics 1995 and 2001

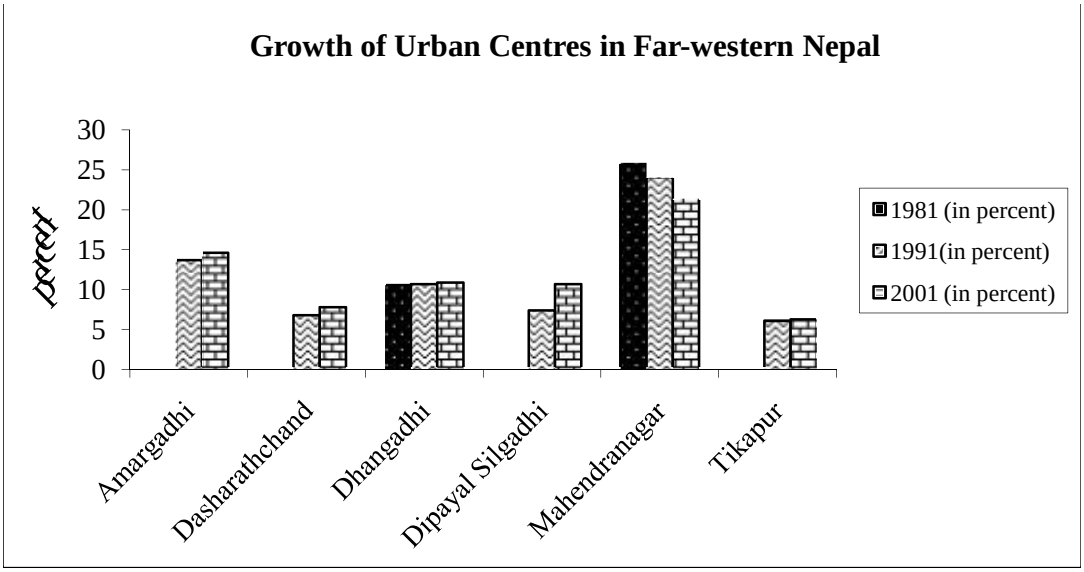


Figure 3.3

Above the table shows the 1981 population census recorded 5.4 per cent urban population from 2 urban areas called sahar, which were located in Terai region. The 1991 census listed 6 urban localities. Four new urban areas were recognized in this census. Newly designated urban areas as recorded in

this census were- Tikapur in Terai; Amargadhi, Dipayal Silgadhi and Dasharathchand in Hilly region. The per centage of urban population of Amargadhi has 14.6, Dasharathchand has 7.8, Dhangadhi has 10.9 Dipayal Silgadhi 10.7, Mahendranagar 21.4 and Tikapur has 6.3 respectively.

(ii) Distribution and growth

Although the number of urban areas is increasing and the urban population is growing faster. The urban population of the country has increased not only due to natural growth and migration, but also due to the increase in the number and size of urban areas by the government. This section seeks to understand the distribution if urban population among existing urban area, their decadal change in absolute as well as per centile

terms and the growth rate of urban areas individually since 1981 to 2001 census. Periodic reclassification of urban boundaries, and the arbitrariness in defining in urban areas affected in the consistent explanation of the distribution and growth of urban areas in far western Nepal.

Table 3.3: Distribution and Growth of Population in Urban Centre

Urban centre	Total urban population 1981	urban growth (in per cent)	Total urban population 1991	Urban popn. (in per cent)	Total urban population 2001	urban growth (in per cent)
Amargadhi			16454	13.7	18390	14.6
Dasharathchand			18054	6.8	18345	7.8
Dhangadhi	27274	10.6	44753	10.7	67447	10.9
Dipayal Silgadhi			12360	7.4	22061	10.7
Mahendranagar	43834	25.9	62050	24.1	80839	21.4
Tikapur			25639	6.13	38722	6.3
Total	71108	5.4	179310	10.67	235804	10.76

Source: Central Bureau of Statistics 1995 and 2001

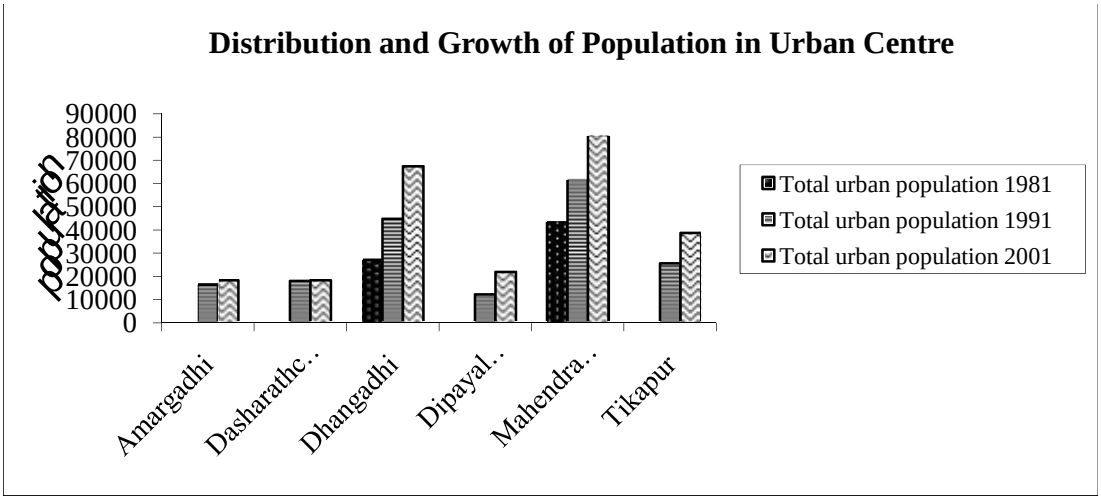


Figure 3.4

The table above shows the 1981 population census recorded 5.4 per cent urban population from 2 urban areas, which were located in Terai region. The 1991 census listed 6 urban localities. Four new urban areas were recognized in this census. Newly designated urban areas as recorded in this census were- Tikapur in Terai, Amargadhi, Dipayal Silgadhi and Dasharathchand in Hilly region. The per centage of urban population of Amargadhi has 14.6, Dasharathchand has 7.8, Dhangadhi has 10.9 Dipayal Silgadhi 10.7, Mahendranagar 21.4 and Tikapur has 6.3 respectively.

(iii) Size-Class distribution

The growth of number and size class of towns and population residing in different size classes is another aspect of urbanization. However, the size class of each urban locality represents both the qualitative and quantitative changes of the urban population and long term trend in urbanization may be observed by studying in size class of urban areas of the region or country. The evaluation of the population of the population of the population living in urban areas of different sizes at consecutive censuses may be studied or the increase in the population that resides in a specific number of cities may be compared with the increase in the total population of the country.

The changing level of urbanization can be studied by comparing the number of urban areas of given size and distribution of population among them. The size of the cities having municipality status has been grouped as following four categories.

Size Class I (50,000-99,999 population) large towns

Size Class II (20,000-49,999 population) medium towns

Size Class III (Less than 20,000 population) small towns

Table 3.4: Size- Class Distribution of Urban Places

Size Class	Urban places	Population of 2001	Per cent
50,000 & above	2	1,48,286	60.4
20,000 - 49,999	2	60,783	24.7
Less than - 20,000	2	36,735	14.9
Total	6	2,45,804	100

Source: Central Bureau of Statistics 2001

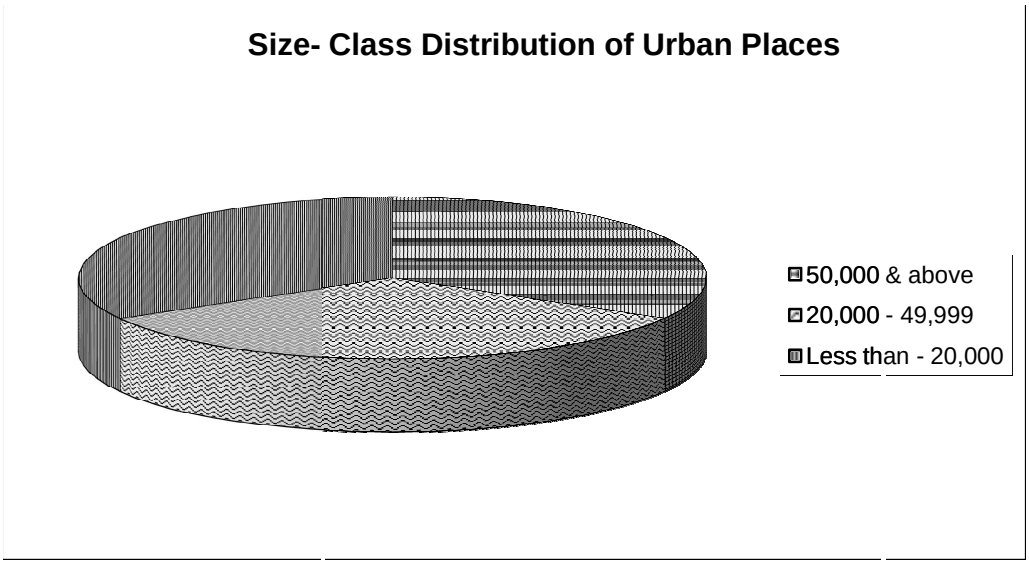


Figure 3.5

This classification of urban areas in different size classes in Far-western region Nepal is based on population size. This classification follows the size- categories used and suggested in various studies in Nepal and abroad. Of two urban areas in2001, 14.9 per cent of population had less than 20,000 populations, 24.7 per cent of population were under 49,999 populations. There were only two urban areas above the population of 50,000.

(iv) Structure of urban growth

Urban population growth is heterogeneous in its origin and structure. The relative importance of two major components of urban growth natural urban population growth and rural to urban migration are of major significance than reclassification for urbanization studies, which makes a great deal of difference whether the major source of urban growth is net-migration or natural urban growth. But in case of study areas it is said that the boundary extension and recognition of new urban areas have major impact in overall increase of urban population in the Far western development region.

The contribution of natural increase of urban growth is a complicated issue. A study made by United Nations indicates that in the urban areas of the developing countries like Nepal, the rates of natural increase are well below than rural areas. Though, improvement of medical delivery system allowing people to live longer and more children to survive the first year. But the lower rate of natural increase are at least in part due to successful birth control programmes, which seen easier to implement in urban areas.

Contribution of rural to urban migration, potentially the most important source of urban growth. It is particularly high at low level of urbanization than in high level of urbanization (developing countries) relatively. As present the numbers of immigrants have been increasing in the urban areas of the country. The results show that the rate of rural to urban migration in urban growth is generally quite significant. Another important source of increase in indices of urbanization, are the change in administrative status, especially in municipal boundaries and recognition of new urban areas.

Table 3.5: Structure of Urban Growth in Far-western Nepal

Measures	1981	1991	2001	2011
Urban population in Far-western Nepal	71,108	1,79310	235804	3,41234
Urban growth rate in Far-western Nepal	3.75	8.35	6.45	9.7
Urban population in Nepal	9,56721	16,95719	32,27879	45,25787
Urban growth rate in Nepal	5.89	5.11	5.2	3.38

Source: Central Bureau of Statistics 1981,1991 and 2001

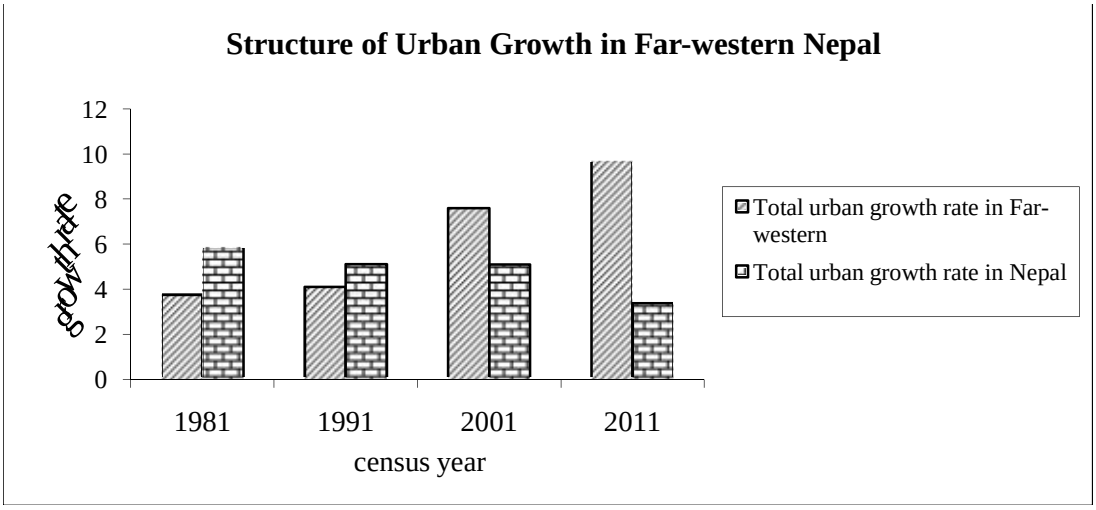


Figure 3.6

The above table show the structure of urban growth in Far-western region can be broadly assessed the major contributing factors and their measures for the period of 1981-1991 and 1991-2001 as well as 2001-2011. For the instance, the population of urban areas constituted 3.75 per cent of the total population in 1981. In 2001, the population of urban areas in Far-western to the total urban population constituted 6.45 per cent and went up its share to urban population to about 9.7 per cent in 2011.

(v) Trend of Urbanization

Early History

Except the three cities, Kathmandu, Lalitpur and Bhaktapur located in the Kathmandu Valley, urbanization in Nepal is of recent origin. These three cities are very ancient and urbanization in the past was limited to these capital cities. The unique urban environment shaped by the Newars in the Valley has engendered the evolution of a civilization far ahead of that found elsewhere in the country. The towns of the Terai are of recent origin and urbanization of the Terai seems to have started after the formal recognition of Nepal as an independent sovereign country by the British Government in

1923 and its subsequent development. Urbanization of the Hill regions is even more recent and dates from the mid-fifties of the present century.

It is not known precisely when the three cities of the Valley were established. When Yaksha Malla divided the Valley into three Kingdoms, the three cities were already flourishing. They were capitals and as such were models of urbanity. They grew as politico-economic centres of the kingdoms and principalities of local chiefs and were therefore surrounded by walls. It is said that Gunkamadeva founded the city of Kathmandu in the 6th Century A.D. Avaya Malla is credited with founding of Bhaktapur in 14th Century A.D. A historical record indicates that of the three cities Lalitpur is the oldest and was built during the reign of the Kirat King, Yalambara, in the 10th Century B.C. It was around this city that the four stupas were erected during Ashoka's time in 250 B.C. Prior to 1769, before the conquest of the Valley by Prithvinarayan Shah, Lalitpur was the largest and most prosperous city with twenty-four thousand houses, while the number of houses in Kathmandu and Bhaktapur was twenty-two thousand and twelve thousand respectively. Despite many ups and downs in the history of the valley, the three cities have been marked by continuous growth up to this time. However, the growth of Lalitpur and Bhaktapur seems to have been affected by the conquest of the Valley by Prithvinarayan Shah, together with the opening of trade route to Tibet from India via the Chumbi Valley in Sikkim in 1904 and the treaty of 1923 between Nepal and Britain. As noted earlier the conquest of the Kathmandu Valley and the subsequent proclamation of Kathmandu as the capital of the country adversely affected the traders and the artisans of Lalitpur and Bhaktapur who migrated to the other parts of the country. Kirkpatrick has remarked that Kathmandu was characterised by

increase in population while Lalitpur and Bhaktapur were marked by consequent decline, and Daniel Wright saw many of the houses in Patan being in ruins. It is the large scale migration of the Newar traders and artisans from Lalitpur and Bhaktapur to the different parts of the country that led to the growth of important settlements and trading centres in the hills. The Kathmandu Valley lying on the main route from India to Tibet was for a long time an important centre of trade not only in the goods of Nepalese origin but also those of Tibetan and Indian origin. The opening of the Chumbi Valley route affected traders and artisans, when the volume of trade that had hitherto ebbed and flowed along Kyerong and Kuti roads through Tatopani-Rasuwa of Nepal diminished to a great extent. This unexpected development led to the decline of trade and industry in the valley and resulted in the movement of traders and artisans outside the Valley. The treaty of 1923 was marked by unrestricted and duty free import of goods from Britian. The unrestricted import of manufactured goods gave another death blow to the already dwindling cottage industry of the valley. The artisans and the traders who dealt in the indigenous products appear to have migrated outside the Valley. All the Newars who live outside the Valley share the traditions of their traditional home in the towns of the Valley or in Banepa and Dhulikhel in the adjoining district of Kabhrepalanchok. Among the three great cities of the Kathmandu Valley only Kathmandu indicated a rapid growth. Between 1941 and 1961, the population of Kathmandu increased 76.4 per cent within 20 years while Lalitpur and Bhaktapur indicated an increase of 37.6 and 21.6 per cent respectively. The small increase in the population of Lalitpur and Bhaktapur seems to be the result of continuing migration of artisans and traders in the different parts of the country. In the second half of the nineteenth century, Daniel Wright

estimated the population of Lalitpur and Bhaktapur to be 30,000 each. But the Census of 1941 indicated the population of Lalitpur and Bhaktapur to be 34,685 and 27,864 respectively. Thus for more than half a century the growth of population in Lalitpur is very small while Bhaktapur is marked by decline. Between 1952/54 and 1961 Bhaktapur has a very small increase.

The political unification of the country and the subsequent declaration that all lands belong to the Stage, stood as a major impediment to the development of trading centres and new settlements in the hills as nobody was entitled to construct permanent buildings. The real start of permanent trading centres and settlements in the hills dates from 1838 when the trading centre of Tansen was destroyed by fire. The Newar traders of Tansen petitioned that they should be entitled to construct brick houses with tiled roof and to sell and purchase them. Their request was granted. Similar rights were also provided for the Newar traders of Ridi Bazar in the west. However, the trading centres of the hills dwindled with the opening of the trading centres in the Terai, when the Indian traders were permitted to carry on trade freely in the Terai. When the Hill people could fetch better price for their products and also reasonable price for their daily necessities like salt, kerosene oil, clothes, etc., they moved to the trading centres in the Terai. Thus many trading centres of the Terai developed at the cost of those of the hills. The growth of the towns in the Hill, including that of the Valley is due to natural growth while in the case of the Terai natural growth is supported by large scale migration.

There were some important towns and settlements in the Terai up to seventh century and today they are to be found as archeological remains. As the Terai from the very beginning was subjected to looting and arsons by

bandits and army of the invading enemies the ancient towns and settlements were razed to ground. The whole length of the Terai virtually remained jungles. Up to the end of the nineteenth century only a few settlements had developed along the Terai. The policy of the Nepal Government upto the close of the eighteenth century had been that of keeping the foreigners at bay. Prior to 1789 the Nepal Government established bazars on the border of India and Nepal for the regulating of trade and ordered that trade could be conducted at these points only. This hampered the freedom of trade, as the British (Indian) merchants had to cross the Nepalese border with their merchandise, sell the merchandise only in the bazars, and return with what they could not sell. Thus, the bazars in the Terai were seasonal with busy and bustling activities in the winter and almost deserted during the summer. The important settlements during the nineteenth century were Jhapa, Hanumannagar, Siraha, Janakpur, Butawal, Bethari (Bhairahawa), Nepalganj and Bardia. It is only after the recognisation of the independence of Nepal by the British Government in 1923 that the Government took initiative in developing transportation facilities, reclamation and settlement in the Terai. Railways from Raxaul (India) to Amlekhganj and from Jayanagar (India) to Janakpur were constructed. Plan for the reclamation of the Terai forests for agriculture and settlements were carried out. It was industrialisation of Biratnagar which, however, provided the real impetus for the process of urbanisation in the Trai. It must be noted that Nepalganj with an extensive hinterland of the West-central Nepal had developed as a town as early as 1930. In 1923, the first jute mill was established at Biratnagar. The heavy demand for jute goods during the World War II boom resulted in the establishment of the other jute factories, and other industries were also set up to meet the shortage of goods in the country. In other parts of the Terai rice

mills were established. Among the towns of the Terai Janakpur seems to be the oldest, though no remains of its former greatness are found. The urbanisation of this religious centre took place after the construction of railway by Nepal Government and the construction of the temple of Janaki Mandir by the Maharani of Tikamgarh (Madhya Pradesh, India) in 1907. The growth of the towns in the Terai has been further stimulated by their choice as administrative centres. But, the main reason behind the growth of the urban centres in the Terai is their function as trading centres between Nepal and India; most of the urban centres excepting Dharan and Janakpur are loated along the international boundary

Nepal is a nation with a very low degree of urbanization both in terms of urban population and number of towns. Nepal does not compare with most of South and South-East countries in the level of urbanization. The study of urbanization and urban growth trend and processes in Nepal presents methodological complications because of paucity of reliable data before 1952/54. The first recorded census of Nepal was taken in 1911, and continued thereafter at intervals of about ten yeaUS Doller But it was not until 1952/54 census that the decineal census of the country did contain specific data in urban centres and urban and rural population. This study has been limited for the period after 1952/54 census for the analysis of urban/rural growth of population.

Table 3.6: Urbanization Trends in Nepal (1952-2011)

Year	No of Municipalities	Urban Population(Per cent)	Total Urban Population (in Millions)	Total National Population (in Millions)
1952/54	10	2.9	0.2	8.2

1961	16	3.5	0.3	9.4
1971	16	4.1	0.4	1.5
1981	23	6.3	0.9	15.1
1991	36	9.2	1.7	19.5
2001	58	14.2	3.7	23.2
2011	58	17.0	4.6	26.7

Source: Central Bureau of Statistics 1995,2001and 2011

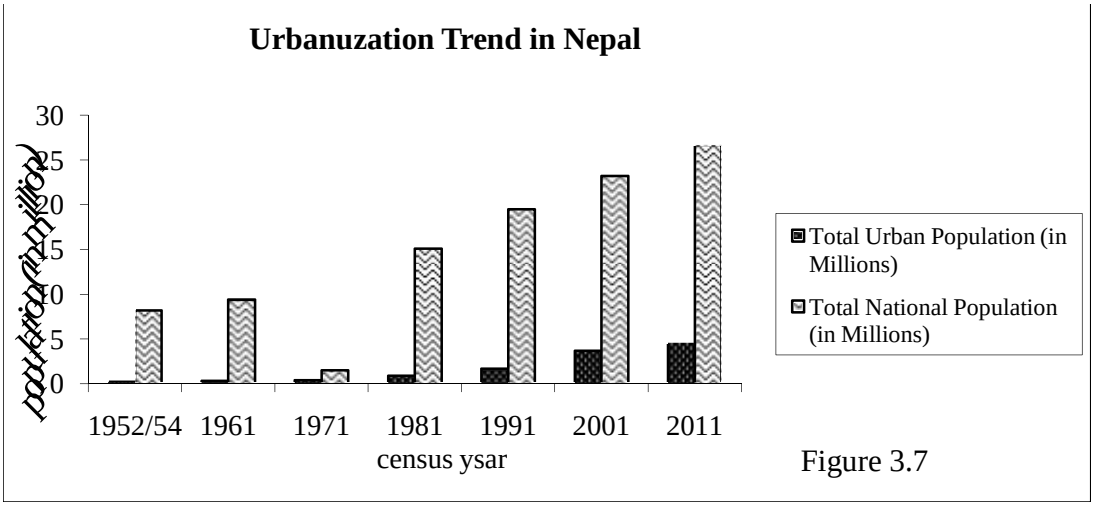


Figure 3.7

Nepal is one of the least urbanized countries in the region, although the past two decades have seen a marked acceleration in the pace of urbanization, as shown in above table. Urban population constitutes about 17 per cent of the total population, living in the 58 designated urban areas. In 1952/54 only 2.9 per cent of the total population was considered urban, living in 10 designated urban areas. This per centage rose to 3.5 in 16 municipalities in 1961, 4.1 in16 municipalities in 1971, 6.3 in 23municipalities in 1981, 9.2 in 36 municipalities in1991, 14.2 in 58 municipalities in2001 and 17.0 per cent in 58 municipalities in 2011.

Table 3.7: Urbanization Trends in Far-western Nepal (1952-2011)

Year	No of Municipalities	Urban Population(Per cent	Total Urban Population (in Millions)	Total Far-western Population (in Millions)
1981	2	5.38	0.07	1.32
1991	3	10.67	0.17	1.67
2001	6	10.76	0.23	2.19
2011	6	13.58	0.34	2.51

Source: Central Bureau of Statistics 1995,2001 and 2011

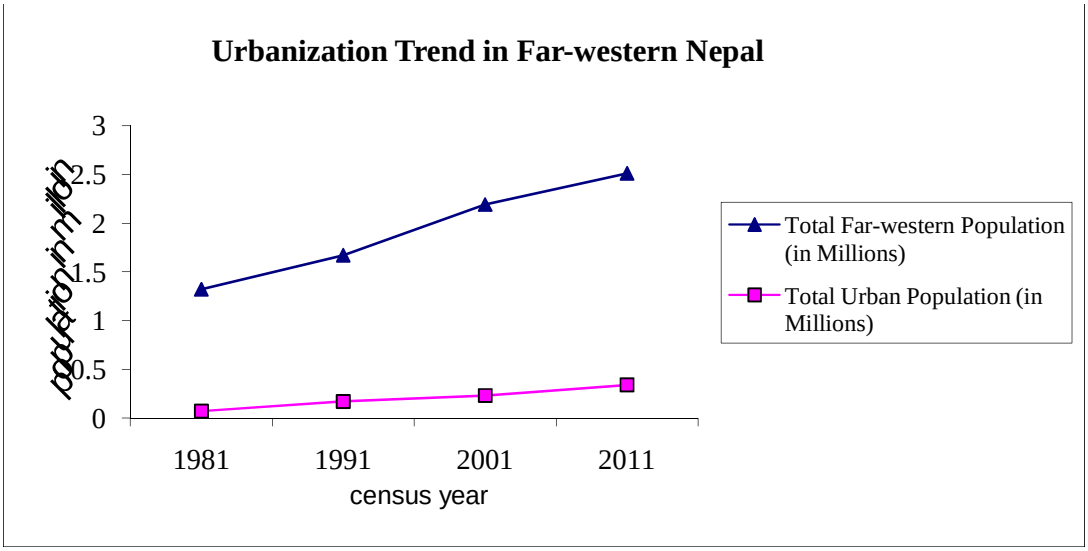


Figure 3.8

The above table shows increasing trend of urbanization in Far-western Nepal. In 1981 only 5.38 per cent of the Far-western total population was considered urban, living in 2 designated urban areas. This per centage rose to 10.67 in 3 municipalities, in 1991, 10.76 in 6 municipalities in 2001, and 13.58 in 6 municipalities in 2011.

Chapter 4: DEMOGRAPHIC AND SOCIO-ECONOMIC CHARACTERISTICS OF URBAN GROWTH

The manner in which the demographic characteristic of population living in urban areas differs from those of habitants in other localities indicates the importance of urbanization not only in the demographic sense, but in the social and economic sense as well. The demographic traits of the total population of a country may be regarded as urban and rural inhabitants. The structure of population shows the social aspect of any community of

region or a nation, because it is closely related with the whole social and economic structure. The size of quantitative and qualitative labor force can do nothing for nation if the social change is rigid. Therefore it is rightly remarked that alternative employment opportunities may be lacking because of a rigid social structure. On the other hand, the population structure shows the proportion of population in various age and sex groups. If the proportion of population is younger and older groups are higher than the working age groups than the community has to suffer in social and economic activities because the children and older people cannot participate effectively in productive activities. In the same way, the size of labour force tends to smaller if the proportion of women in population is large.

The rapid population growth makes the socio-economic activities ineffective. In this respect, the population of the country is increasing rapidly in urban areas as well, because of social stagnation in rural areas. With the growth and redistribution of population between rural and urban areas, the changes in its socio-economic and demographic characteristics are taking place over the period of time. Not only urban and rural areas, but also among urban areas, the characteristics of urban population are varied from one to another. In this respect, this section of the present study seeks to examine in to the population characteristics i.e. age structure, sex ratio, literacy, dependency, and their labor force characteristics with respect to occupational and industrial attachment, status of country and rural in general and of urban in specific.

(i) Age-Differentials

The age structure of a population reflects certain of its demographic characteristics mainly its past levels of fertility, mortality and patterns of

migration. The age structure was used previously as a means of analyzing the fertility of population. Relatively lower fertility and mortality and a higher rate of migration of working age adults to urban areas tend to make the age composition of urban population distinctly different from that of rural population.

Table 4.1: Population by different age groups in urban areas 2001

Age Group	Male	Per cent	Female	Per cent	Total	Per cent
0-4	14693	11.79	14010	11.57	28703	11.68
5-9	17637	14.15	16248	13.42	33885	13.79
10-14	17915	14.37	16791	13.87	34706	14.12
15-19	14502	11.63	13962	11.53	28464	11.58
20-24	11809	9.47	11878	9.81	23687	9.64
25-29	9122	7.31	9650	7.97	18772	7.64

30-34	7812	6.27	7961	6.57	15773	6.42
35-39	6919	5.55	7012	5.79	13931	5.67
40-44	5716	4.58	5423	4.48	11139	4.53
45-49	4717	3.78	4567	3.77	9248	3.76
50-54	4028	3.23	3805	3.14	7833	3.19
55-59	3237	2.59	2651	2.19	5888	2.39
60-64	2492	1.99	2706	2.23	5198	2.11
65-69	1681	1.35	1701	1.40	3382	1.37
70-74	1127	0.90	1220	1.0	2346	0.95
75+Above	1226	0.98	1482	1.22	2708	1.10
Total	124633	100	121067	100	245700	100

Source: Central Bureau of Statistics 2001

Table 4.2: Per centage of Population in Different Age Groups in Urban Areas 2001

Age Group	Amargadhi in per cent	Dasharathchand in per cent	Dhangadhi in per cent	Dipayal Silgadhi in per cent	Mahendra nager in per cent	Tikapur in per cent
0-14	39.57	38.15	39.79	35.15	38.81	41.59
15-59	52.42	53.19	57.43	58.8	55.65	53.81
60+ Above	7.05	8.66	2.78	6.05	5.54	4.6
Total	100	100	100	100	100	100

Source: Central Bureau of Statistics 2001

The percentage distribution of population among three age groups by urban areas is shown in above table, as recorded in 2001. Six urban areas have more than 38 per cent of the population in younger age groups (below 15 years) and higher proportion of population in the adult age group (between 15-59 years). The adult age group determines the labour force of society. It is accepted that the higher the adult proportion to the total population, the better situation of the labour force. It supports the bulk of other age group; it carries the burden of feeding, clothing, educating the

young age groups and of looking after the old age groups. The developed countries have relatively high proportion of adult population. Developing countries, like Nepal have been suffering from the lower proportion of adult population. It indicates the problem of higher dependency.

(i) Dependency Ratio

The difference in urban and rural age structure can be visualized in the dependency ratio and it also reflects certain of another demographic characteristics. This proportion of urban population aged 15-59 years is one of the distinguished characteristics of urban population in Nepal. The dependency ratio is the share of population 15-59 years age group present roughly work force and the ratio of the numbers on this group to the number of persons under the age of 15 years and 60 and over which is the non working segment of the population. Analysis of number of dependents per 100 population of active ages (15-59 years) of urban population. This pattern is particularly marked with respect to younger age and total dependency than older age dependency.

Table 4.3: Dependency Ratio in Urban Areas 2001

Urban Areas	0-14 Popn.	Child D.Ratio	15-59 Popn.	60+Above Popn.	Old D.Ratio	Total D.Ratio	Total Popn.

Amargadhi	7281	74.20	9812	1297	13.21	87.42	18390
Dasharathchand	7000	71.29	9753	1592	7.82	79.11	18345
Dhangadhi	26845	71.77	37655	2946	16.62	88.09	67447
DipayalSilgadhi	8760	73.22	11963	1341	11.20	84.43	22061
MahendeaNagar	31390	69.82	44958	4491	9.98	78.81	80839
Tikapur	16111	78.46	20534	2077	10.11	88.57	38722

Source: Central Bureau of Statistics 2001

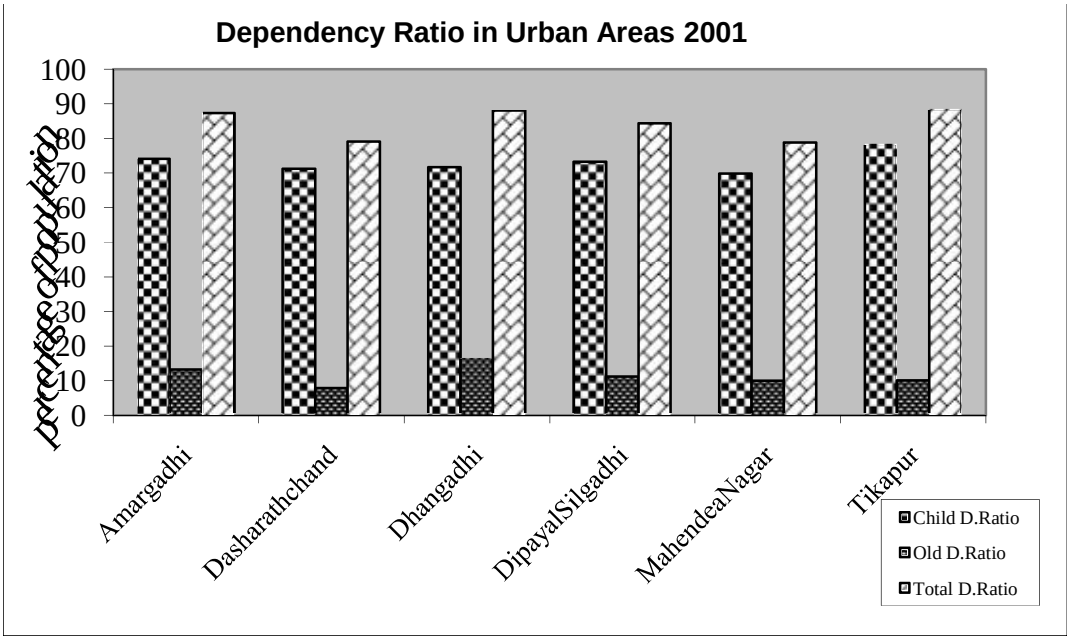


Figure 4.1

The table above shows that the young dependency ratio in urban areas has increased. The range between highest and lowest dependency among urban areas is one of the distinguished characteristics of urbanization in Nepal. An over boundary nature of urban areas may be one of the cause of higher dependency in most urban areas, which indicate the rural character of urban places which have higher dependency. In 2001, the highest dependency ratio was accounted in Tikapur (88.57) followed by Dhangadhi

(88.09); and the least dependency ratio among the urban areas is recorded in Mahendranagar about 78.81 dependents per hundred adults.

(ii) Sex-Ratios

The sex-ratio is often used to compare the sex composition of the population in rural/urban categories. The two residence categories urban and rural in Nepal do not display the similar sex ratio and the differences are particularly sharp between urban and rural areas in one hand and among urban areas on the other.

Table 4.4: Sex Ratio in Urban Areas

Urban Area	Male	Female	Sex Ratio
Amargadhi	8943	9447	105.63
Dasharthchand	8697	9648	113.23
Dhangadhi	35228	32219	91.45
Dipayal Silgadhi	11190	10871	97.14
Mahendarnagar	41232	39607	96.05
Tikapur	19447	19275	99.11
Total	124737	121067	97.05

Source: Central Bureau of Statistics 2001

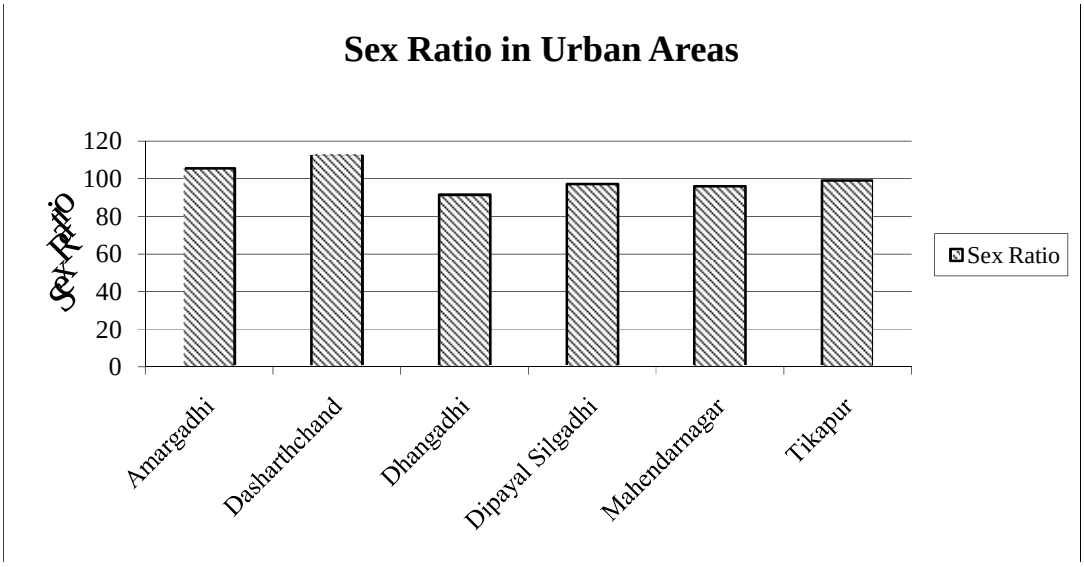


Figure 4.2

Predominance of males over females is one of the universal characteristics of urban areas and is also found in Far-western region of Nepal, but the degree of predominance varies from one to another urban area. The urban sex ratio has increased in 2001. However among the urban areas it ranges between 113.23 females per hundred males in Dasharathchand and 105.63 females per hundred males in Amargadhi. There was only two urban areas like Amargadhi and Dasharathchand, which had upper 100 sex ratio. At the same census year the highest number (91.45) of females per hundred males was accounted in Dhangadhi, 96.05 sex ratio in Mahendranagar, 97.14 in Dipayal Silgadhi and 99.11 of females per hundred males' sex ratio in Tikapur.

One of the reasons behind higher sex ratio in urban areas (male dominated) than in rural in general and Terai urban areas in specific can be explained by their higher proportion of males among migrants to urban areas (male selective migration).

(iii) Literacy status

Prior to the introduction of the Hindu caste system in the country, Education was universal and everyone was entitled to acquire it. There were Buddhist Viharas (monastic institutions) which imparted general as well as religious education. After the imposition of the Hindu caste system, education became the previlege of the Brahmin and Kshetri minorities, and the majority of the people were denied of even the three R's. The imparting of education by the Viharas had to be limited to the priestly class only. Among the Hindus, only the Brahmins showed enthusiasm in learning while the Kshetris indicated their preference to indulge in martial and

administrative activities of the country. The Kathmandu Valley remained as the only educational centre in the country and it provided most of the educated and learned persons to fulfil the need of the country in various activities. In the north bordering Tibet, where Hinduism had no influence at all, there were some Buddhist monastries imparting general and religious education. The other aboriginal ethnic groups were quite ignorant in the matter of education, and superstition, illiteracy and ignorance dominated amongst them. Before the conquest of the valley by Prithvinarayan Shah, the monastic institutions of the Buddhists were running somehow under the patronage of the Newar nobilities of the Malla Kings, but after its conquest they were also virtually closed.

Paradoxically, if there had been any regime to put restriction on universal education in the country it was the Rana regime, but at the same time, this regime was responsible for the laying of the foundation of modern universal education in the country. Prime Minister Jung Bahadur, the first Prime Minister to visit England, did not realise the need for spreading education in the country although he realised the importance of education. The Ranas educated their children by employing European and Bangali teacheUS Doller Daniel Wright who compiled the first history of Nepal during that time remarks, "The subject of schools and colleges in Nepal may be treated briefly as that of snakes in Iceland. There are nons". The Rana regime showed reluctance to impart education to the public by keeping it as low as possible and by discouragement. But the growing change throughout the world and in the neighbouring countries compelled it to open schools and colleges in the country for the general public. It was Prime Minister Bir Shamsher who is credited with the establishment of the first school, "Durbar High School" in Kathmandu in 1894. Prior to that the only course opened to

the public was to teach their children themselves or to employ the family priest or Pandit for the purpose. The liberal minded Dev Shamsher in his irresponsible way proclaimed a system of universal instruction for which, however, he made no provision of money and no organisation, and it fell still-born.

Prime Minister Chandra Shamsher who was educated at Calcutta University is credited with the opening of "Tri-Chandra College", the first college in the country in 1918. It is said that while opening the college he described it as the graveyard for the Rana Regime. For technical education, he sent some of the aristocracy to Japan believing that the advantages of modern science should be enjoyed by Nepal awithout the corresponding danger of the introduction of men imbubed with Western principles of democracy. Chandra Shamsher also opened a school outside Kathmandu in Siraha in the Eastern Terai. Prime Minister Juddha Shamsher also opened a number of schools, but mostly in the Kathmandu Valley. During his time the Second World War caused a shortage of manufactured goods from abroad. The need of establishing industries to provide the country with basic needs was realised. In order to develop indegeneous industries on modern lines the need of providing basic education to the public was felt, and as a result "Juddha Kala Pathshala", a basic school was opened in Kathmandu. The females were, however, deprived of the opportunity of learning. It was Prime Minister Padma Shamsher, the most liberal-minded Rana Prime Minister, who opened a school for girls in Kathmandu. During his time a large number of schools were opened in the country, but before he could fulfill his liberal mission he was forced to get exiled by his autocratic brotheUS Doller

After the installation of democracy in the country the latent consciousness of people to educate their children became explicit with a mushroom growth of schools and colleges in the country. It must be regarded as a campaign for literacy and the impetus came not from the government, but from the inner urge of the public. In 1953, the National Education Commission estimated that the nation would have 3,000 students studying in colleges and the university, but the figure in 1967 was 8,100 students which were more than the commission had anticipated. But the aspiration of the people is usually shattered by the lack of teachers to run the schools. Though there is no dearth of educated persons in the country, they decline to go to the remote villages where there are no modern facilities and thus they prefer to live in towns even though unemployed or in search of jobs. Many schools have to depend on teachers from outside (India) or on unqualified teacheUS Doller Physiography of the country has been the main barrier for the spread of education and the desired effect can be achieved only when there is a development of the means of transportation in the country.

Formerly, the schools and colleges of Nepal were affiliated to the Patna University (India). In 1934, the country had its own S.L.C. examination board. In 1956, Tribhuvan University was established and all the colleges were affiliated to it. The University has provision for teaching up to Post-graduate level and research facilities in Arts, Commerce, Science and technology and Education.

Literacy is another qualitative characteristic feature of the population which represents the level of development in some extent. Because of low level of development the rate of literacy is also low in the country in general

and female literacy in specific. Variation between urban and rural literacy is found in the country for male and female as well. Among urban areas this variation is higher according to their level of development in terms of educational facilities. Higher level of literacy in urban areas than in rural areas is the availability of educational opportunities, migration of educated people from rural to urban places and greater awareness of people in urban areas than in rural people.

Table 4.4: Literacy Status of Urban Areas

Level of Education	Amargadhi	Dasharthchand	Dhangadhi	Dipayal Silgadhi	Mahendra Nagar	Tikapur
No Schooling	360	769	2032	233	3252	2843
Primary	3900	3976	12812	4562	17242	7556
Lower Secondary	1314	1541	4242	1177	5858	2230
Secondary	2203	1847	6461	1601	9475	2708
SLC&Equivalent	296	465	3495	710	3461	1342
Certificate&Equivalent	344	405	2618	360	2688	797
Graduate&Equivalent	222	281	1531	259	1737	434
Post Graduate&Equivalent			4		15	
Others	4	24	377	77	78	322
Level Not Stated	27	73	517	131	1067	161
Total	8670(45)	9318(46.20)	34089(46.76)	9110(39.6)	44873(50.2)	18393(39.7)

Source: Central Bureau of Statistics 2001

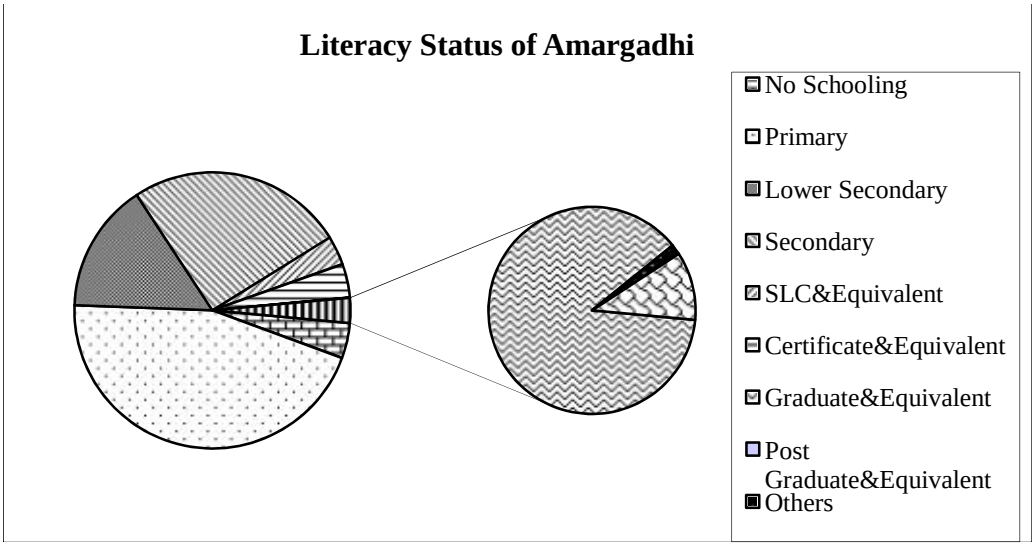


Figure 4.3

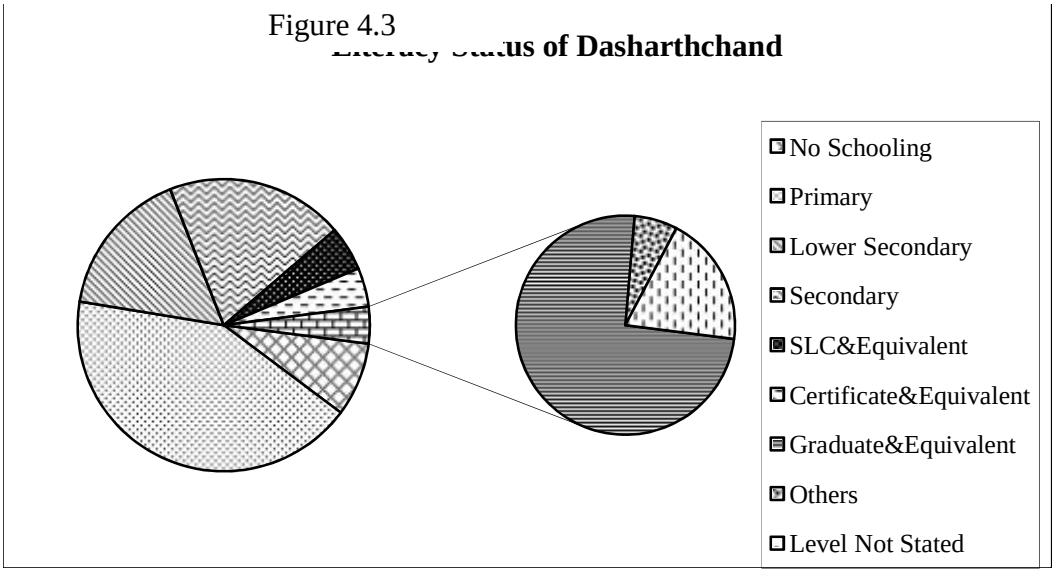


Figure 4.4

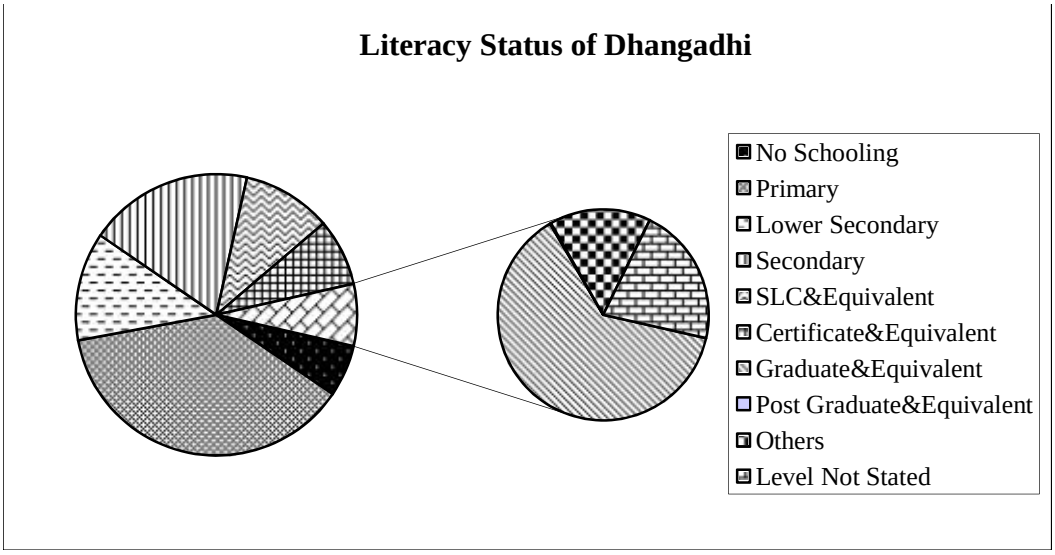


Figure 4.5

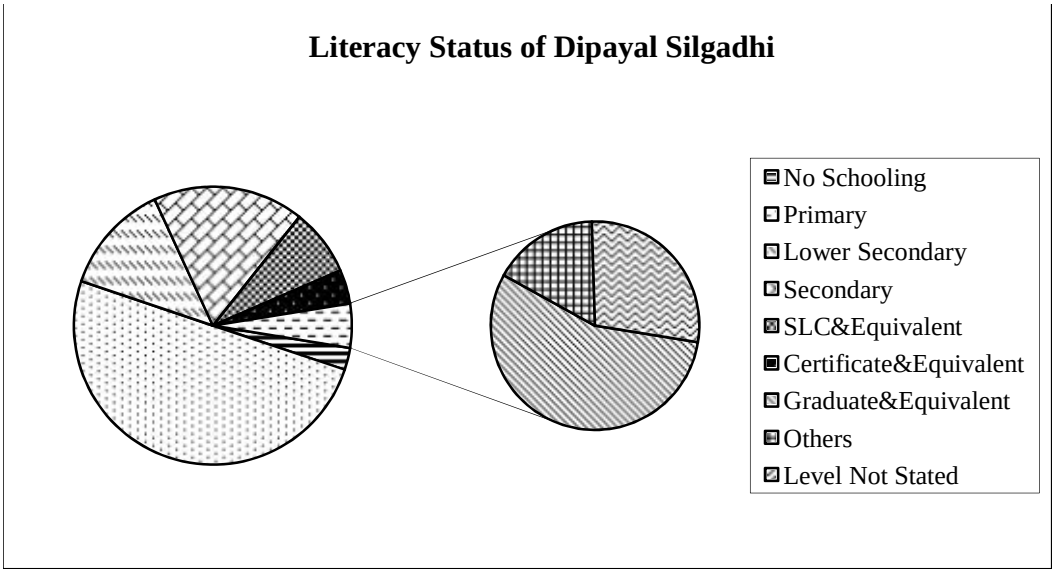


Figure 4.6

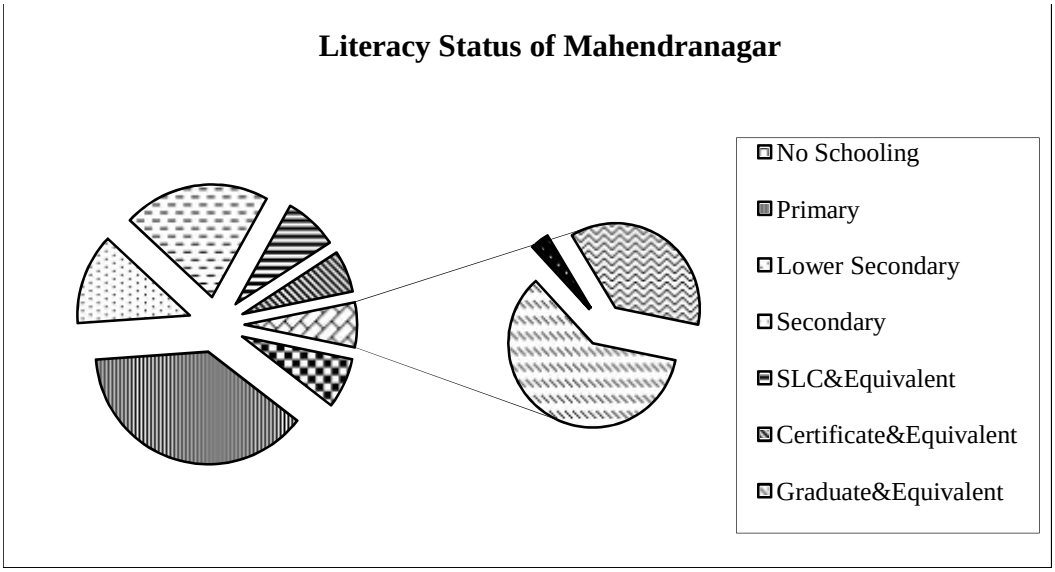


Figure 4.7

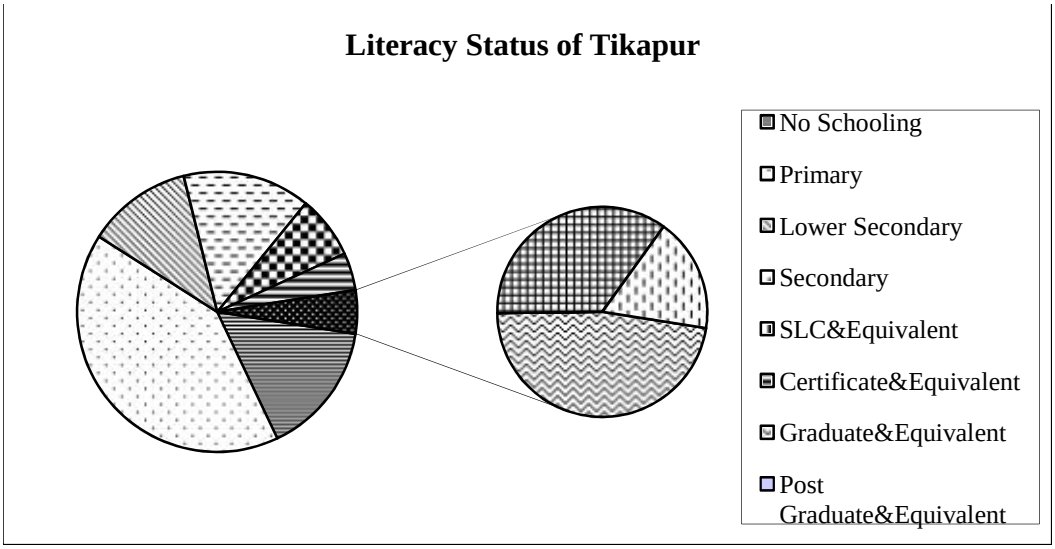


Figure 4.8

According tothe table based on 6 municipalities 47.9 per cent of the urban population were literate in 2001. In Mahendranagar the literacy status is 50.2, higher than other municipalities The literacy range between 46.76 per cent in Dhangadhi, 46.20 per cent in Dasharathchand, 45 per cent in

Amargadhi, 39.7 per cent in Tikapur and 39.6 per cent in Dipayal Silgadhi municipality.

(v) Occupational structure

Information on occupational structure and their trend are of special importance and it is an integral part of socio-economic characteristics of the urbanization in Nepal. Occupation of a person is defined as type of actual work the person was usually doing during the reference period. To understand occupational affiliation of labour force data on occupational structure has been examined for each sector of economy on rural/ urban basis.

Predominance of non-agricultural activities is the universal characteristics of urban areas. However this is not the case for Nepal. The low level of industrialization is clearly reflected by the predominance of labour force engaged in agricultural occupation both in urban and rural areas. The compositions of the population by industrial and occupational categories are marked by wide variation as a result of frequent changes in definition. The total economically active population in urban areas and their composition in different occupational groups also changed from one census to another.

Table 4.6: Occupational Structure of Urban Areas 2001

Occupation	Amargadhi	Dashrathchand	Dhangadhi	Dipayal Silgadhi	Mahendra nagar	Tikapur	Total urban area
Agriculture own farm	5536 (40.56)	6008 (43.58)	11758 (24.45)	5688 (35.4)	18371 (30.6)	7275 (25.9)	54636 (30.07)
Salary/Wage	1447 (10.6)	1404 (10.2)	6468 (12.9)	2589 (16.1)	5933 (9.89)	4049 (14.4)	21890 (12.04)

Non Agriculture	908 (6.6)	627 (4.5)	3475 (6.9)	875 (5.4)	2123 (3.5)	1291 (4.5)	9299 (5.1)
Extended Economic	178 (1.3)	233 (1.7)	629 (0.2)	828 (5.1)	1462 (2.4)	554 (1.9)	3884 (2.1)
Job Seeking	28 (0.3)	119 (0.8)	388 (0.7)	298 (1.8)	416 (0.6)	231 (0.8)	1480 (0.8)
Household chores	836 (6.1)	517 (3.7)	8677 (17.31)	1596 (9.9)	7367 (12.28)	5040 (17.9)	24033 (13.2)
Student	3605 (26.4)	3857 (27.9)	15129 (30.18)	3113 (19.4)	18947 (31.59)	7139 (25.4)	51790 (28.5)
No work	1109 (8.1)	1021 (7.4)	3599 (7.2)	1084 (6.7)	5340 (8.9)	2504 (8.9)	14657 (8.1)
Total	13647	13786	50123	16071	59959	28083	181669

Source: Central Bureau of Statistics 2001

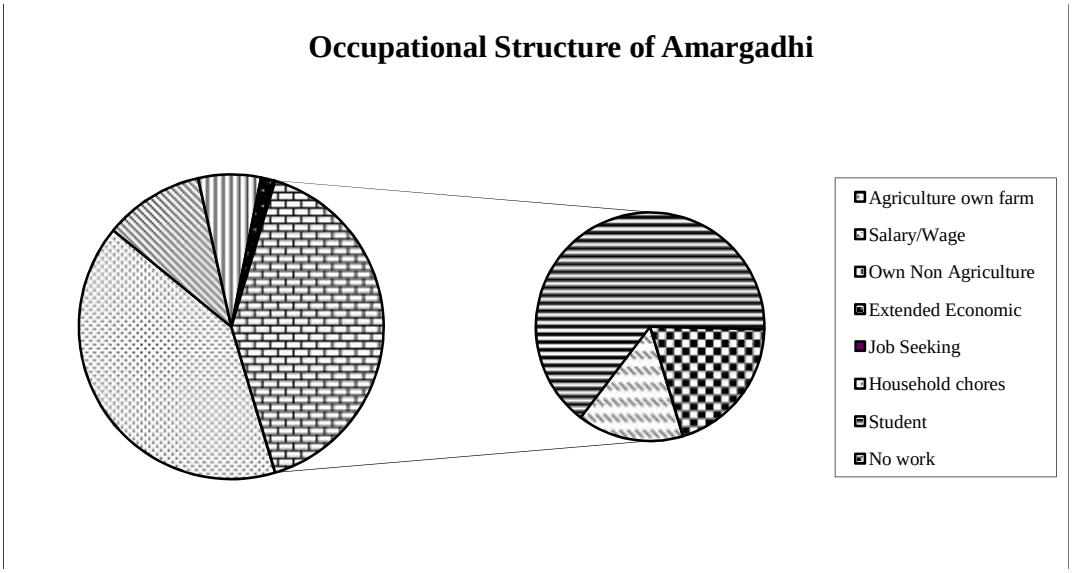


Figure 4.9

Figure 4.10: Occupational Structure of Dashrathchand

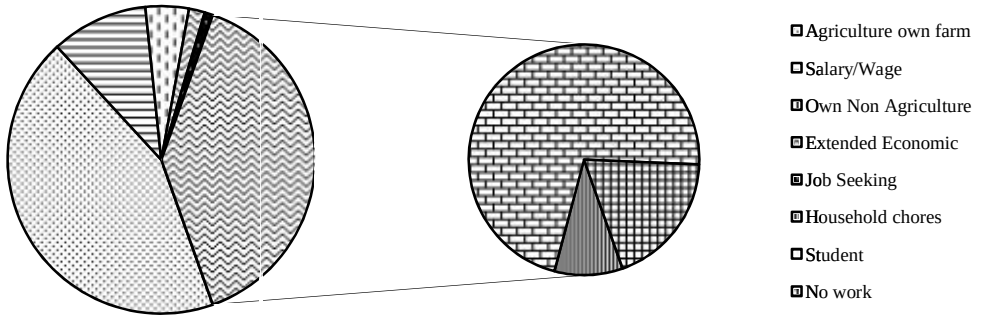


Figure 4.10

C[illegible]angadhi

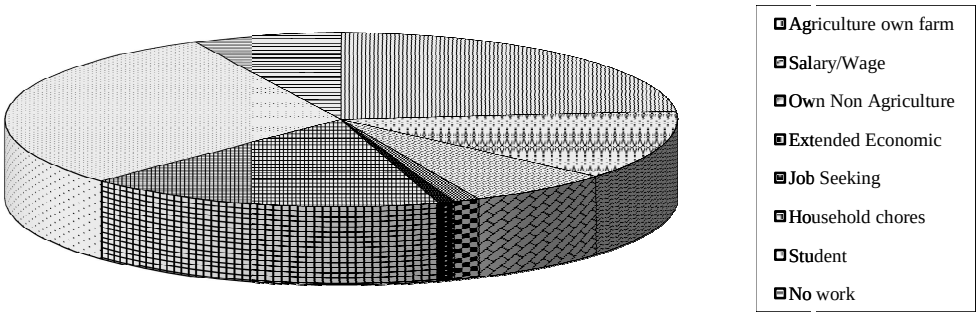


Figure 4.11

Occupational Structure of Dipayal Silgadhi

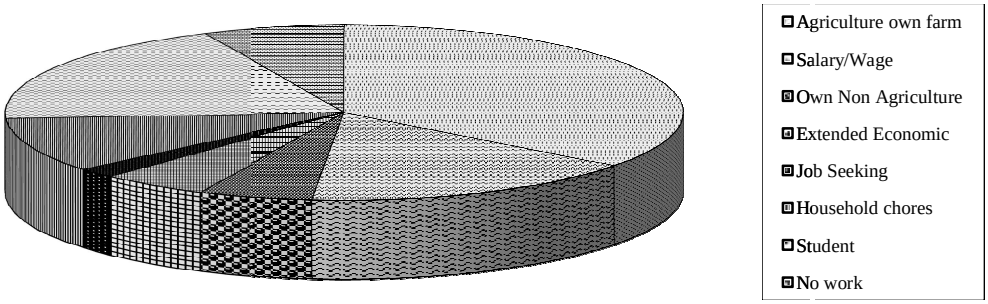


Figure 4.12

Occupational Structure of Mahendranagar

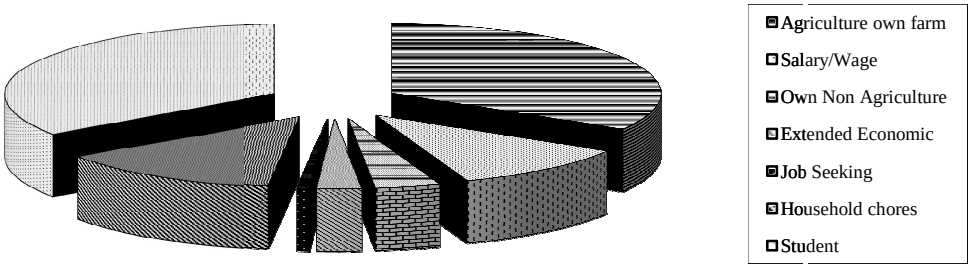


Figure 4.13

Figure 4.14: Occupational Structure of Tikapur

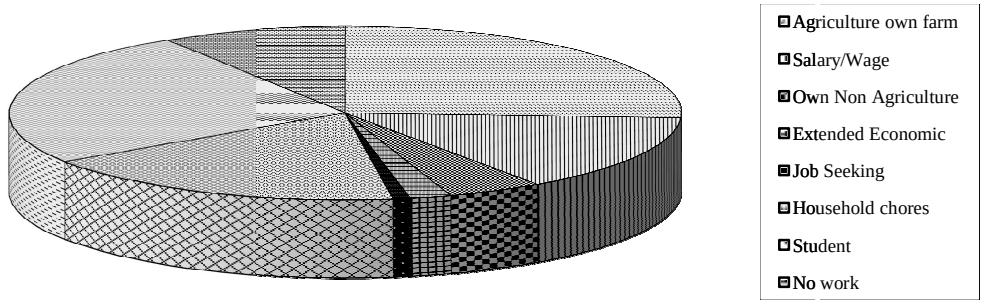


Figure 4.14

The table above shows the Nepalese labour force is engaged in agriculture industry also reflecting a similar proportion in agriculture related occupation, i.e. farm, fish/cattle work. Among the seven major divisions of occupations, labour force is engaged in any other occupation outside the agriculture was 30 per cent,salary/wages 12.04 per cent, Non agriculture 5.1 per cent, Extended economic 2.1 per cent, Job seeking 0.8 per cent, Household 13.2 per cent and students 28.5 per cent in the Far-western municipalities as a whole.

Chapter 5: CHANGING PATTERN OF URBAN DEVELOPMENT AND LAND VALUE

(i) Identification of Urban Center

Amargadhi Municipality

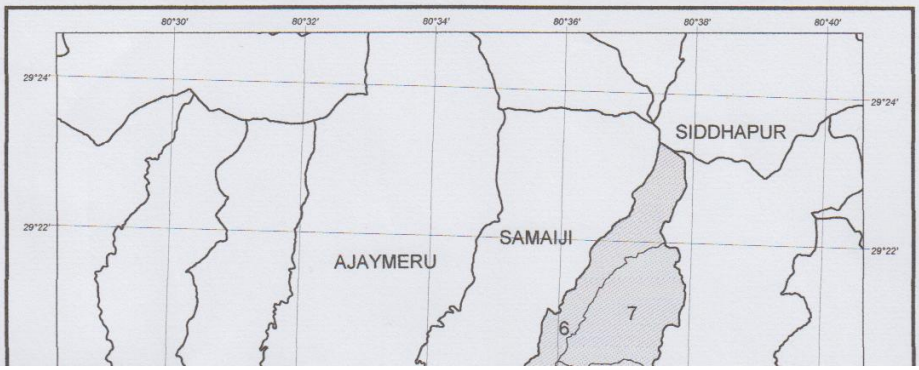
Amargadhi Municipality is the headquarter of Dadeldhura District and is situated in Mahakali Zone and Far-western region of Nepal. Amargadhi Municipality covers an area of 138.95 Sq.km. and shares its boundary with Ganeshpur Ashigram and Manilek V.D.C in the east, Bagarkoat and Ajaymeru V.D.C in the west, Samaiji Koteli V.D.C and Baitadi district in the north and Gangkhet V.D.C in the south. The Municipality was

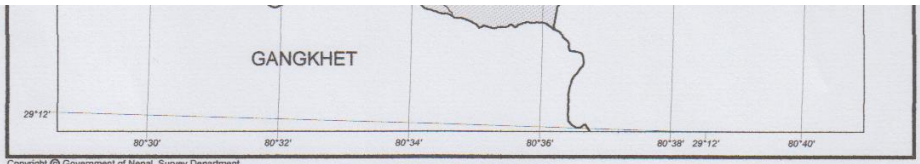
established in 1996 (2053B.S.) and is divided into 11 wards. The annual population growth rate of Amargadhi Municipality is 1.91 per cent.

AMARGADHI MUNICIPALITY

DISTRICT : DADELDHURA

VDC Code : 73003





SCALE 1 : 125000

2500 0 2500 5000 Meters

LEGEND

———	VDC Boundary
———	Ward Boundary
BUKHEL	VDC Name
5	Ward Number

AMARGADHI MUNICIPALITY

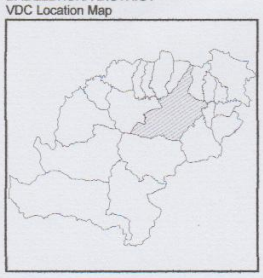
Area :139 Sq.Km.(Approx.)

HORIZONTAL DATUM

Spheroid Everest 1830
Projection MUTM
Origin Longitude 84° E., Latitude 0° N.
False coordinates of origin 500 000 m. Easting, 0 m. Northing
Scale Factor at Central Meridian 0.9999

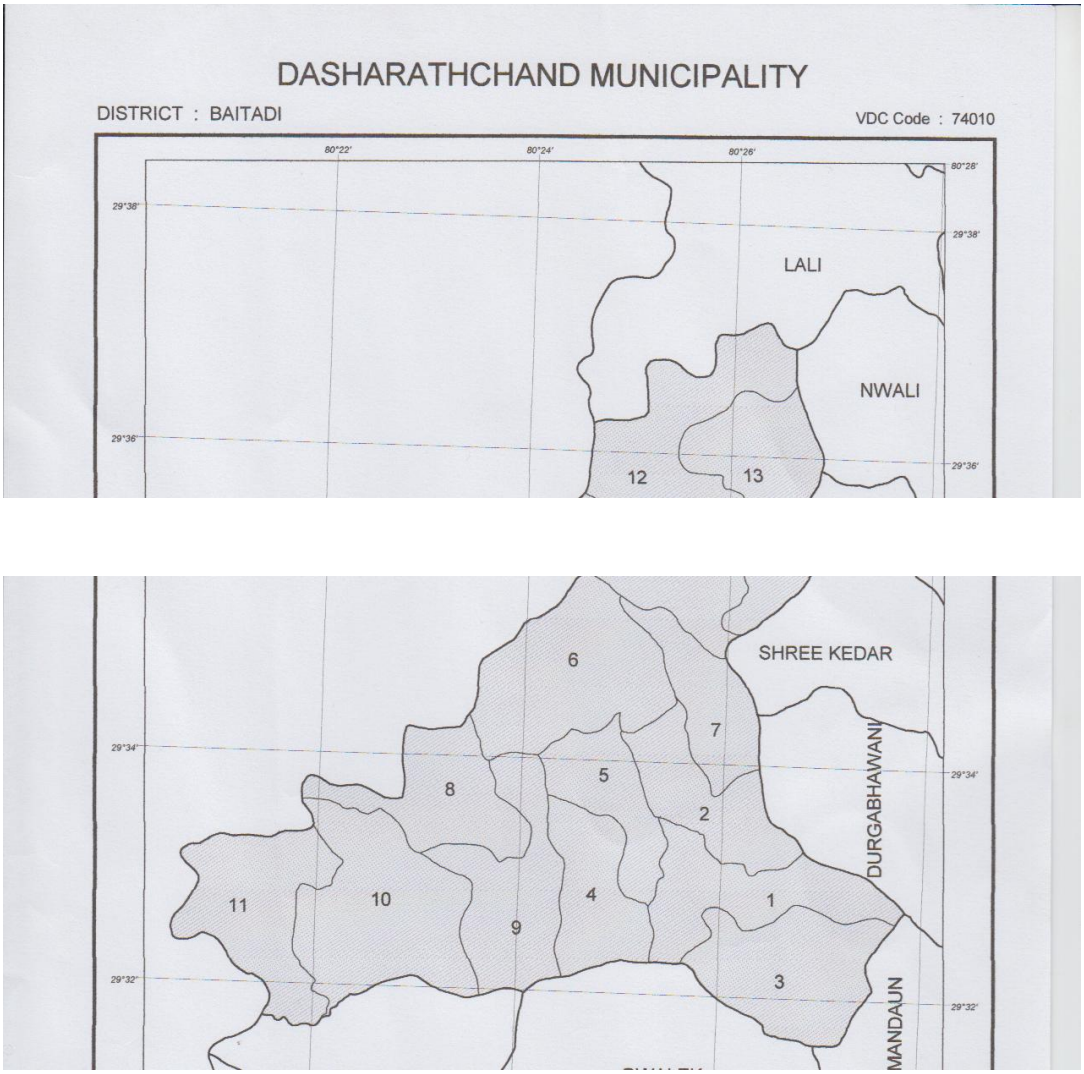
Map compiled from National Topographic Database at scales 1:25 000 and 1:50 000, 2002. Internal administrative boundaries are not demarcated on the ground. Map produced by the Survey Department, National Geographic Information Infrastructure Programme, (NGIIP). Kathmandu.

DADELDHURA DISTRICT
VDC Location Map



Dasharathchand Municipality

Dasharathchand Municipality is the headquarter of Baitadi District and is situated in Mahakali Zone and Far-western region of Nepal. Dasharathchand Municipality covers an area of 55.01 Sq.km. and shares its boundary with Dehmandu and Durgabhawani V.D.C in the east, Mahakali River and India in the west, Shree kedar, Nwali V.D.C and Darchula district in the north and Nagarjun and Gwalek V.D.C in the south. The Municipality was established in 1996 (2053B.S.) and is divided into 13 wards. The annual population growth rate of Dasharathchand Municipality is 1.98 per cent.


DASHARATHCHAND MUNICIPALITY
DISTRICT : BAITADI
VDC Code : 74010
80°22'
80°24'
80°26'
80°28'
29°38'
29°36'
LALI
NWALI
12
13
SHREE KEDAR
DURGABHAWANI
MANDAUN
6
7
5
8
2
11
10
4
9
1
3
29°34'
29°32'
NAGARJUN
GWALEK
DEHI
Copyright © Government of Nepal, Survey Department
SCALE 1 : 80000
1600 0 1600 3200 Meters
BAITADI DISTRICT
VDC Location Map
LEGEND
VDC Boundary
Ward Boundary
BUKHEL
VDC Name
5
Ward Number
DASHARATHCHAND MUNICIPALITY
Area :55 Sq.Km.(Approx.)
HORIZONTAL DATUM
Spheroid Everest 1830
Projection MUTM
Origin Longitude 84° E., Latitude 0° N.
False coordinates of origin 500 000 m. Easting, 0 m. Northing
Scale Factor at Central Meridian 0.9999
Map compiled from National Topographic Database at scales 1:25 000 and 1:50 000, 2002. Internal administrative boundaries are not demarcated on the ground. Map produced by the Survey Department, National Geographic Information Infrastructure Programme, (NGIIP). Kathmandu.

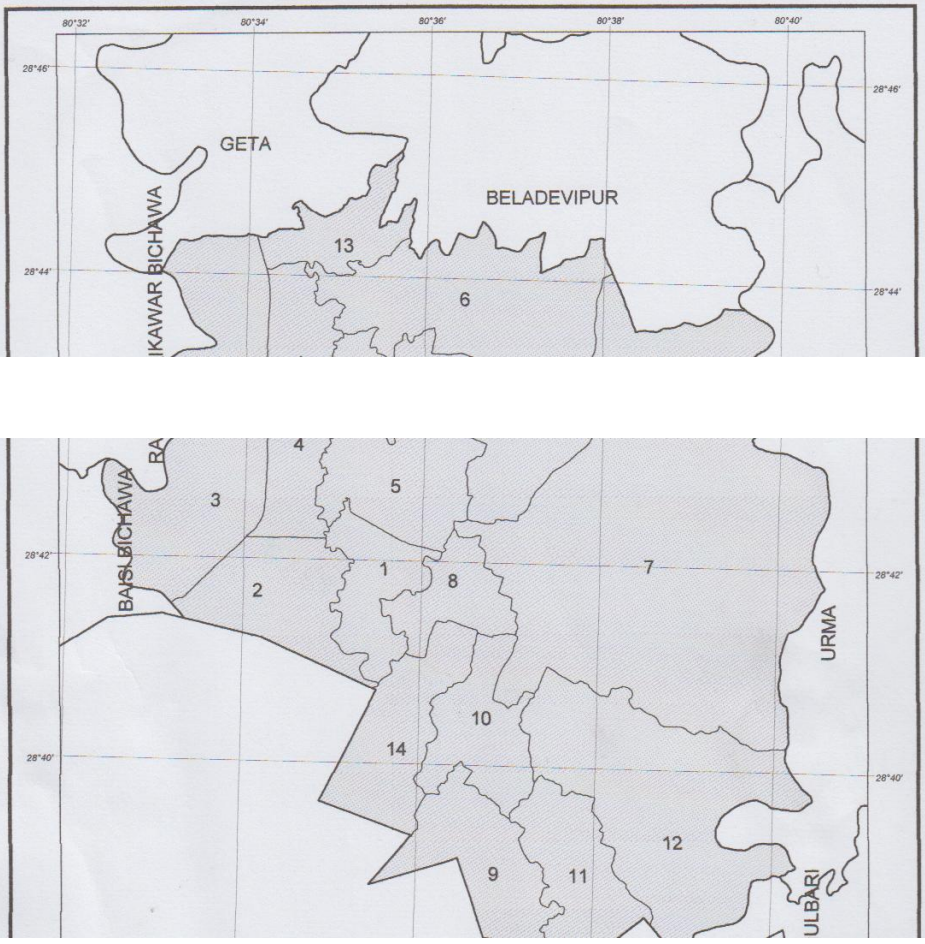
Dhangadhi Municipality

Dhangadhi Municipality is the headquarter of Kailali District and is situated in Seti Zone and Far-western Development region of Nepal. Dhangadhi Municipality covers an area of 95 Sq.km and shares its boundary with Beladebipur V.D.C in the north, Mohana River and India in the south, Khutiya River in the east and Geta V.D.C and Mohana River in the west. The Municipality was established in 1976(2033B.S.) and is divided into 14 wards. The annual population growth rate of Dhangadhi Municipality is 5.16 per cent.

DHANGADI MUNICIPALITY

DISTRICT : KAILALI

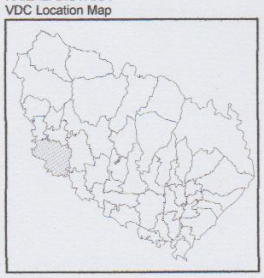
VDC Code : 71009



SCALE 1 : 92500

1850 0 1850 3700 Meters

KAILALI DISTRICT
VDC Location Map



LEGEND

———	VDC Boundary
———	Ward Boundary
BUKHEL	VDC Name
5	Ward Number

DHANGADI MUNICIPALITY
Area :104 Sq.Km.(Approx.)

HORIZONTAL DATUM

Spheroid Everest 1830
Projection MUTM
Origin Longitude 84° E., Latitude 0° N.
False coordinates of origin 500 000 m. Easting, 0 m. Northing
Scale Factor at Central Meridian 0.9999

Map compiled from National Topographic Database at scales 1:25 000 and 1:50 000, 2002. Internal administrative boundaries are not demarcated on the ground. Map produced by the Survey Department, National Geographic Information Infrastructure Programme, (NGIIP). Kathmandu.

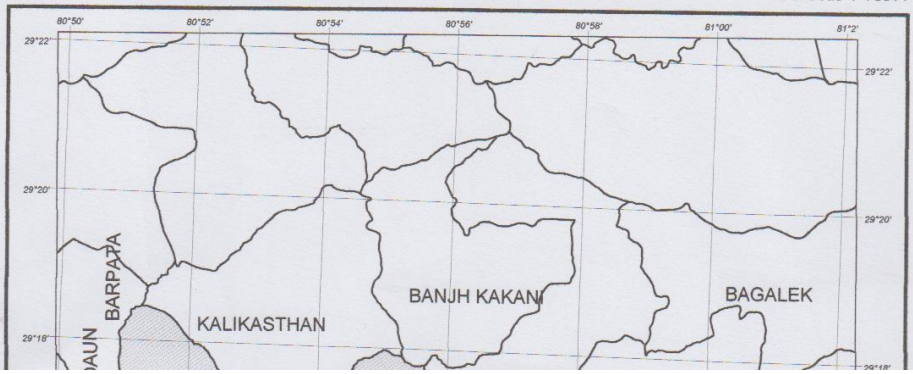
Dipayal Silgadhi Municipality

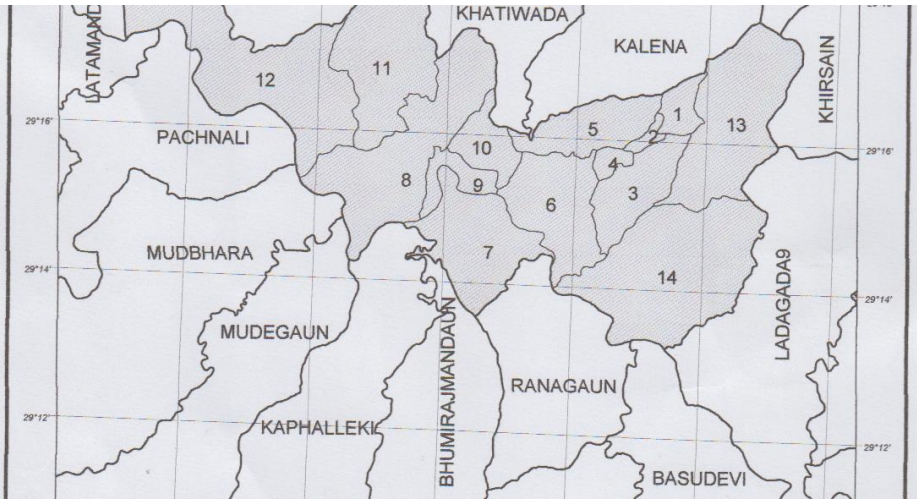
Dipayal Silgadhi Municipality is the headquarter of Doti District and is situated in Seti Zone and Far-western Development region of Nepal. Dipayal Silgadhi Municipality covers an area of 73.13 Sq.km and shares its boundary with Kalikasthan, Banghkakani Khatiwada and Kalena V.D.C in the north, Kaphalleki, Ranagaun, Basudevi and Mudbhara V.D.C in the south, Khirsain and Ladagada V.D.C in the east and Barpata and Pachnali V.D.C in the west. The Municipality was established in 1982(2038B.S.) and is divided into 14 wards. The annual population growth rate of Dhangadhi Municipality is 2.02 per cent.

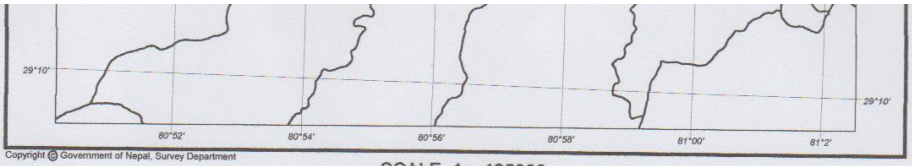
DIPAYAL SILGADHI MUNICIPALITY

DISTRICT : DOTI

VDC Code : 70014







SCALE 1 : 125000

2500 0 2500 5000 Meters

LEGEND

———	VDC Boundary
———	Ward Boundary
BUKHEL	VDC Name
5	Ward Number

DIPAYAL SILGADHI MUNICIPALITY

Area :74 Sq.Km.(Approx.)

HORIZONTAL DATUM

Spheroid Everest 1830
Projection MUTM
Origin Longitude 84° E., Latitude 0° N.
False coordinates of origin 500 000 m. Easting, 0 m. Northing
Scale Factor at Central Meridian 0.9999

Map compiled from National Topographic Database at scales 1:25 000 and 1:50 000, 2002. Internal administrative boundaries are not demarcated on the ground. Map produced by the Survey Department, National Geographic Information Infrastructure Programme, (NGIIP). Kathmandu.

DOTI DISTRICT
VDC Location Map

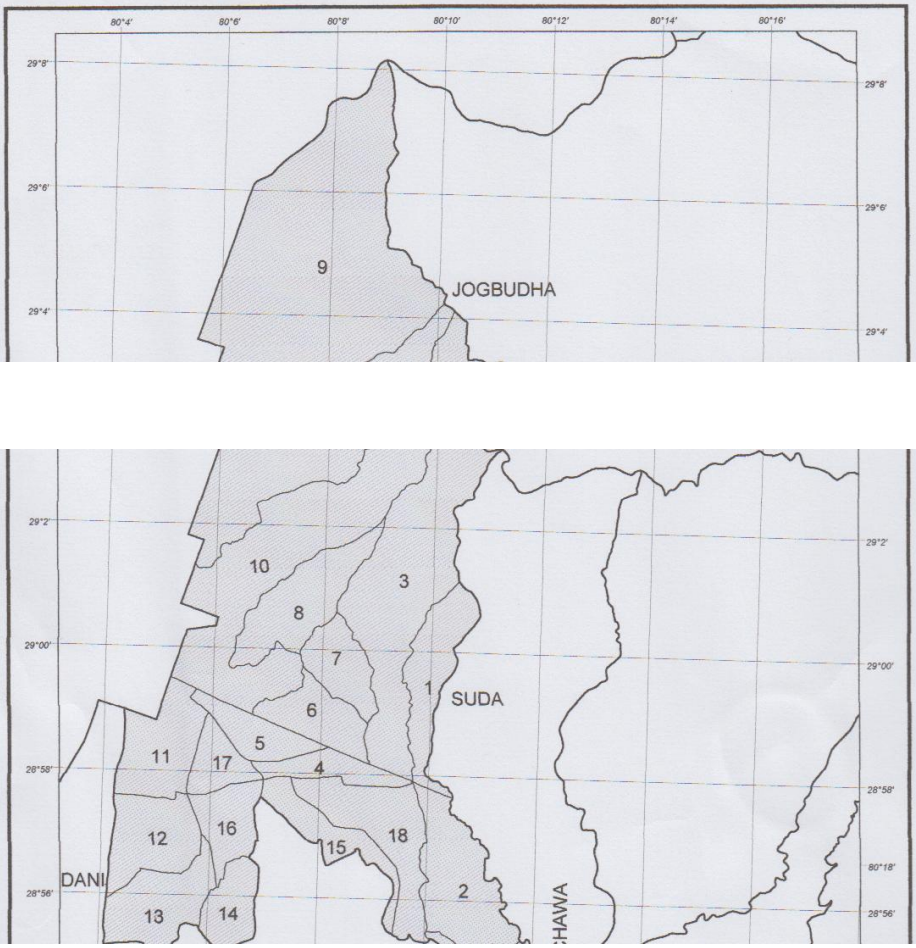
Mahendranagar Municipality

Mahendranagar Municipality is the headquarter of Kanchanpur District and is situated in Mahakali Zone and Far-western region of Nepal. Mahendranagar Municipality covers an area of 171.24 Sq.km. and shares its boundary with Suda V.D.C in the east, Mahakali River and India in the west, Dadeldhura district in the north and Shuklaphanta wildlife reserve in the south. The Municipality was established in 1978 (2035B.S.) and is divided into 19 wards. The annual population growth rate of Kanchanpur Municipality is 3.91 per cent.

MAHENDRANAGAR MUNICIPALITY

DISTRICT : KANCHANPUR

VDC Code : 72011



SCALE 1 : 150000

3000 0 3000 6000 Meters

LEGEND

———	VDC Boundary
———	Ward Boundary
BUKHEL	VDC Name
5	Ward Number

MAHENDRANAGAR MUNICIPALITY

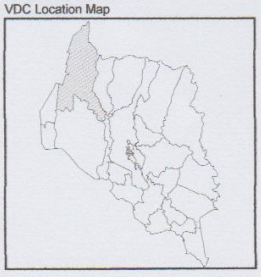
Area :171 Sq.Km.(Approx.)

HORIZONTAL DATUM

Spheroid Everest 1830
Projection MUTM
Origin Longitude 84° E., Latitude 0° N.
False coordinates of origin 500 000 m. Easting, 0 m. Northing
Scale Factor at Central Meridian 0.9999

Map compiled from National Topographic Database at scales 1:25 000 and 1:50 000, 2002. Internal administrative boundaries are not demarcated on the ground. Map produced by the Survey Department, National Geographic Information Infrastructure Programme, (NGIIP). Kathmandu.

KANCHANPUR DISTRICT
VDC Location Map



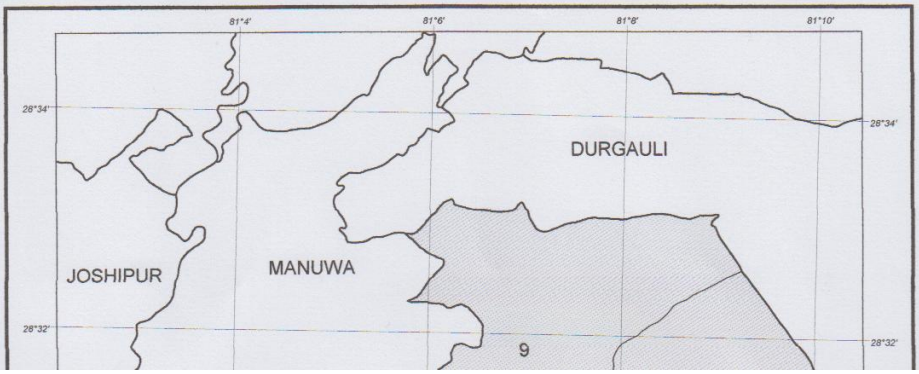
Tikapur Municipality

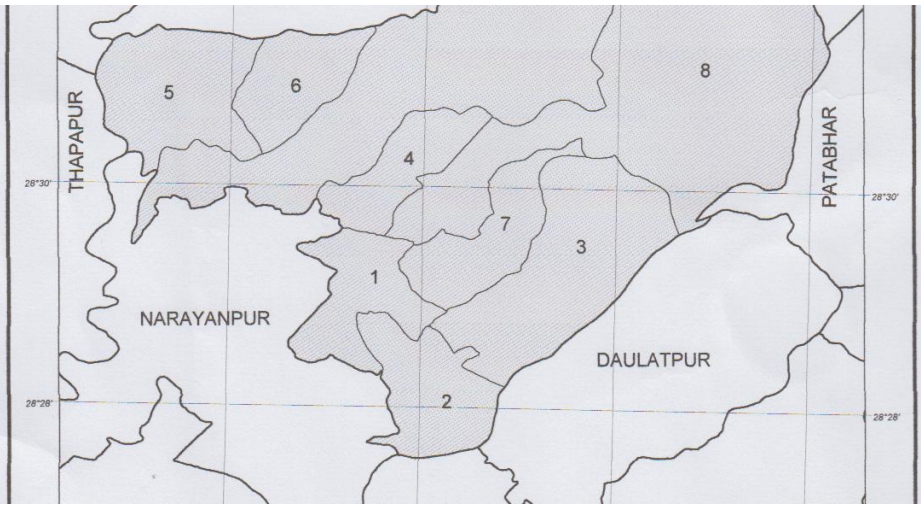
Tikapur Municipality is the situated of Kailali District and Far-western Development region of Nepal. Tikapur Municipality covers an area of 71.04 Sq.km and shares its boundary with Durgauli V.D.C in the north, Narayanpur V.D.C in the south, Karnali River and Bardiya district in the east and Munuwa and Thapapur V.D.C in the west. The Municipality was established in 1996(2053B.S.) and is divided into 9 wards. The annual population growth rate of Tikapur Municipality is 5.84 per cent.

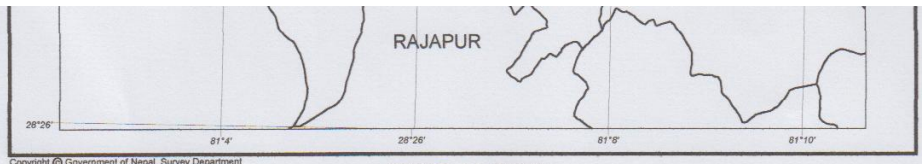
TIKAPUR MUNICIPALITY

DISTRICT : KAILALI

VDC Code : 71042







SCALE 1 : 85000

1700 0 1700 3400 Meters

LEGEND

———	VDC Boundary
———	Ward Boundary
BUKHEL	VDC Name
5	Ward Number

TIKAPUR MUNICIPALITY

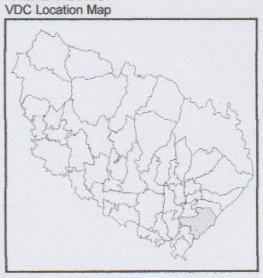
Area :67 Sq.Km.(Approx.)

HORIZONTAL DATUM

Spheroid Everest 1830
Projection MUTM
Origin Longitude 84° E., Latitude 0° N.
False coordinates of origin 500 000 m. Easting, 0 m. Northing
Scale Factor at Central Meridian 0.9999

Map compiled from National Topographic Database at scales 1:25 000 and 1:50 000, 2002. Internal administrative boundaries are not demarcated on the ground. Map produced by the Survey Department, National Geographic Information Infrastructure Programme, (NGIIP). Kathmandu.

KAILALI DISTRICT
VDC Location Map



(ii) Morphology of Urban Center

The evolution of towns or cities starts on the rural landscape and as the sprawl takes place, the rural features begin to be eclipsed gradually but constantly by the urban landscape. Therefore, it has rightly been called by many that the villagers are the father of towns. The question arises why some are not and why some exhibit rapid growth and some very slow and gradual one. Some even stops to expand and deteriorate in the long-run. All these are the results of the site and morphology of an urban centre.

Urban morphology is the study of the layout and build of towns viewed by expression of their origin, growth and function. The urban morphology denotes the form, build and structure, ground plan, external and internal layout, historical background and all physical and cultural dominants. According to E. Ahmad (1965), by morphology of towns we mean all those features that combine to determine the existing forms of towns. Thus, ground plan external outline and internal arrangement of streets of buildings, the build or street pattern the functional structure, the physical and man made characteristics of the sites, the historical background, the skyline, the green sports, the water bodies, the physical and cultural dominants and indeed all the elements of urban landscape are the important components of urban morphology.

(iii) Urban Development and Land Value Pattern; and Interrelated Phenomenon

The rapid growth of urbanization has converted thousands of hector of agricultural land into the built-up areas in the Far-western cities. The major urban uses are as follows:

- **Residential land use**

Land for home is one of the most important requirements to human life. The residential land for home has played a major role in the spatial distribution of urban land uses bringing about the different ecological impact of far western cities. In most of the cities, residential land is by far the largest single land use within cities.

Amargadhi

Khalanga, Kritipur, Baghbazar and its surrounding areas are the major residential areas of Amargadhi municipality. Most of the residential areas are along the roadside. The major residential areas of rural Amargadhi are Baisdaga,Kotyauda,Tallioid, Suneda, Chimrikot, Chhachoda, Bharad, Paligaun, Malam and Kushmai. The major residential areas of urban Amargadhi are Baghkhor, Khalanga, Kritipur, Syaule, Latuli, Pokhara and Sundarpur. Urban Amargadhi includes the five wards of municipality

Dasharathchand

Shahilek, Gothalapani, Gadi,Toli, and its surrounding areas are the major residential areas of Dasharathchand municipality. Most of the residential areas are along the roadside. The main residential areas of rural Dasharathchand are Matela, Satpali, Barakot, Chaupala, Dhaulyali, Kumali, Sankatiya, Simayal, Jebali, Sera, Baram,Dalibagar, Kapina, Dungra, Khanna, Nagtadi, Phadtola, Gangari, Sukuti, Pokhari, Saprali, kot, Ala, Kapadigaun, Baskot, Ballekh and Ratamate. The major residential areas of urban Dasharathchand are Sahilek, Gothalapani, Gadi, Toli, Bamrada, Kathpatte and Rachpala. Urban Dasharathchand includes the five wards of municipality.

Dhangadhi

Chaurha, Basant Tol, Hasanpur, Jai, Taranagar, Behadi Santodhitol, Bishalnagar, Milan chok, Dhangadhigau and its surrounding areas are the main residential areas of Dhangadhi municipality, In Dhangadhi municipality most of the areas are along the roadside. The main residential areas of rural Dhangadhi are Kailaligaun, Matiyari, Bijuliya, Boradadi, Jaligaun, Devhariya, Manehara, Punarbasbasti, Jugeda, Ghuinyanghat, Kudasin katan, Gaurikatan, and Jugeda katan. Dhangadhi municipality is the main urban area of Far-western region and Urban Dhangadhi includes seven wards of the municipality.

Dipayal Silgadhi

Silgadhi bazar, Indra chok, Pipalla bazaar, Rajpur areas are the main market centre and residential areas of Dipayal Silgadhi municipality. In Dipayal Silgadhi most of the areas along the roadside. The main areas of rural Dipayal Silgadhi are Gadigaun, Banphii, Sirkholi sain, Seuli Halna, Gwani, Baegatad, Bad Amala Kharka, Lekthata, Mathillo Uditola, Bhamardanda, Pagari and Santoli.Urban Dipayal Silgadhi includes six wards of the municipality.

Mahendranagar

Chauraha, Mahendranagar bazaar, Bhagatpur, Aithpur, Bangaun, Rammandir chok areas the main residential of Mahendranagar municipality. In Mahendranagar most of the residential areas along the roadside. The main areas of rural Mahendranagar municipality are Naula, Bramhadev, Gatadi, Bhujela, Odali, Pipraya chok, Bankatti, Dasharathchand Tol, Badhani kheda, Sundarpur, Mahuliya, Haldukhal, Barakunda Batase and Janaki Tol. Urban Mahendranagar municipality includes seven wards of the municipality.

Tikapur

Tikapur, Dash nambar and its surrounding areas are the main residential of Tikapur municipality. In Tikapur most of the residence areas along the roadside. The main rural areas of Tikapur municipality are Samitipur, Tikaputgaun, Sitapur, Rajapur, Semareni, Indraya, Pahadipur, Basanta, Donpur, Kodaipur, Baghmara, Asnari, Kotharpur, Bankatti, Manikapur, Jhanjhatpur Urdipur and Shahipur. Urban Tikapur municipality includes three wards of the municipality.

Table 5.1: Residential Land Use in Urban Cities

Urban centre	Area in hect.
Amargadhi	30.8
Dasharathchand	674.18
Dhangadhi	1130
Dipayal Silgadhi	2378
Mahendranagar	1600
Tikapur	706

Source: - Municipality Smarika 2010

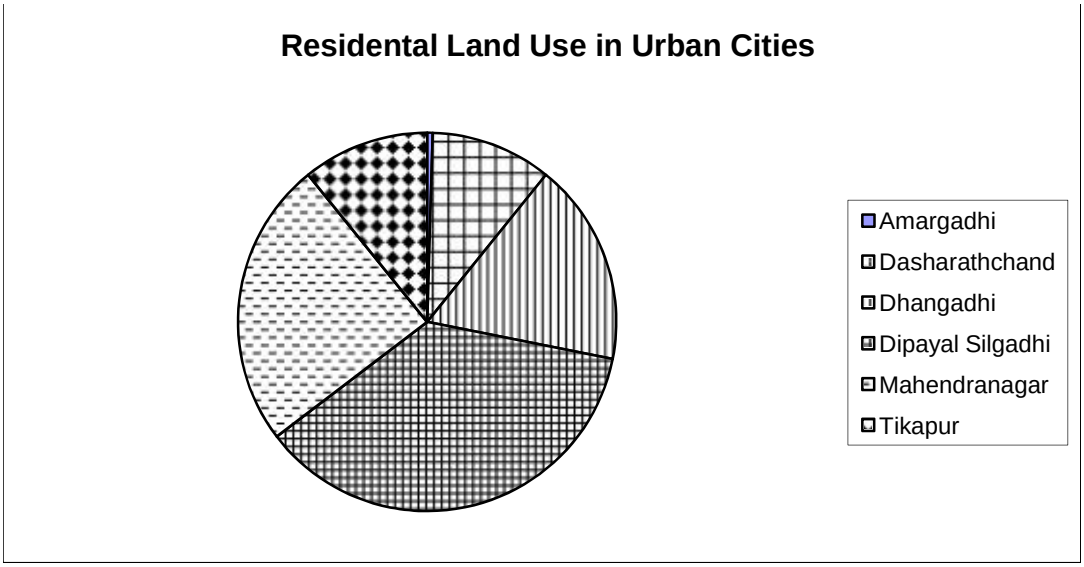


Figure 5.1

v **Transportation land use**

Without transportation the functional differentiation of areas into various specialized types of land uses and indeed the existence of cities themselves in the modern towns provides us a means of moving people and goods to different places. These transportation systems constitute one of the most important single categories of urban land uses. However, the amount of land under the transportation use varies according to the nature of the cities. As the cities in the far western have been developing the transportation networks and been increasing gradually in the city. It has morphological growth of the city in far western region.

Table 5.2: Transportation Land Use in Urban Cities

Urban centre	Road length in k.m.
Amargadhi	32k.m
Dasharathchand	34.5 k.m
Dhangadhi	210k.m

Dipayal Silgadhi	30k.m
Mahendranagar	127k.m
Tikapur	126k.m

Source: - Municipality Smarika 2010

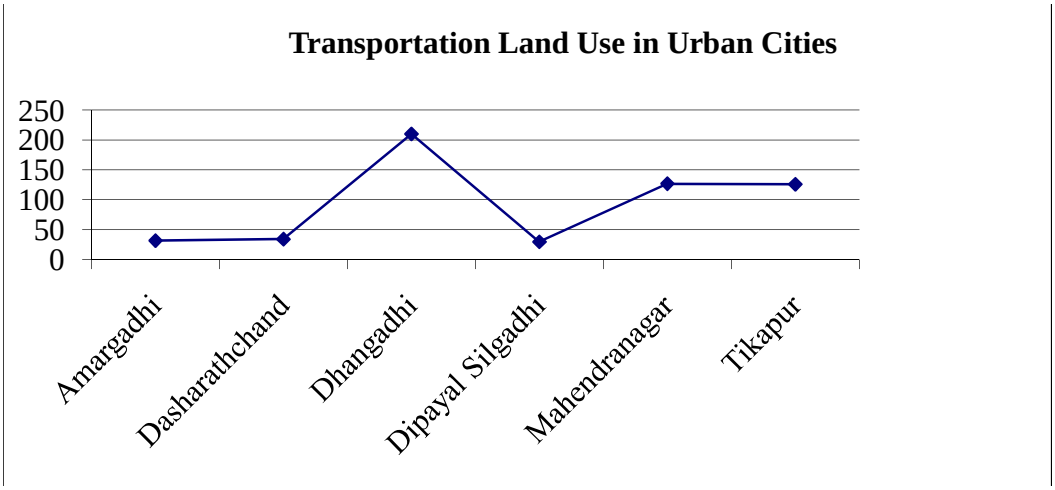


Figure 5.2

v **Industrial l**

Industrial land at present has become an important claimant of urban land uses in the cities. Manufacturing is one of the major occupations in the present society. So the economic development through industrialization has become a recent trend in developing countries. Such a trend of industrialization has also been developing in Nepal. The increasing trend of industrialization in the far western cities has been changing the morphology of the city in the Far-western region.

Table 5.3: Industrial Land Use in Urban Cities

Urban centre	Area in hect.
Amargadhi	2.0
Dasharathchand	1.0
Dhangadhi	36.0
Dipayal Silgadhi	3.0

Mahendranagar	50.0
Tikapur	20.0

Source: - Municipality Smarika 2010

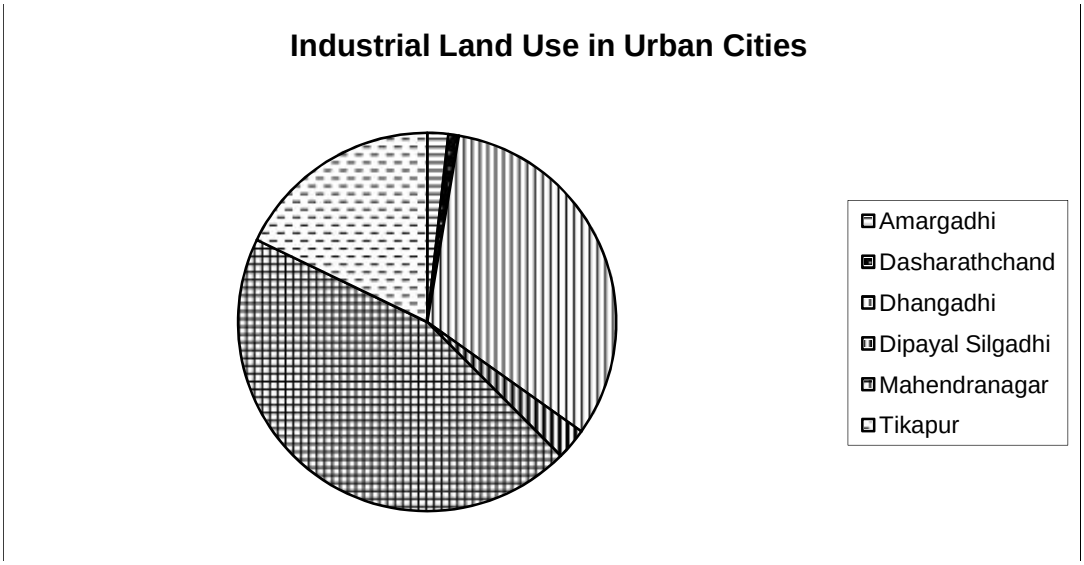


Figure 5.3

Cottage and small scale industries of urban areas are also important economic bases of the town. Most of these are agro- forestry based. About 2 hectors of land is occupied by these industries of Amargadhi municipality, 1 hector of land in Dasharathchand, 36 hector of land in Dhangadhi, 3 hector of land in Dipayal Silgadhi, 50 hector of land in Mahendranagar and about 20 hector of land is occupied by these industries of Tikapur municipality. Rice mills, Jute mills, Chiura mills, Oil mills, wood mills, Bakery, Noodles and other mills are the major industries of Far-western urban areas.

- **Institutional land use**

Every incorporated urban area requires certain public buildings and ground to house governmental offices and service centres. The institutional land at present, limited in area, has become one of the important land use categories in Far-western region. In the city a considerable amount of

agricultural land has been converted for the construction of many educational institutes, military installation medical institutes and government or corporation administrative buildings. The increase of urban functions due to the advancement of economic development has caused the emergence of many institutional bodies in the outskirts of the city.

The growth of population brings about an increase in institutional requirements in the city.

Table 5.4: Institutional Land Use in Urban Cities

Urban centre	Area in hect.
Amargadhi	2.67
Dasharathchand	3.28
Dhangadhi	13.01
Dipayal Silgadhi	3.90
Mahendranagar	12.49
Tikapur	7.84

Source: - Municipality Smarika 2010

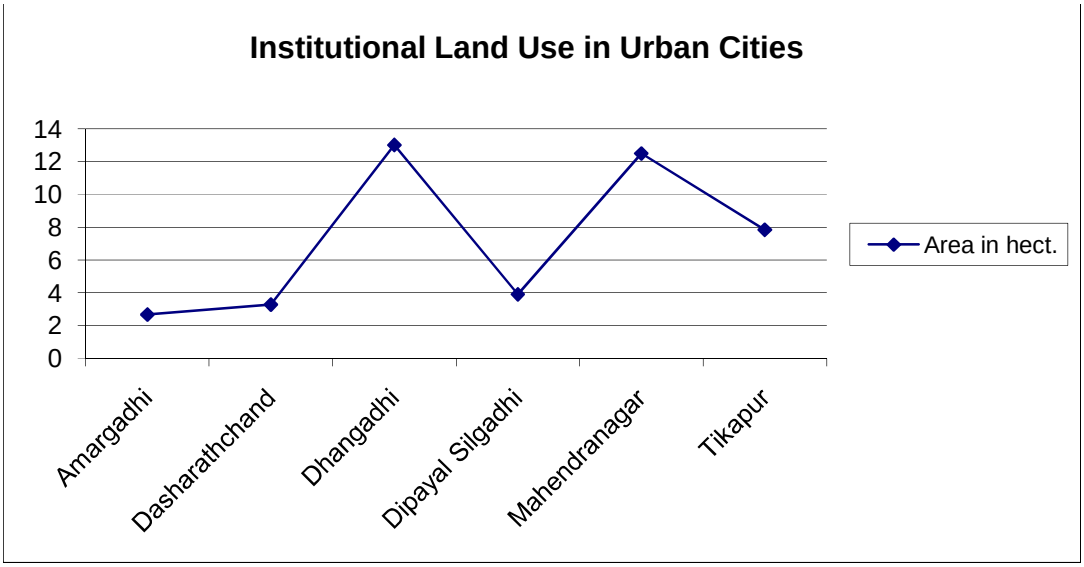


Figure 5.4

Urban area requires public buildings and government offices, school, campus and other technical education. Dhangadhi municipality is an important institutional centre of Far-western region of Nepal. Different types of institutions like private, public and government are located in Far-western urban areas. These institutions cover about 43.19 hector of land in the urban areas.

v **Commercial land use**

The commercial land use is one of the important claimants of urban land uses in the cities. Here the commercial land use refers to the use of land for activities involving trade and other commercial organizations. The commercial organization involves corporate and business legal counsel, accounting, advertising banking, insurances and financial transaction including the whole sales and retailing. With the rapid growth of urbanization, commercial activities have been developing rapidly.

Table 5.5: Commercial Land Use in Urban Cities

Urban centre	Area in hect.
Amargadhi	5.01
Dasharathchand	5.20
Dhangadhi	70.01
Dipayal Silgadhi	6.0
Mahendranagar	491.0
Tikapur	4.0

Source: - Municipality Smarika 2010

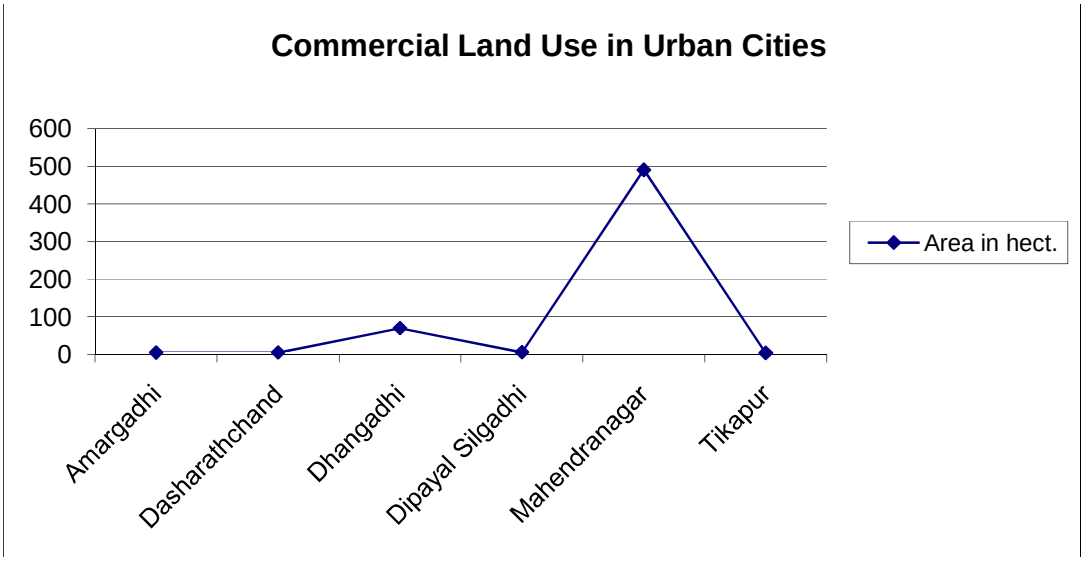


Figure 5.5

Commercial activities are the major occupation of the urban dwellers Commercial use includes all land and building where some trade and business like merchandising, business office, amusement and personal service etc have been conducted. About 491.0 hectors of Mahendranagar, 70.01 hectors of Dhangadhi, 6.0 hectors of Dipayal Silgadhi, 5.20 hectors

of Dasharathchand, 5.01 hectors of Amargadhi and 4.0 hectors of Tikapur have been used in commercial activities.

- **Recreational land use**

Many urban areas of the cities provide recreational areas. Recreational means creative use of leisure either for inspiration or for plain enjoyment. The recreation and relaxation of the citizens have become functions of the government. It is natural but not compulsory that each and every country should have some parts of land to be used for recreation.

Table 5.6: Recreational Land Use in Urban Cities

Urban centre	Area in hect.
Amargadhi	1319.39
Dasharathchand	201.77
Dhangadhi	399.99
Dipayal Silgadhi	1619.54
Mahendranagar	5339.99
Tikapur	678.99

Source: - Municipality Smarika 2010

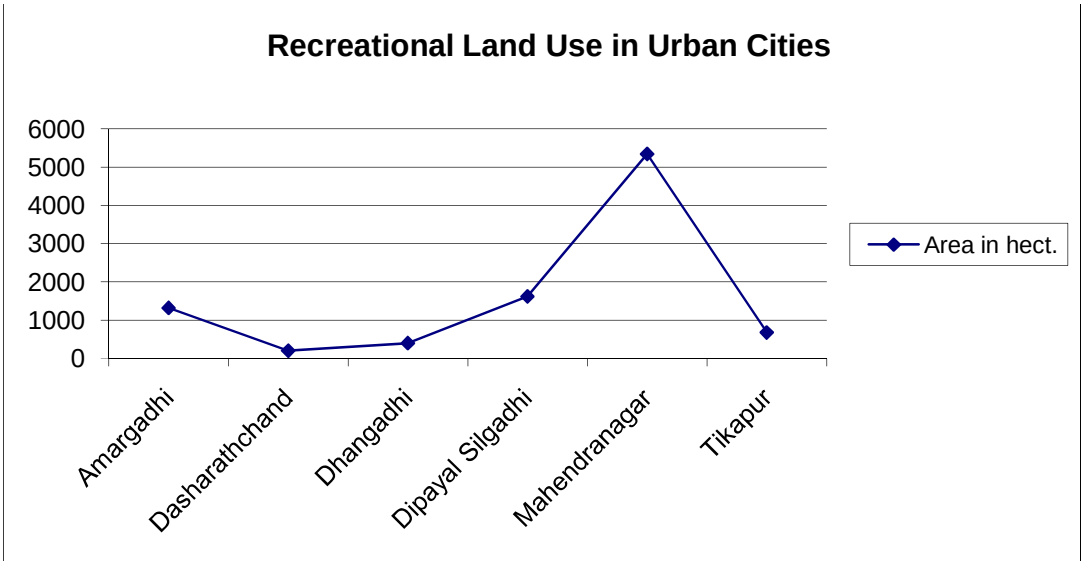


Figure 5.6

The table above shows that the recreational land use in urban areas has increased. About 5339.99 hectors of Mahendranagar, 399.99 hectors of Dhangadhi, 1619.54 hectors of Dipayal Silgadhi, 201.77 hectors of Dasharathchand, 1319.39 hectors of Amargadhi and 678.99 hectors of Tikapur have been used in recreational activities.

Chapter 6: TREND POPULATION MIGRATION FROM RURAL TO URBAN MIGRATION

(i) Trend of migration

Permanent immigration to Nepal started with the expansion of the Hindu civilization some 1,000 years ago, followed by a military conquest and migration (L.Caplan, 1970). During the twelfth century, Brahamans and Rajputs (Chhetri), the high caste and socially advantaged Hindu segments of the population, were dislodged by the Muslims invading Western India and migrated to Western Nepal (Bista, 1972) Unpublished pedigrees of Brahman and Chhetri family's record facts of short-distance migrations as a result of marriage and priesthood, institutions through which migrants were to obtain housing and lands for permanent settlement. A major migration influence in Nepal's modern history was an eighteenth century royal order to collect revenue: trusted collectors were sent to various centres, and were given a parcel of tax-free land as salary of remuneration, in what was known as the birta system (Regmi, 1988)

A second wave of migration in Nepal took the form of emigration people leaving one environment, region or country to settle in another. It picked up during the unification of Nepal, some240 years ago. At the time migrants tended to be members of the royal dynasty, its priestly advisors and subordinate clans, or members of two ethnic communities Gurung and Magar (fighters also collectively known as Gurkhas). After the establishment of Kathmandu as the capital of unified Nepal in1768 and the unification of principalities, the business community got involved in the process and migrated along with the ruling families and civil servants to the various newly established administrative centres and petty trade nodal points along major trail routes. This migration was permanent, and voluntary

and driven by opportunities. It is notable that the destinations were essentially towns and market centres the lower order centres in the hierarchy of cities and central places.

Emigration outside the country started after the Anglo-Nepalese war of 1814-1816, when the British India Government enlisted 3000 Nepalese soldiers from among the prisoners of war and founded the first Gurkha Battalion of the British India Army. Some of the Nepalese army officers who strongly disagreed with the 1816 Treaty of Sugauli joined the army of Punjab, a strong principality in Western India. From that time onwards, serving foreign armies became a common occupation for Nepalese, along with working in public and private sectoUS Doller The high regular pay and the provision of a pension attracted Nepalese hill people to join the rank of the British Indian Army, and gave them a prominent socio economic standing among the hill communities. Nepalese men continued to join the British Indian Army, moving with their families to the settlements established initially for the Gurkhas in the hilly areas of Northern India.

Throughout history, the rural population had been stagnant in terms of occupational mobility, although the location of settlements continually changed. Depending on the land fertility, availability of water and common grazing lands, collection of fodder and suitability of settlement, people particularly those with previous migration experience frequently migrated again, both horizontally (within the same ecological zone) and vertically (across different ecological zone).

The rate of migration was very active in Nepal after the dawn of democracy in 1951.Till fifth decades of twentieth century most of the basin and internal valleys were sparsely populated and were covered by dense forest and were highly malarial. In 1954, Nepal witnessed one of the heavy

monsoon rainfalls in the history and resulted in severe flood and landslides with great loss of lives and property. The government realized to resettle the victims of this great disaster in new area.

The general trend of migration is not quite the same in different period in Far-western cities. Before 1950s, there were some Tharu tribes the Rana Tharu who migrated from Mid-western Nepal. After the malaria eradication, migration to Far-western Nepal has increased rapidly.

In the Far-western Terai of kailali and kanchanpur district, a total number of 26901 persons were counted as migrants in 1961. The largest volume of the migrants numbering 15364 persons migrated from western inner Terai district of Dang-deukhuri besides, these 2867 migrants were from central hills, 1088 from Kathmandu valley and while 5731 in the category of origin unstated, while the rest come from other regions.

The general trend of migration is not quite the same in different period in Far-western Terai.Before 1950s; there were some Tharu tribes, the Rana tharu who were living before the Dangora tharu who migrated from Dang and Banke District of Mid-western development region. After the malaria eradication, Migration to Far-western Terai has increased rapidly. The trend of migration to Far-western Municipality is separately given table below.

Causes of Migration

The main reason for present day migration in the country is economic. In general, inadequate earnings and income, aggravated by general conditions of work and life in the country, especially in the hills, have led to the migration of people within and outside the country.

The repulsive nature of the agriculture in the hill environment is well apparent. Again the reckless destruction of the forests in the hills for cultivation and for fuel, forage and timber has led to the destruction of the

natural environs of the hills themselves. The spoliation of the ecology of the hills is evident in the aggravating problem of soil erosion, drying up of the springs and change in the general climatic phenomenon (rising temperature and reduction in the amount of rainfall). Any attempt to increase the arable land in the hills will seriously threaten the problem of soil erosion and actually such attempts in many parts of the hills were met by destruction of meticulously terraced fields by landslides. The unremarkable damage caused by landslides has also caused people to migrate from the hills. Moreover, people have been lured by the attractive and favourable nature of agriculture in the Terai and the Inner Terai regions.

The difficulty of transportation in the hills is the main obstacle for the marketable surplus production of the hills in exchange for the daily necessities. In this respect, Terai and the Inner Terai regions are most favorable as they have easy access to the local and Indian markets for their surplus products. In general, agriculture in the hills is in subsistence stage and it can be improved by the use of modern techniques, but there has been no attempt in this regard due to the absence of transportation facilities. If there would have been easy access to the markets the hills can produce besides cereals, vegetables, fruits and cash crops like tea and cardamom and the increase in agriculture production can certainly raise the living standard of people in the hills.

The hills in general have the largest portion of their population engaged in agriculture (96.8%). Again, the hills are characterized by the absence of jobs outside the traditional sector. Any attempt at raising the standard of living in the present state of agriculture requires jobs outside the traditional sector. As agriculture does not require full time devotion throughout the year, the hill people have spare time in between the

cultivation and harvesting of summer crops (usually paddy) and also in the slack season in agriculture during the winter. The development of small scale and cottage industries in the hills for providing jobs during the slack seasons in agriculture and for the surplus labour is hindred by inaccessibility to the market. But the case of the Terai and the Inner Terai is quite different, because there is wide scope for employment outside the traditional sector. There is a demand for agricultural labouUS Doller Moreover, as most of the country's industries are located in the Terai, the demand for unskilled labourers is very high. Again, the bustling activities of the Terai and the Inner Terai towns and important settlements provide ample opportunity of employment.

The socio-economic structure of the hill people is also a determining factor for migration. Among the marital races (the Magars, the Gurungs, the Rais and the Limbus) to get recruited in the army is a highly prestigious social position and high ranking ex-servicemen (especially the British and the Indian Gurkha rifles) hold a position of weight and respect. The Gurkhas are known as 'Lahure' from the fact that the early men were nearly always bound for that place. The youths of the villages after recruitment in the army can win the favour of the village girls, and the girls have aptitude for the 'Lahure' who can provide the luxuries for his finance. Those leaving the village for recruitment in the armies of the foreign countries as merceneries as well as those for recruitment in the country's national army usually get employed as household servants, watchmen, etc., if they are rejected because of physical unfitness or underage. In the case of underage they usually work somewhere until they reach the prescribed age and attempt to get recruited again.

The economy of the Himalayan and the Inner Himalayan valleys and to some extent the Midlands depends largely on trade with Tibet. The opening of the Kodari Highway as an easy access of Lhasa from Kathmandu slackened trade on individual basis which the people living in the north used to carry on in order to compansate the paucity of resources (agriculture and pastroralism). The Thakalis who used to dominate the trade of the Kali Gandaki Valley north of the Annapurna and the Dhawalagiri gorge into Tibet are now seen shifting the trading activities as far south as Bhairahawa, the most important bordering town of the Western Terai and also in the Kathmandu Valley. The Manangabas living to the north of the Annapurna range also took the same recourse. But the most affected people were the Sherpas who used to work as trader as well as porters and guides for the mountaineers in the Himalayan expeditions. The Chinese occupation of Tibet and the subsequent ban by Nepal Government on mountaineering compelled them to seek job outside. They moved to Darjeeling and Kathmandu. In Kathmandu, some of them were employed as porters for the mountain trekkers and the rich families settled to carry on trade. Recently, the lifting of ban on expeditions in the Himalayas has again provided them some relief.

The opening of the highways and the abandonment of the traditional mule tracks have also led to the migration of a large number of people. The bustling townships of Amlekhganj, Bhainese, Bhimphedi, Kulekhani, Chitlang and Thankot on the mule track route to India from Kathmandu have become almost ghost settlements after the opening of the Tribhuvan Rajpath (highway linking Kathmandu with India). As the completion of the highway was followed by malaria eradication programme and resettlement programme in the Chitawan valley, the affected people migrated to

Chitawan valley. Those depending on agriculture occupied land for settlement and those on trade settled in Hetauda, a nodal point linking Kathmandu, Birganj and the fertile valley of Chitawan. Similarly the bustling activities of Bhaktapur, Banepa, Dhulikhel, Dolalghat, Sankhu, Chautara and Jalbire have ceased after the construction of the Kodari highway (linking Kathmandu with China). Only Barabise and Lamosangu developed as a trading centre on this route. The traders of the affected townships have moved to Kathmandu, Eastern Hill and Eastern Inner Terai. Similarly, the construction of the Siddhartha Rajmarg (highway linking Pokhara with India) also led to the decline of trade in Butawal (which once served as a gateway to mid-central Nepal), Darsing, Nuwakot, etc.; on the other hand, it has led to the development of Tansen Waling and Putlikhet. Obviously, the construction of the Prithbi Rajmarg (highway linking Kathmandu with Pokhara) which is under construction is bound to affect Trisuli Bazar, Arughat Bazar, Gorkha, Kuncha and Bandipur. The important settlements which used to serve the passenger along the mule tracks in the past are loosing their importance with the opening of the highways. The traders seem to have moved to the better places along the highways, but for ordinary people it is not possible to shift and construct new houses. Moreover those working along the mule tracks as porters were farmers working during the slack season of agriculture, but now they have been compelled to move to the construction project, e.g., roads, buildings, dams, etc. for job during the slack season of agriculture.

The above mentioned causes are related to long term migration. But the most conspicuous movement of the population usually seem in the winter season is the temporary migration which covers less than six months. This includes:

(1) Movement from the Terai,

(2) Movement from the hills.

(1) Movement from the Terai

From the Terai, the movement is usually restricted to the forests, foot-hills and the Inner Terai. The movement is usually for:

(a) Grass cutting for roofing and rope making purposes,

(b) Wood cutting for housing and fuel,

(c) cattle-herding,

(d) Load carrying,

(e) Harvesting, e.g. maize harvest,

(f) Attending fairs and bazars, and

(g) Manual labour in the projects.

(2) Movement from the Hills

From the hills the temporary movement is usually during the winter, but labour aggregation in the projects is to be found throughout the year. The movements of the hill population are of transhumane nature, moving down from the hills during the winter and up in the hills during the summer. The movement is usually for:

(a) Harvesting paddy, etc.

(b) Cattle Harding,

(c) Marketing, and

(d) Job seeking.

The movement of the hill people starts after Dipawali. People living in the cold and harsh climate of the Himalayas make seasonal out-migration during the winter with mineral salt, borax, herbs, fire, butter, woolen materials, etc. The cattle harders move as far south as Pokhara with their

pack of yaks and mules. In the Far Western Hill, people of the Inner Himalayan valleys move along with herds of sheep and goats packed with mineral salts, herbs, etc. and in their return journey they take cereals, spices, kerosene oil and other necessities. They move as far south as Nepalganj, Bardia, Dhangadhi, and Mahendranagar. But the most important movements are those of the people of the Mid-lands, who move to the bordering towns and important settlements in the south with their agricultural products and others in exchange for salt, spices, kerosene oil and other necessities. Most of the towns and important settlements in the Terai and the Inner Terai are busy with trading activities during the winteUS Doller From east to west the important marketing centres in the Terai are Bhadrapur, Sanischare, Damak, Dharan, Rajbiraj, Lahan, Sindhulimarhi, Hetauda, Narayanghat, Butawal (which lost its importance to Tansen), Tulsipur, Nepalganj, Rajapur, Dhangadhi and Mahendranagar. In the summer, the cattle harders of the Himalayan regions move up as high as 15,000 feet above sea level to graze their herds of yaks, sheep and goats. As already noted, a large number of Nepalese from the eastern hills go to Sikkim for orange picking and for working in the forests for wood cutting and timber sawing.

Table 6.1: Trend of Migration in Amargadhi Municipality

Year of migration	No.of Household	No.of persons	Hill	Mountain	VDC Dadeldhura	Total
Up to 1951	1	3	-	-	1	1
1951-1961	3	10	-	-	3	3
1961-1971	5	18	1	1	3	5
1971-1981	9	36	2	1	6	9

1981-1991	14	48	4	2	8	14
1991-2001	42	185	12	8	22	42
2001-2010	66	377	16	10	40	66
Total	140	677	35	22	83	140

Source: Field Survey 2010

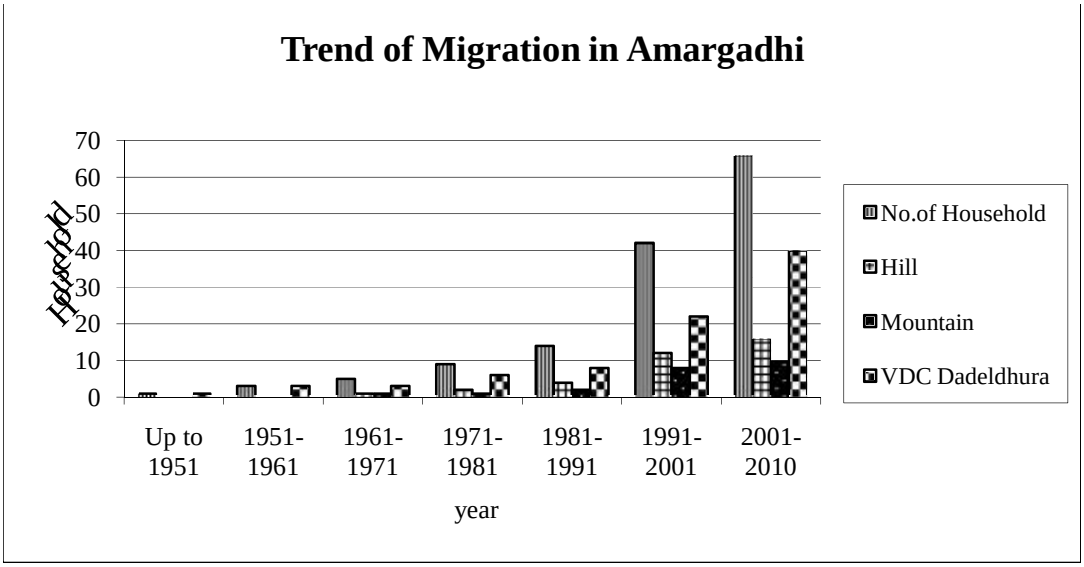


Figure 6.1

This table presents the trend of migration and place of origin of migrants from 1951 to 2010s. Among migrants those coming between 1951-1961 were very few and that all of them were from VDC Dadeldhura. During the period 2001 number of migrant households reached its peak. The trend had increased because of the dawn of democracy the number of in-migrants and immigrants had increased. So for business purpose, educational facilities, health facilities being near to the Terai region.

Table 6.2: Trend of Migration in Dasharathchand Municipality

Year of migration	No.of Household	No.of persons	Hill	Mountain	VDC Baitadi	Total
Up to 1951	1	2	-	-	1	1

1951-1961	2	6	-	-	2	2
1961-1971	6	20	1	1	4	6
1971-1981	8	35	2	1	5	8
1981-1991	15	54	4	2	9	15
1991-2001	38	162	7	5	26	38
2001-2010	70	384	12	8	50	70
Total	140	663	26	17	97	104

Source: Field Survey 2010

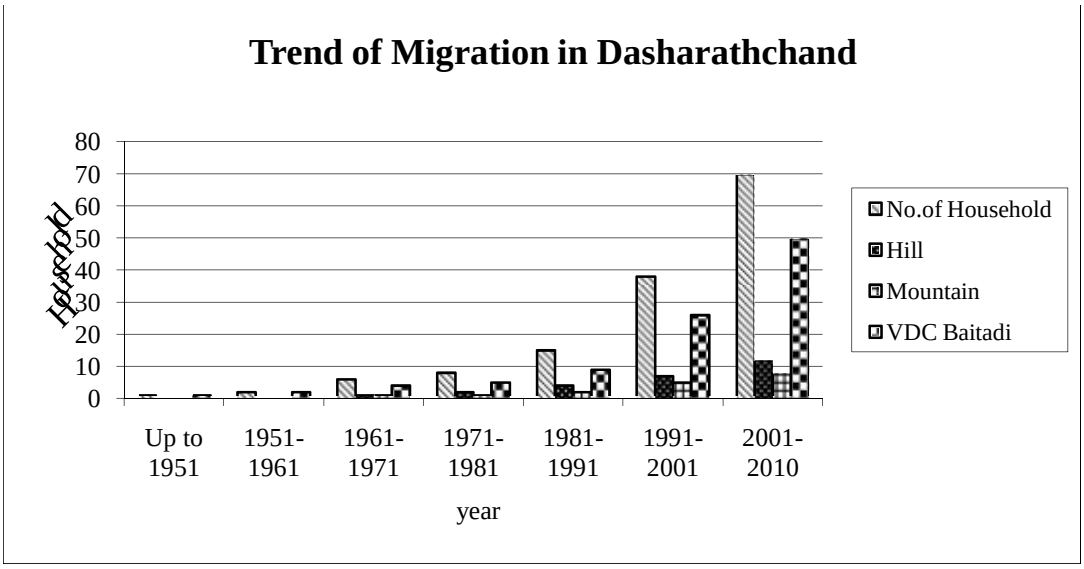


Figure 6.2

This table presents the trend of migration in Dashrathchand municipality is increasing rapidly. In upto 1951, 1 migrant household had migrated in Dashrathchand municipality and during the period of 1951-1961, 1961-1971, 1971-1981and 1981-1991, 2, 6, 8 and 15 migrant households respectively. The largest numbers of households come to Dashrathchand municipality between the years 1991-2001 to 2001-2010 i.e. 38 and 70 migrant households.

The trend of migration in Dashrathchand is increasing among the 13 wards of Dashrathchand, ward number one is considered as the most safe

area with better facilities, educational opportunities, development infrastructure (road, schools, communication, electricity, park and sport facilities) and thus it has attracted more migrants than any other wards of the municipality.

Table 6.3: Trend of Migration in Dhangadhi Municipality

Year of migration	No.of Household	No.of persons	Hill	Terai	Mountain	VDC Kailali	India	Total
Upto 1951	2	4	2	-	-	-	-	2
1951-1961	8	21	6	-	1	1	-	8
1961-1971	15	66	8	1	4	2	-	15
1971-1981	25	90	16	3	4	2	-	25
1981-1991	44	165	28	5	2	4	5	44
1991-2001	55	35	36	6	5	8	-	55
2001-2010	65	410	47	10	3	5	-	65
Total	214	1106	143	25	19	22	5	69

Source: Field Survey 2010

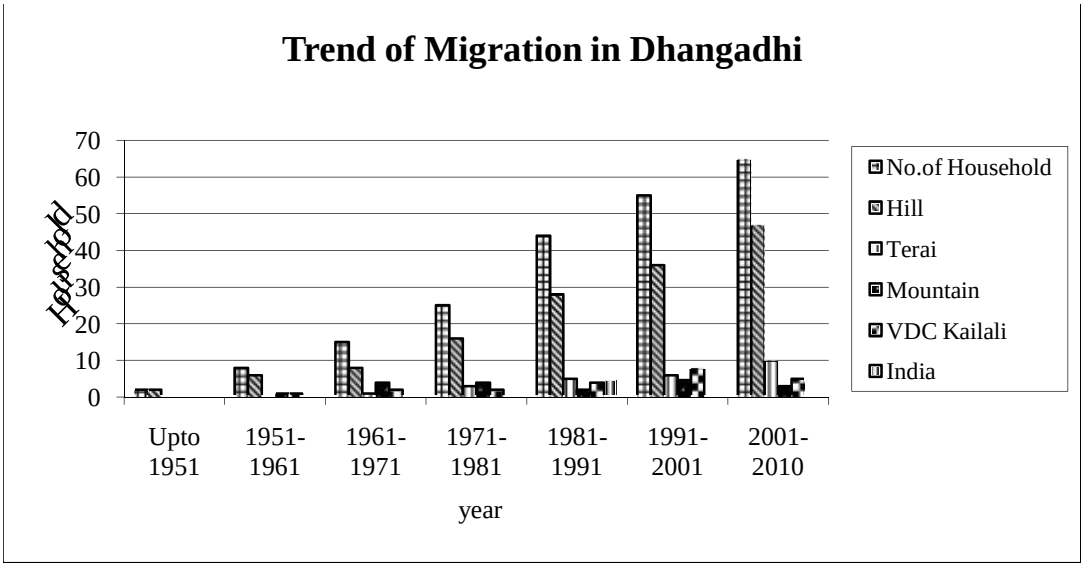


Figure 6.3

Above the table presents the trend of migration and origin place of migrants from 1951 to 2010. In upto 1951, 2 migrant households had migrated to Dhangadhi municipality. The next decade 1951-1961 brought 8 households and 15 households migrated in 1961-1971. In the period of 1971-1981, 25households came to the Dhangadhi. Largest number of households come to Dhangadhi in the year 2001-2010 i.e. 65households.

During the period between 2001 to 2010 a large number of households migrated. The majority of them were from the hills. It is during this period that considerable number of households from within hill, mountain, Terai and kailali district also migrated to Dhangadhi municipality.

His Majesty's Government started first planned resettlement program in 1964. Before it, the official policy during Rana period (1946-1956) and malaria eradication program was to attract settlers in the Terai. Resettlement was launched in Far-western Terai region in Nepal.

Similarly, for business purpose and underground activities being nearer to the Indian border, people migrated from Mountain, Hill to Terai

region of Nepal. Among migrants from India, some are businessmen while other are Nepali people living in Northen part of India. Businessmen came due to economic opportunities and better security here.

The phenomenon of migration in Dhangadhi municipality is increasing .It is because of the better education facilities, development infrastructure, better security and educated society more migrants have been attracted. The large number of in-migration to Dhangadhi municipality took place during 2001 to 2010. So the flow of migration in recent year is greater than the flow in the past in Dhangadhi municipality.

Table 6.4: Trend of Migration in Dipayal Silgadhi Municipality

Year of migration	No.of Household	No.of persons	Hill	Mountain	VDC Doti	Total
Up to 1951	-	-	-	-	-	-
1951-1961	2	6	-	-	2	2
1961-1971	6	16	1	1	4	6
1971-1981	10	41	2	1	7	10
1981-1991	18	62	4	3	11	18
1991-2001	46	225	10	6	30	46
2001-2010	58	372	16	9	33	58

Total	140	722	33	20	87	140

Source: Field Survey 2010

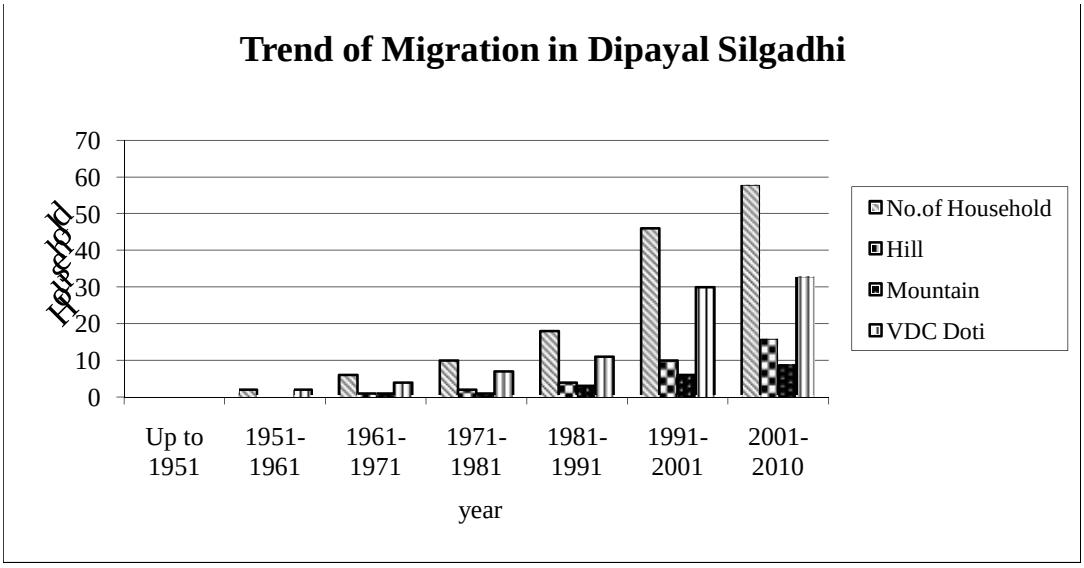


Figure 6.4

The above table shows the trend of migration and origin place of migrants from 1961 to 2010s. In 1951-1961, 2 migrant households had migrated to Dipayal silgadhi municipality. The next decade (1961-1971 and 1971-1981) brought 6 households and 10 households migrated. In the period 1981-1991, 18 migrate households came to this municipality.In 2001-2010 the largest number of households come to dipayal silgadhi municipality. Among migrants 20 households were from mountain, 33 households from hill and 87 households from VDC Doti district.

Table 6.5: Trend of Migration in Mahendranagar Municipality

Year of migration	No.of Household	No.of persons	Hill	Terai	Mountain	VDC Kanchanpur	Total
Upto 1951	2	8	2	-	-	-	2
1951-1961	6	25	4	-	-	2	6

1961-1971	17	66	9	2	3	3	17
1971-1981	23	96	15	2	4	2	23
1981-1991	38	159	20	6	7	5	38
1991-2001	57	344	29	9	8	11	57
2001-2010	67	436	36	12	9	10	67
Total	210	1134	115	31	31	33	210

Source: Field Survey 2010

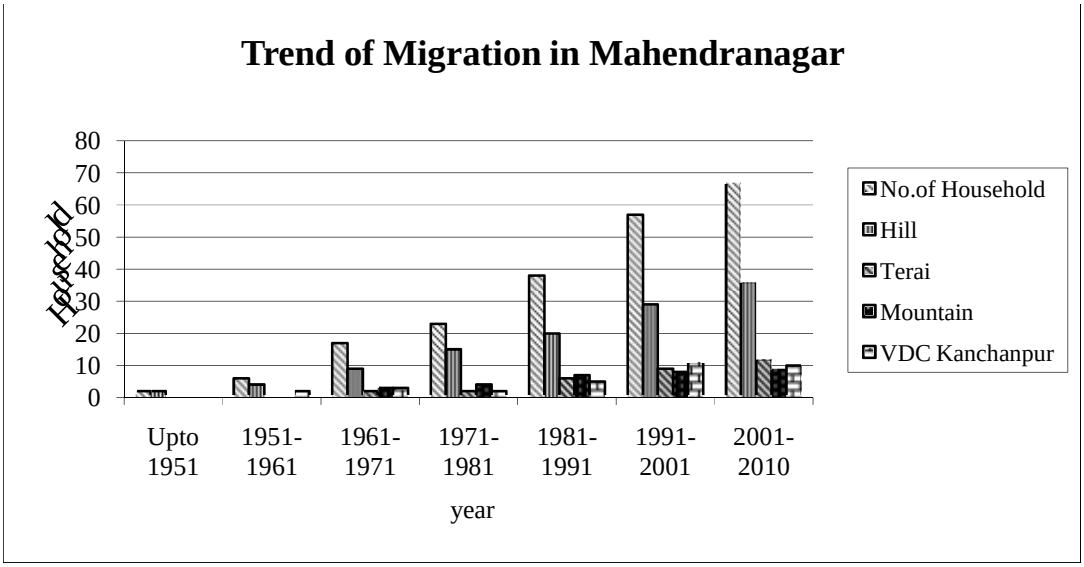


Figure 6.5

The above table presents the trend of migration and place of origin of migration from 1951 to 2010s. In the period of upto 1951 only 2 households had migrated to Mahendranagar. The next decade (1951-1961 to 1961-1971) brought 6 households and 17 households migrated. In the period of 1991-2001, 57 migrate households came to Mahendranagar Municipality. In 2001-2010, the largest numbers of households come to Mahendranagar Municipality. Among the above migrants 31households were from Mountain,31 households from other Treai district,33 households from VDC Kanchanpur district and 115 households from Hill.

The migration trend in Mahendranagar is increasing. It is because of the better education facilities, security, developed infrastructure, and educated society has attracted more migrants.

Table 6.6: Trend of Migration in Tikapur Municipality

Year of migration	No.of Household	No.of persons	Hill	Terai	Mountain	VDC Kailali	Total
Up to 1951	1	3	1	-	-	-	1
1951-1961	4	13	3	-	-	1	4
1961-1971	12	40	6	2	-	4	12
1971-1981	20	75	11	4	-	5	20
1981-1991	41	104	25	7	3	6	41
1991-2001	62	394	38	10	6	8	62
2001-2010	70	450	42	13	7	8	70
Total	210	1079	126	36	16	32	210

Source: Field Survey 2010

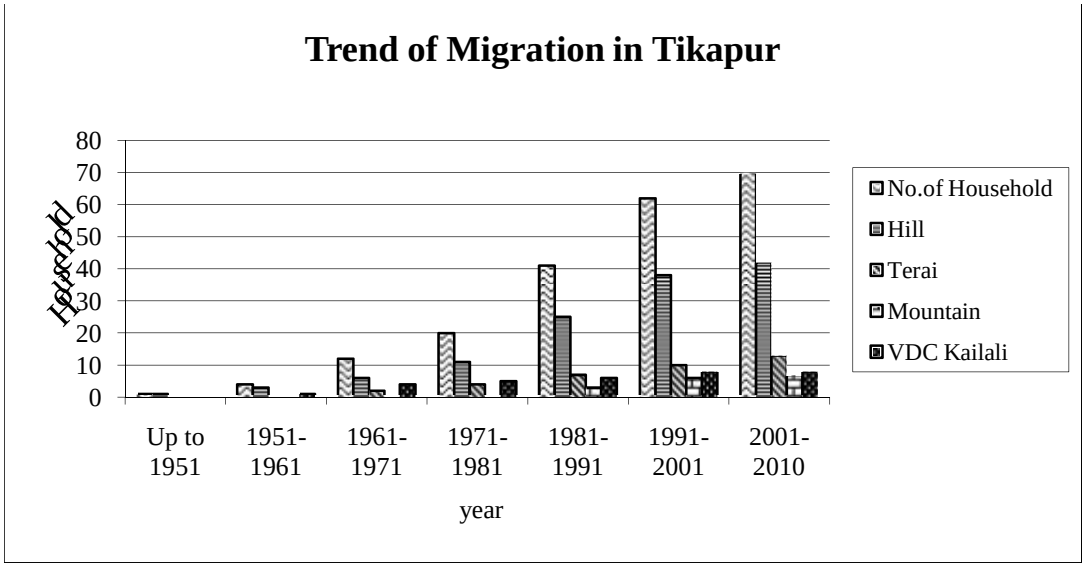


Figure 6.6

This table presents the trend of migration in Tikapur municipality increasing rapidly. In upto 1951, 1 migrant household had migrated in Tikapur municipality and during the period of 1951-1961, 1961-1971, 1971-

1981and 1981-1991, 4, 12, 20 and 41 migrant households respectively. The largest numbers of households come to Tikapur municipality between the years 1991-2001 to 2001-2010 i.e. 62 and 70 migrant households.

The trend of migration in Tikapur is increasing. It is because of the better facilities, educational opportunities, development infrastructure (road, schools communication, electricity, park and sport facilities) and thus it has attracted more migrants in Tikapur municipality.

(ii) Impacts of Migration

Migration greatly affects the development structure of the economy of both the place of origin and destination where migration from one place to another occurs than the second place will have more population pressure, more productive population, more utilization of resources and more heterogeneous composition of population.

Impact of the resettlement programme

The planned resettlement programme to settle landless families has not been effectively implemented since its inception (Kansakar, 1979, pp. 249-280). It is widely recognised that there has been malfeasance in the distribution of land under the resettlement programme, and that the majority of landless households have been deprived of the opportunities for resettlement in the Company projects. In the completed project of Nawalpur nearly 50 per cent of the original grantees of land under the project have sold their land and gone elsewhere. Of the remaining grantees a large number have already sold a portion of their land. It shows clearly that the programme has benefited the unscrupulous elements rather than the genuine landless peasants.

The spatial location of both the Company and Department projects has direct bearing on the effectiveness of the programme. Because of their locationally disadvantageous position, the programme has not been able to cultivate a sense of sentimental attachment to the allotted land among settlers in the projects.

The geographic location of the Company projects along the India-Nepal border has posed several problems, such as the frequent encounters of the settlers with bandits and wild animals. Traditionally, the areas along both sides of the India-Nepal border are noted for banditry, and neither Nepal nor India has been able to solve this problem. The forests on the Indian side have become safe hideouts for the bandits, and resettlement projects located in such areas are therefore more prone to banditry. Moreover, the wild animals from the Indian forests usually invade the resettlement farms and destroy standing crops. In such an insecure situation it is hard to except that settlers will stay permanently in the resettlement projects.

Most of the resettlement projects (both Company and Department) are surrounded by old settlements of the indigenous people (usually the aboriginal Tharu, Kumal, Dhimal and Rajbansi). Topographically, the former are located at a higher elevation than the latter. As such most of the resettlement sites are beyond the reach of canal irrigation and thus unsuitable for cultivation. Besides the lack of irrigation facilities, the problem of drinking water is also acute in the settlement areas.

Apart from the Nawalpur and Banke projects, all the Company projects are located in inaccessible areas. Good approach roads to and from the resettlement sites are usually lacking. The difficulty of access to important market centres and townships has posed two problems. First, the settlers have not been able to get reasonable prices for their farm products.

Second, during the rainy season it is very difficult for them to obtain their daily necessities.

The resettlement programme from its very inception seriously lacked well-defined criteria for the selection of settleUS Doller In the absence of well established selection projects officials to their families, relatives and favourites. The adoption of a new policy by the Company in 1973 of resetting only those applicants who have been duly certified and recommended by the concerned Chief District Officer as eligible candidates for resettlement has also been ineffective in selecting genuine landless and needy peasants.

When a cadastral survey was recently conducted in the completed projects of Nawalpur to confer land ownership certificates on the resettles, a large number of claimants, both settlers and non-settlers, emerged. It indicated that there had been considerable alienation of projects land through sale or purchase, although this was not supposed to be permissible within 10 years or before receiving the land ownership certificates. Of the 50 per cent of original settlers still residing in the project area, very few families have 4 bighas of land, most of them already having sold a portion of their land.

One of the main objectives of the planned resettlement programme was to increase agricultural production in the resettlement projects through improved agricultural techniques. For this purpose, the projects were provided with agricultural extension services to enable the resettles to adopt such techniques. Despite these facilities, agricultural development in the Company projects is not remarkable as compared to the surrounding older areas of cultivation. Several factors have been responsible for the failure in achieving increased agricultural production:

1. As most of the resettlement projects are located on ground higher than the surrounding old cultivation areas, irrigation through canals from the rivers is not feasible. The intensity of cultivation in the resettlement projects is, therefore, very low compared to the surrounding areas.
2. The quality of land in the resettlement projects is not good compared to the surrounding low lands.
3. The settlers do not get adequate loans and credit in time. In such a situation, they have to take recourse to borrowing from moneylenders at exorbitantly high rates of interests.
4. The inaccessibility of the projects, coupled with the absence of marketing facilities, has been the most main constrains on the settlers' securing reasonable prices for their farm production. Usually they have to sell their production at low prices to the moneylenders or the local grain tradeUS Doller Low income from the farm production adversely affects their ability to make further improvements on the land and consequently, results in low productivity.

As agriculture is characterised by slack seasons, the settlers are unemployed or underemployed for a large part of the year. The resettlement programme has not been able to provide alternative employment opportunities outside agriculture during the slack seasons to generate additional income for the settleUS Doller Moreover, with the gradual increase in the size of their families, the allotted land in the resettlement projects is not enough for families to maintain a livelihood. Fragmentation of land in the resettlement projects is likely to lead to the emergence of landless families or families with inadequate land within the settlement

areas. The programme completely lacks a plan of action to deal with second-generation problems.

Thus the programme has not been able either to emerge as an example of agricultural development or to raise the standard of living of the settleUS Doller The apathy on the part of the settlers in carrying out any agricultural development, and the discouraging environmental conditions of the resettlement projects, indicate that the settlers are just waiting to acquire land ownership certificates in order to sell the allotted land and go elsewhere.

Land Reform Programme

With the view to ensuring the equitable distribution of cultivated land, Nepal introduced the Land Reform Programme in 1964. The Land Act of 1964 fixed the ceiling of landholdings in different regions. Land in excess of the ceiling was acquired by the government on payment of compensation at prescribed rates. The act also imposed ceiling on tenancy holdings: 2.7 hectares in the Terai and the inner Terai, 0.5 hectares in the Kathmandu Valley, and 1 hectare in the hills. The acquired land was allotted on a priority basis to:

I. Sitting tenants;
II. Farmers of the adjoining land;
III. Other tillers of the area; and
IV. The rest of the citizens of Nepal, in that order.

The act abolished the jamindari system (the system of assigning the responsibility for land tax collection at the village level in the Terai) and set up government revenue offices. The land attached to the jamindars (revenue collecting agents) was convinced to raikar land (state-owned land, but

cultivated by the peasant in the capacity of a tenant). Tenancy rights were accorded to the actual cultivators and the rights of intermediaries between landlord and tenant were abolished through legal action on the grounds of reduction in the value or productivity of land, default in the payment of rent, or discontinued cultivation for one year. Tenancy rights were made inheritable, but not transferable or sub divisible.

The Act also provided for a fixed rent to be payable by the tenant to the landlord, which could never exceed 50 per cent of the gross annual product in the Terai, inner Terai and hills, and about one-third in the Kathmandu valley. However, in 1968 the rent for all land, excluding the Kathmandu valley was reduced to half of the main crop, the quantity of which was also fixed depending on the quality of land.

The imposition of ceiling on landholdings broke down the hegemony of big landowners on land. It also did away with the unlimited acquisition of land through monetary investment. Land reform also accorded greater security of tenure to tenants as well as provision for sharing the major portion of the production. However, the Land Reform Programme was largely ineffective in changing the agrarian structure (Regmi, 1976, pp. 197-223). It could not achieve its objective of ensuring and equitable distribution of cultivable land. As land reform was implemented in the absence of land records, the government had to depend on whatever information was provided by the landowners themselves. The landowners therefore took advantage of the situation. Moreover, since the land reform was enforced throughout the country in stages, landlords took anticipatory measures such as redistribution of land among their own family members and relatives, and registering themselves as cultivators by evicting tenants. The government could not therefore redeem the amount of surplus land it had expected. The

land acquired was only 62,672 hectares, which was hardly sufficient to solve the problem of the landless peasants. The reform encouraged landowners to acquire land for personal cultivation and resulted in the progressive displacement of small farmeUS Doller Moreover, the legal provisions aimed at protecting tenancy rights were never effectively implemented.

A recent cadastral survey of the Terai and inner Terai district reveals that, whereas about 88 per cent of the farming families have nearly 45 per cent of the total cultivated land (table 4), 3.2 per cent of the families account for nearly 30 per cent of the land.

Table 6.7: Distribution of farming families by the size of landholdings (In Terai and inner Terai)

Size of holdings (bighas)	No. of families	per cent	Area of landholding (bighas)	per cent	Average size of holdings (bighas)
0-4	676,661	88.10	719,951.01	44.96	1.06
4-10	66,996	8.66	408,954.29	25.56	6.15
10-15	13,288	1.73	170,955.69	10.68	12.87
15-20	9,778	1.27	192,094.22	12.00	19.65
20 and above	1,878	0.24	108,798.18	6.80	57.93

Source: Department of Land Reform2010

The data clearly show that the objective of redistributing excess land made available through the implementation of land reform, and thereby redistributing population from the hill areas with a high labour-land ratio to the Terai and the inner Terai, with a low labour-land ratio, has simply not been achieved. The Land Reform Programme also envisaged the diverting

the inactive capital and manpower from land to other sectors of the economy in order to accelerate the pace of national development. Accordingly, the Land Act prescribed that both tenants and landlords should make compulsory saving in kind from the major crops with a view to supplying agricultural credits and thus financing industrial and other enterprises. However, the scheme was suspended in 1969 because of large-scale defalcation. The Land Reform Programme thus could not change the overwhelming dependency of the population on agriculture.

Fifth Five-Year Plan (1976-80) and the Population Distribution Policy

For the first time in the history of development planning in Nepal, population policy was included in the Fifth Plan. An explicit formulation of population policy was necessitated by three factors:

a. The rapid growth of population;
b. The uncontrolled migration from the hills to the Terai resulting in destruction and encroachment of forest land; and
c. The immigration of Indians in the Terai and their large-scale penetration in industry and trade, which made it difficult for the Nepalese to compete with them.

Of the five major elements of the population policy one was related to population control through family planning but the remaining four were related to population mobility. The policies related to migration were:

1. To control immigration so as to minimise its role in the growth of population;
2. To regulate internal migration from the hills to the Terai and from rural to urban areas in a planned way;

3. To redistribute population within the Terai for optimum utilisation of resources; and
4. To establish small towns for gradual urbanization in selected areas.

The policy concerning immigration was explicitly related to controlling the immigration of Indians, because Indian immigrants, according to the census of 1971, constituted 94.4 per cent of all foreign nationals and 95.6 per cent of them were concentrated in the Terai alone. Because of the open border between Nepal and India, any attempt at providing employment opportunities for the Nepalese has in fact benefitted Indian immigrants, who by virtue of their skill, capital, entrepreneurial ability, and adaptability have dominated employment and investment opportunities in the Terai. In the meantime their domination is gradually extending to other parts of the country as well, while it has become very difficult for the unskilled and semi-skilled Nepalese to compete with them. Thus, the only opportunity available for unskilled Nepalese hill people is to emigrate to India for recruitment in the army and police services, or to work as watchmen or household servants.

As regards internal migrations, the lack of effective machinery and mechanism have remained major constrains on the implementation of population distribution policies and programmes. Though the need to enhance employment opportunities outside the agricultural sector in order to absorb surplus human power has been emphasised since the First Five-Year Plan, so far no concrete steps have been taken in this project. In the absence of employment opportunities outside agriculture, land is seen as the only source of employment and income.

The large-scale migration of the hill people to the Terai inhabited by malaria-immune indigenous ethnic groups has resulted in hostility between the hill people and these groups. Several cases of displacement of the shy and simple-minded indigenous ethnic groups by the shrewd hill people have been reported.

The policy regarding regulation of migration from rural to urban areas has been largely ineffective. Owing to the predominantly agricultural base of the urban centres in Nepal, they have not been able to generate adequate employment opportunities outside agriculture to attract population from the rural areas. Even where employment opportunities are available in the non-agricultural sectors, the immigration of skilled Indian labour has deterred the entry of unskilled Nepalese rural population.

The policy of establishing the small town needed for urbanization so as to achieve regional development has remained stillborn. The growth of urban centres in Nepal is confined to the most accessible Terai belts while inaccessibility has deterred their growth in the hills and mountain. The growth of industry and trade has to some extent assisted in the development of urban centres in the Terai.

In view of the failure of the population policy to achieve its objectives, the Sixth Plan (1971-85) contains no explicit policy regarding migration. It only emphasises the need for the continuation of the resettlement programme while conserving adequate forestland for future use and ecological balance.

(iii) Population Pressure and Population Growth

The in-migrants towards the Far-western cities caused the high pressure of population and rate of increase of population is also high in the

municipalities. This increase of population now causes many problems as fuel problem, food problem, housing problem, employment problem, drinking water problem and sewage problem.

Table 6.8: Population Increase in Amargadhi Municipality

Year of Migration	No.of household	Per cent	No.of Persons	Per cent
Up to 1951	1	0.7	3	0.4
1951-1961	3	2.1	10	1.4
1961-1971	5	3.5	18	2.6
1971-1981	9	6.4	36	5.3
1981-1991	14	10.0	48	7.7
1991-2001	42	30.0	185	27.3
2001-2010	66	47.1	377	55.6
Total	140	100	677	100

Source: Field Survey 2010

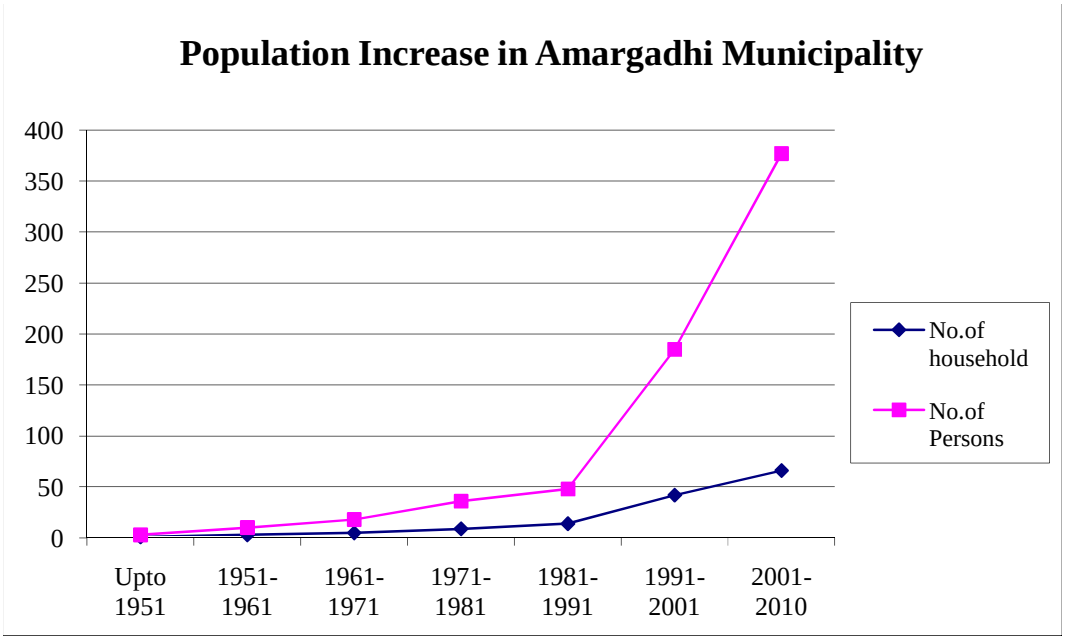


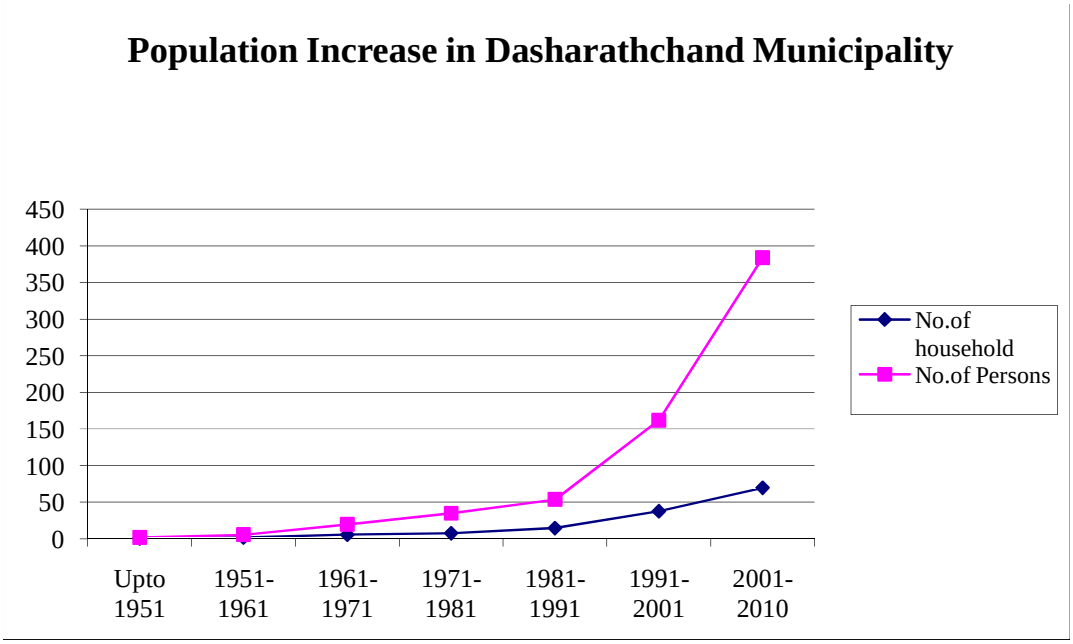
Figure 6.7

The table above shows that in 1951-1961 only 3 households with 10 persons were migrated. In 1981-1991, the migrants' households were 14 with 48 persons. In 2001-2010, 66 households were recorded to have increased is an indication of population increase. In 1996, the urban expansion plan was executed. A large mass of people was in-migrated here from different Village Development Committee of Dadeldhura District to settle in this urban area. Due to high population pressure, agriculture lands changed in to the urban complex area. The development of the urban facilities in the limited area of Amargadhi, population pressure has highly increased only in the built-up area. The Land value of the centre area has highly increased.

Table 6.9: Population Increase in Dasharathchand Municipality

Year of Migration	No.of household	Per cent	No.of Persons	Per cent
Up to 1951	1	0.7	2	0.3
1951-1961	2	1.4	6	0.9
1961-1971	6	4.2	20	3.1
1971-1981	8	5.7	35	5.2
1981-1991	15	10.7	54	8.1
1991-2001	38	27.1	162	24.4
2001-2010	70	50.0	384	57.9
Total	140	100	663	100

Source: Field Survey 2010



The Figure 6.8 ıows that in upto 1951 only 1 household with2 persons were migrated. In 1981-1991, the migrants' households were 15 with 54 persons. In 2001-2010, 70 households were recorded to have increased is an indication of population increase. In 1996, the urban expansion plan was executed. A large mass of people was in-migrated here from different Village Development Committee of Baitadi District to settle in this urban area. Due to high population pressure, agriculture lands changed in to the urban complex area. The development of the urban facilities in the limited area of Dasharathchand, population pressure has highly increased only in the built-up area. The Land value of the centre area has highly increased.

Table 6.10: Population Increase in Dhangadhi Municipality

Year of Migration	No.of household	Per cent	No.of Persons	Per cent
Up to 1951	2	0.9	4	0.3
1951-1961	8	3.7	21	1.8
1961-1971	15	7.0	66	5.9
1971-1981	25	11.7	90	8.1
1981-1991	44	20.5	165	14.9
1991-2001	55	25.7	35	31.6
2001-2010	65	30.4	410	37.0
Total	214	100	1106	100

Source: Field Survey 2010

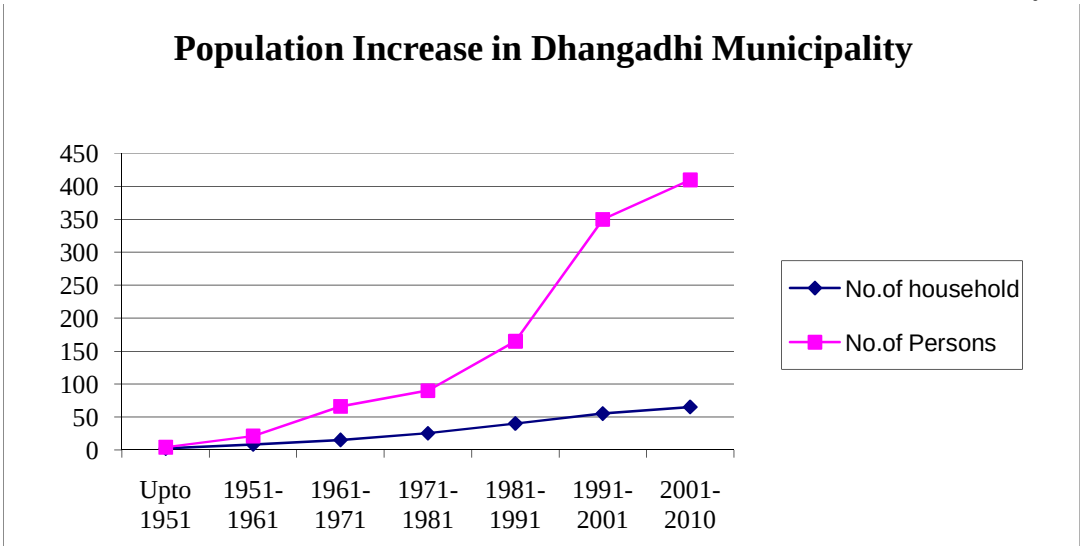


Figure 6.9

The table above shows the population of Dhangadhi has been increasing as a faster rate in recent yeaUS Doller After the completion of Mahendra Highway and Malaria eradication program of 1960s the population of Dhangadhi has been increasing rapidly. A large mass of people was in migrated here from different parts of the country to settle in these municipalities. Due to high population pressure, the land use pattern has changed from forest to agriculture land and from agriculture to

settlement slowly. As a result, land value of the centre area has highly increased.

Before 1951 only 2 household with 4 persons were migrated. In 1961-1971, the migrants' households were 15 with 66 persons. In 2001-2010, 65 households were recorded to have increased as an indication of population increase.

Table 6.11: Population Increase in Dipayal Silgadhi Municipality

Year of Migration	No.of household	Per cent	No.of Persons	Per cent
Up to 1951	-	-	-	-
1951-1961	2	1.4	6	0.8
1961-1971	6	4.2	16	2.2
1971-1981	10	7.1	41	5.6
1981-1991	18	12.8	62	8.5
1991-2001	46	32.8	225	31.1
2001-2010	58	41.4	372	51.5
Total	140	100	722	100

Source: Field Survey 2010

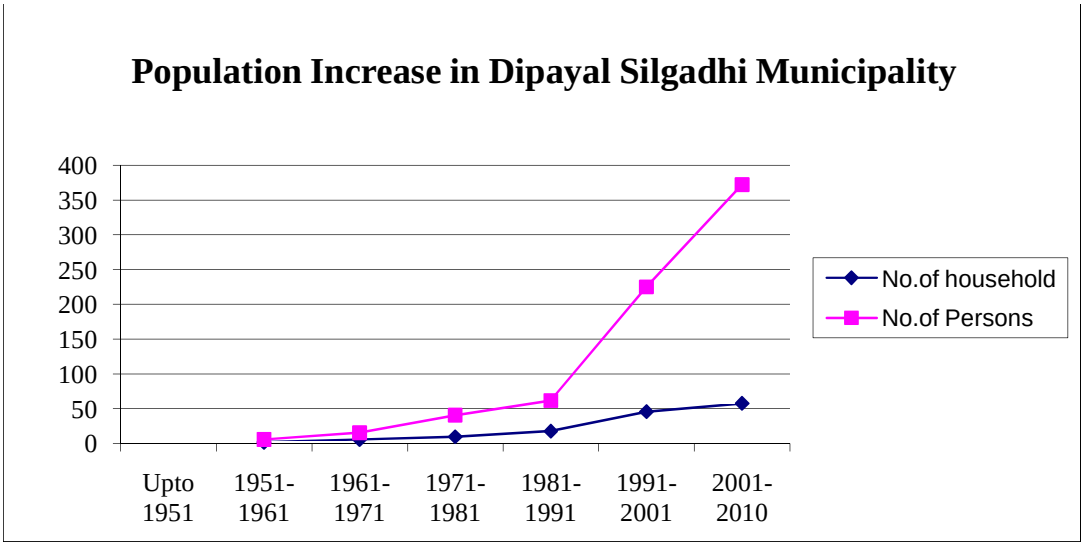


Figure 6.10

The table above shows that in 1951-1961 only 2 household with 6 persons were migrated. In 1981-1991, the migrants' households were 18 with 62 persons. In 2001-2010, 58 households were recorded to have increased is an indication of population increase. In 1983, the urban expansion plan was executed. A large mass of people was in migrated here from different Village Development Committee of Doti District to settle in this urban area.

Table 6.12: Population Increase in Mahendranagar Municipality

Year of Migration	No.of household	Per cent	No.of Persons	Per cent
Up to 1951	2	0.9	8	0.7
1951-1961	6	2.8	25	2.2
1961-1971	17	8.1	66	5.8
1971-1981	23	10.9	96	8.4
1981-1991	38	18.1	159	14.1
1991-2001	57	27.1	344	30.3
2001-2010	67	31.9	436	38.4
Total	210	100	1134	100

Source: Field Survey 2010

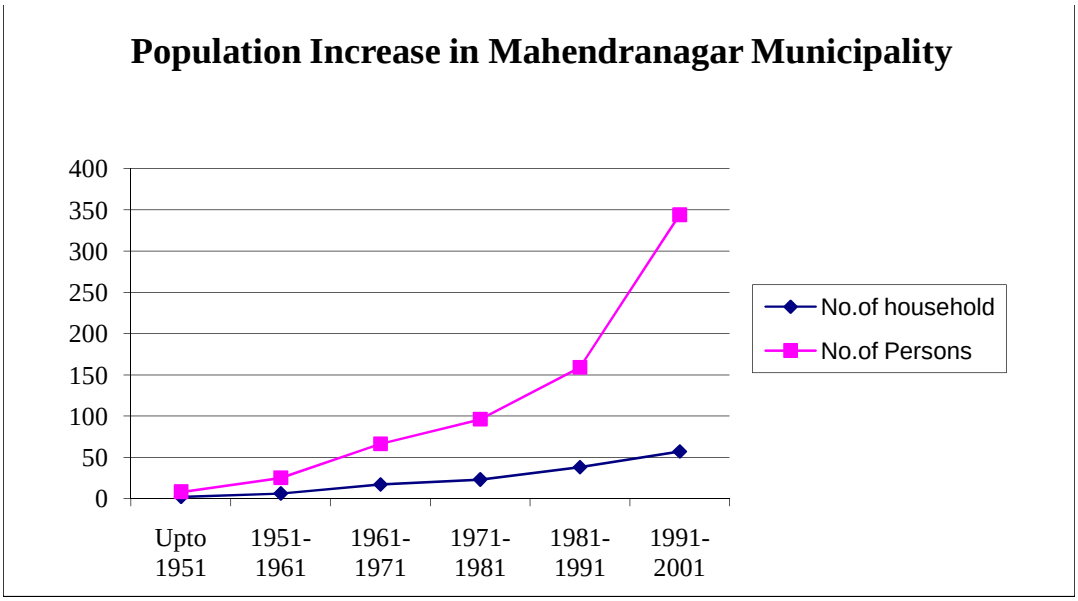


Figure 6.11

Natural growth and migration are the major causes of the population growth in any regions. Natural growth is the positive difference between birth and death and acceleration of population growth is caused by increase in this difference. Migration is the movement of people from one area to another. it reduces the growth rate of rural areas and increases the population growth of the urban areas.

The population of Mahendranagar has been increasing as a faster rate in recent yeaUS Doller After the completion of Mahendra Highway and Malaria eradication program of 1960s the population of Mahendranagar has been increasing rapidly. A large mass of people was in migrated here from different parts of the country to settle in these municipalities. Due to high population pressure, agriculture lands are changed into the urban complex area. As a result, land value of the centre area has highly increased.

Table 6.13: Population Increase in Tikapur Municipality

Year of Migration	No.of household	Per cent	No.of Persons	Per cent
Up to 1951	1	0.4	3	0.2
1951-1961	4	1.9	13	1.2
1961-1971	12	5.7	40	3.7
1971-1981	20	9.5	75	6.9
1981-1991	41	19.5	104	9.6
1991-2001	62	29.5	394	36.5
2001-2010	70	33.3	450	41.7
Total	210	100	1079	100

Source: Field Survey 2010

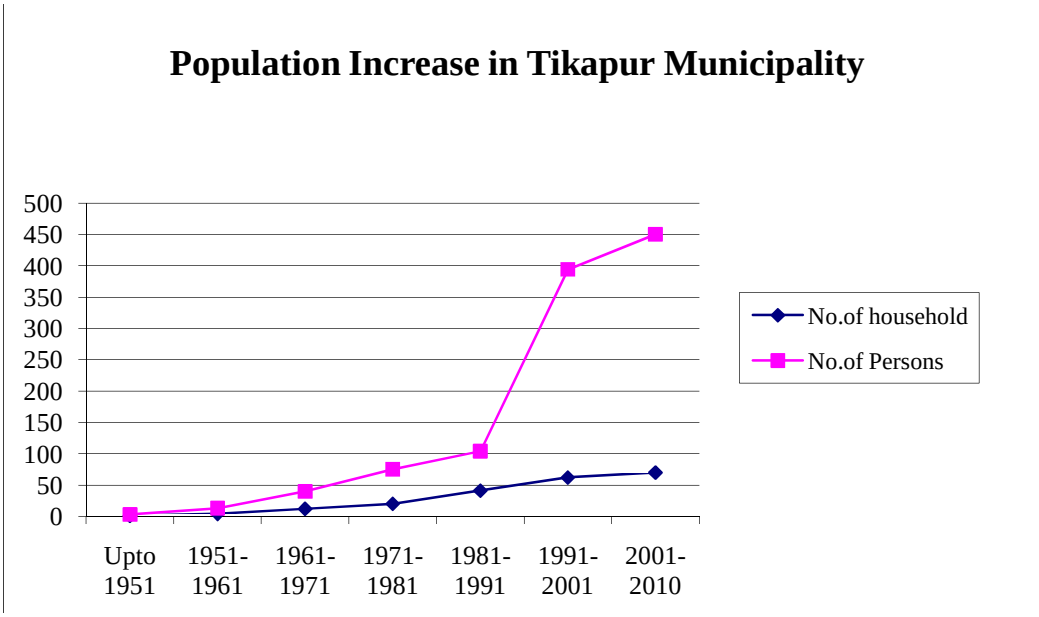


Figure 6.12

Population growth is a changing process of human settlement according to surrounding environment. High density, quick mobility, elaborate division of labor and sharp social distance are the continual process of population growth.

Population growth of Tikapur has been increasing since 1972/73. When Tikapur Development Committee executed its first plan, more people came here to get plots of land in this planned area. Gradually, Tikapur developed

the road, bridge, school, health post, market centre and other urban activities. In 1983/84, the second urban expansion plan was executed. A large mass of people was in-migrated here from different part of the country to settle in this town planning area. Due to high population pressure, agricultural lands are changed into the urban complex area. More urban facilities are developed in this area. As a result, land value of the urban area has highly increased. In this way, urban growth of Tikapur has been increasing rapidly by development of urban facilities, and population pressure.

(iii) Over Utilization of Natural Resources

The increasing population pressure in Far-western urban areas in the over utilization of natural resources, such as the forest resources, land and water resources have been utilized to their full capacity. The forest has been cleared for settlement and cultivation. At present even the agricultural land slowly has been transferred to urban residence. The cost of land is very high and the remaining few agricultural land has been expensive. Many households have begun to sell their land as residential plots rather than agriculture plots so that they could get large amount of money. A large section of cultivated land has been lost to settlement in this way.

Due to high population pressure, the natural resources as forest land and water resources etc. have utilized to their full capacity. Agricultural land is used to its optimum level to fulfill the demand of various food crops of the municipality and to get money by selling the products.

(iv) Pattern of Migration

Migration is the temporary or permanent move of people from a native locality to a new locality, settlement, region country or continent.

Ravenstein's Law of migration state, inter alia, that people move from areas of low opportunities to areas of high opportunities, where the destinations are determined by distance, tend to be nearby and favour urban areas(E.Ravenstein, 1885). The determinants of such moves are either demographic (Large household size), geographic (Place utility), socio-psychological (the bright light effect) economic, or attitudinal (aspirations to improve one's economic status and income). (Bilsborrow,Oberai and Standing, 1984)

Theoretically, migration takes place between two locations rural and urban constituting, based on origin and destination, four categories: rural to rural, rural to urban, urban to urban and urban to rural. A number or explanatory theories exist: the neoclassical macroeconomic theory of migration, the microeconomic model of migration and neoeconomics of migration, as well as theories on the dual labour market, the world system network, institutional migration and cumulative causation and migration (Lewis, 1954 and 1958; Fei and Ranis, 1961'Todari, 1971 and 1976). These theories cover supply and demand mechanisms of labour, individual or household decisions to migrate, the structure of the world market, networks of interpersonalities, the institutionalization of labour supply, cumulative causation of movement or measure of stability, and structure over space and time.

Migration can be categorized as international or internal. International migrants include settlers, migrant workers, highly skilled workers, students, asylum-seekers (Skeldon, 1992) and businessmen. Such migrants originate in both rural and urban areas and their destinations are normally urban centres. Internal migration tends to be undertaken by students, service holders, farmers, skilled and unskilled workers, informal petty traders,

businessmen, service providers, social workers, land-encroachers, displaced persons and otheUS Doller Depending on its time frame, internal migration can be categorized as permanent, temporary or seasonal. In one ideal development path, people remain in their respective places of birth. There, they either develop the necessary physical, economic and social infrastructures to create opportunities and access the required economic and social services or the Government develops and provides these foundations for development. In this scenario settlements or individual homesteads are scattered evenly across the country over habitable areas and a new organization of spatial economy emerges. This not only minimizes the phenomena associated with migration, but also eliminates regional and spatial disparities and alleviates poverty.

Like in most places, migration in Nepal is a historical phenomenon. It is driven by oppressive land and labour policies, overpopulation, exceeded carrying capacity of land resources and a lack of non-farm employment opportunities (Hitchcock, 1 961; Shrestha, 1985) encouraged by available or expected opportunities and facilitated by various rationales. The census 2001 data clearly indicate that Nepal is still one of the least urbanized countries in the world, with only14.2 per cent of the total population identified as urban. Nepal is also one of the least developed countries in the world. Similarly the census2001 data reveal that only 25.5 per cent of all migrants followed a rural to urban pattern (Nepal 2003).

The pattern of migration towards Far-western cities consisted of migrants from three ecological zones, surrounding VDCs of urban districts and immigrants from India. The main characteristic of migration is in-migration in the Terai and out-migration from the Mountain and Hills. The

general pattern of migration is from less development rural areas to developed urban centres.

Table 6.14: Distribution Pattern of Migration by their Place of Origin in Amargadhi Municipality

Area	No. of household	Per cent	No. of Persons	Per cent
Mountain	22	15.7	76	11.2
Hill	35	25.0	128	18.9
VDC Dadeldhura	83	59.3	473	69.9
Total	140	100	677	100

Source: Field Survey 2010

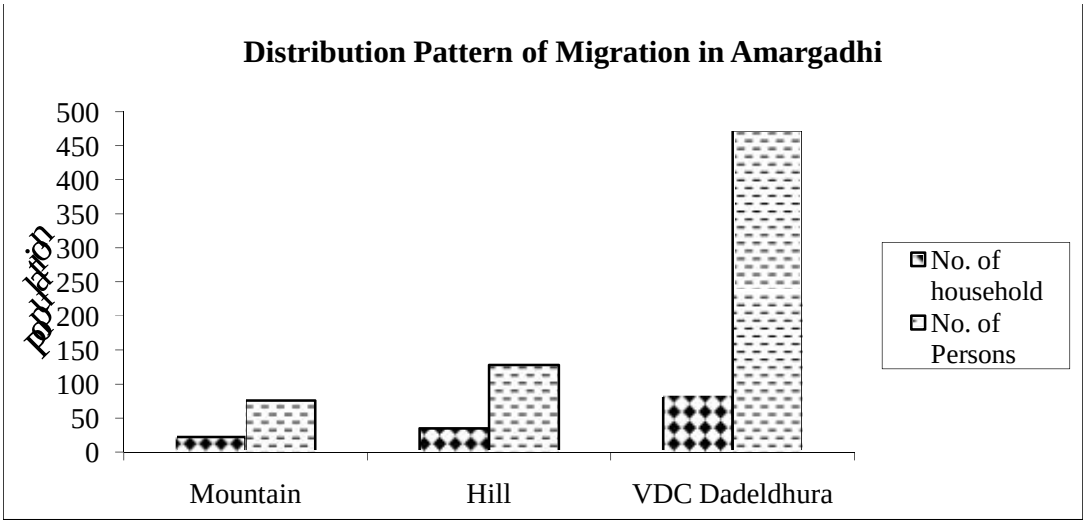


Figure 6.13

In the table above the total migrant households 59.3 per cent VDC in Dadeldhura and 25 per cent are hill and 15.7 per cent are mountain. The flow is direct from resource poor to resource rich areas which may be attributable among others to economic reasons in the hope of finding better job opportunity for employment.

Table 6.15: Distribution Pattern of Migration by their Place of Origin in Dasharathchand Municipality

Area	No. of household	Per cent	No. of Persons	Per cent
Mountain	17	12.1	62	9.4
Hill	26	18.6	87	13.1
VDC Baitadi	97	69.3	514	77.5
Total	140	100	663	100

Source: Field Survey 2010

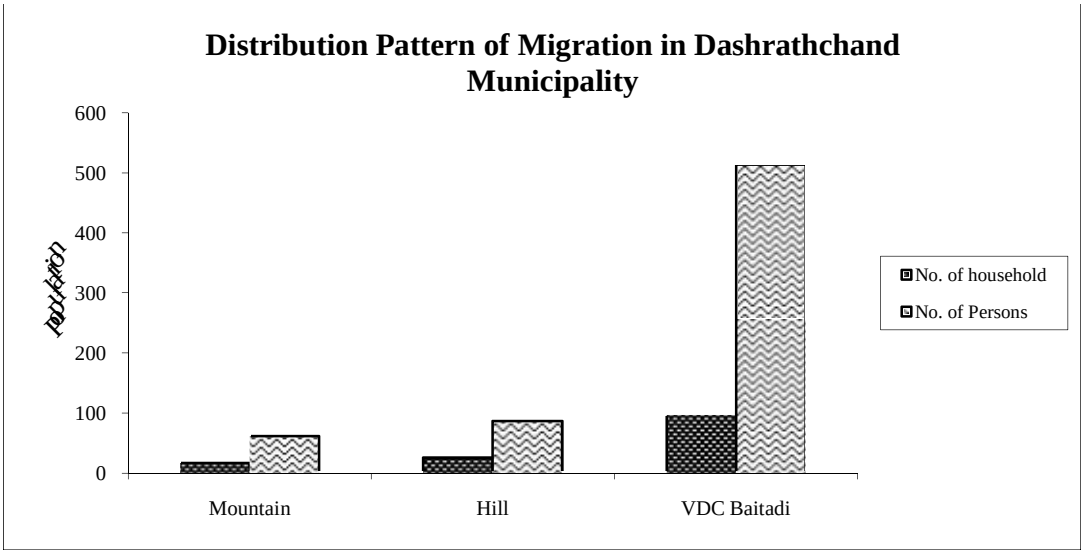


Figure 6.14

Of the total migrants households12.1 per cent from the mountain, 18.6 were from the hill and 69.3 from VDC Baitadi district. The largest number of migrants households were from Baitadi district.

Table 6.16: Distribution Pattern of Migration by their Place of Origin in Dhangadhi Municipality

Area	No. of household	Per cent	No. of Persons	Per cent
Mountain	19	9.0	78	7.1

Hill	143	68.2	852	77.0
Terai	25	11.9	81	7.3
VDC Kailali	22	10.4	92	8.3
India	1	0.5	3	0.3
Total	210	100	1106	100

Source: Field Survey 2010

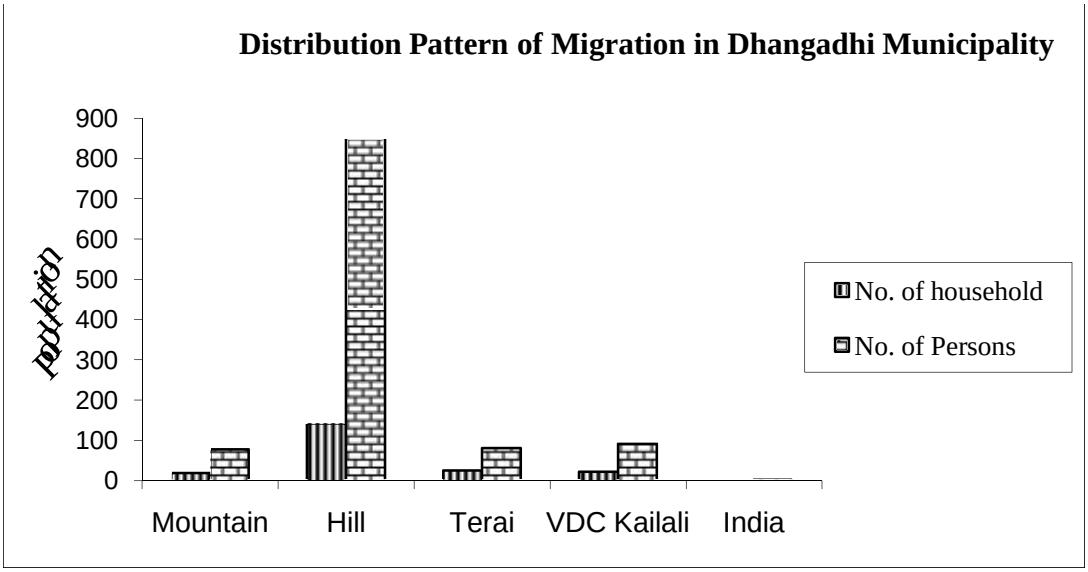


Figure 6.15

The table above presents the distribution pattern of migration out of the total migrant households, 68.2 per cent are hill and 11.9 per cent are Terai, 10.4 were from VDC kailali, 9 per cent households from mountain and 0.5 per cent from India. Of the total migrants households 99.5 per cent are internal migrants. Among the internal migration majority are from the hills by Terai and mountain. The flow of migration is directly from resource which may be attributable among other economic region in the hope of finding better land for cultivation, better education, health, and job opportunity for employment.

Table 6.17: Distribution Pattern of Migration by their Place of Origin in Dipayal Silgadhi Municipality

Area	No. of household	Per cent	No. of Persons	Per cent
Mountain	20	14.3	68	9.4
Hill	33	23.6	117	16.2
VDC Doti	87	62.1	537	74.4
Total	140	100	722	100

Source: Field Survey 2010

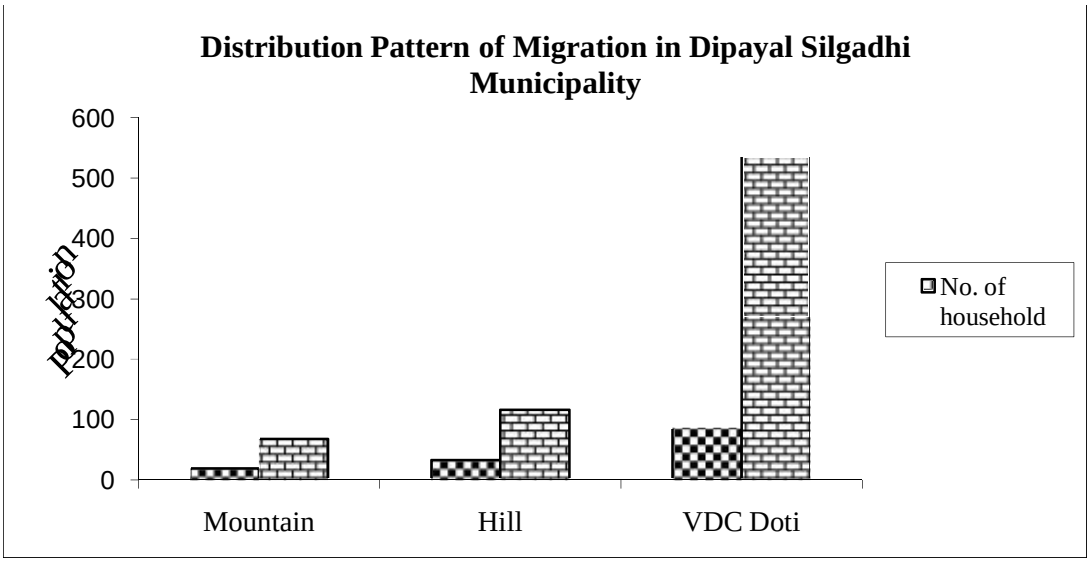


Figure 6.16

The table above the total migrants households 62.1 per cent are VDC Doti and 23.6 per cent are hill and 14.3 are mountain. The flow is direct from resource poor to resource rich areas which may be attributable among others to economic reasons in the hope of finding better job opportunity for employment.

Table 6.18: Distribution Pattern of Migration by their Place of Origin in Mahendranagar Municipality

Area	No. of household	Per cent	No.of	Per cent

			Persons	
Mountain	31	14.7	128	11.3
Hill	115	54.8	748	65.9
Terai	31	14.8	116	10.3
VDC Kanchanpur	33	15.7	142	12.5
Total	210	100	1134	100

Source: Field Survey 2010

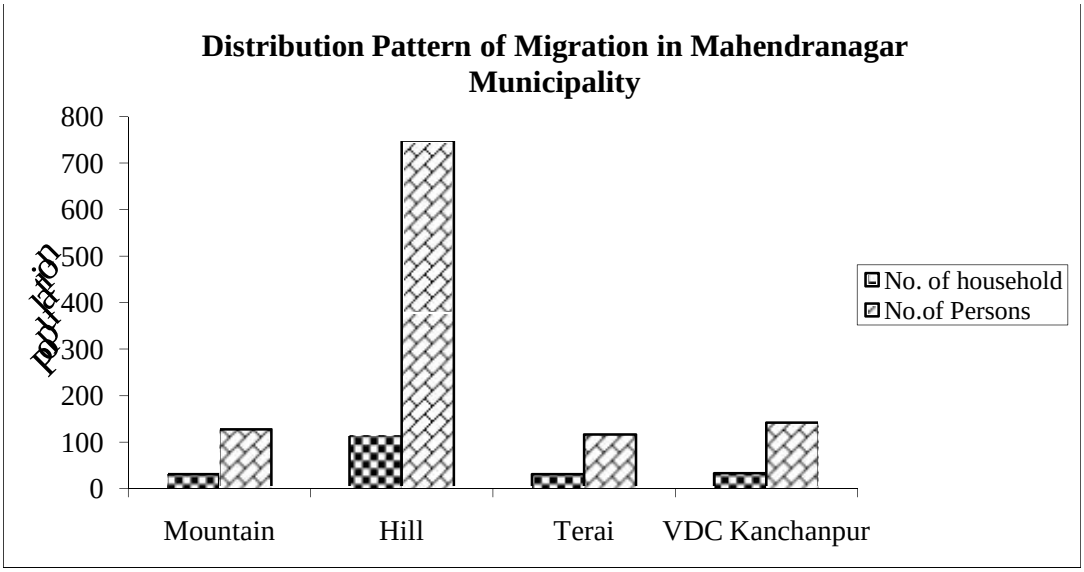


Figure 6.17

The table above presents the distribution pattern of migration out of the total migrant households 54.8 per cent are hill and 14.8 per cent are Terai, 15.7 were from VDC kanchanpur, 14.7 per cent households from mountain. Among the internal migration majority are from the hills by Terai and mountain. The flow of migration is directly from resource which may be attributable among other economic region in the hope of finding better land for cultivation, better education, health, and job opportunity for employment.

Table 6.19: Distribution Pattern of Migration by their Place of Origin in Tikapur Municipality

Area	No. of household	Per cent	No. of Persons	Per cent
Mountain	16	7.6	53	4.9
Hill	126	60.0	779	72.2
Terai	36	17.1	132	12.3
VDC Kailali	32	15.3	115	10.6
Total	210	100	1079	100

Source: Field Survey 2010

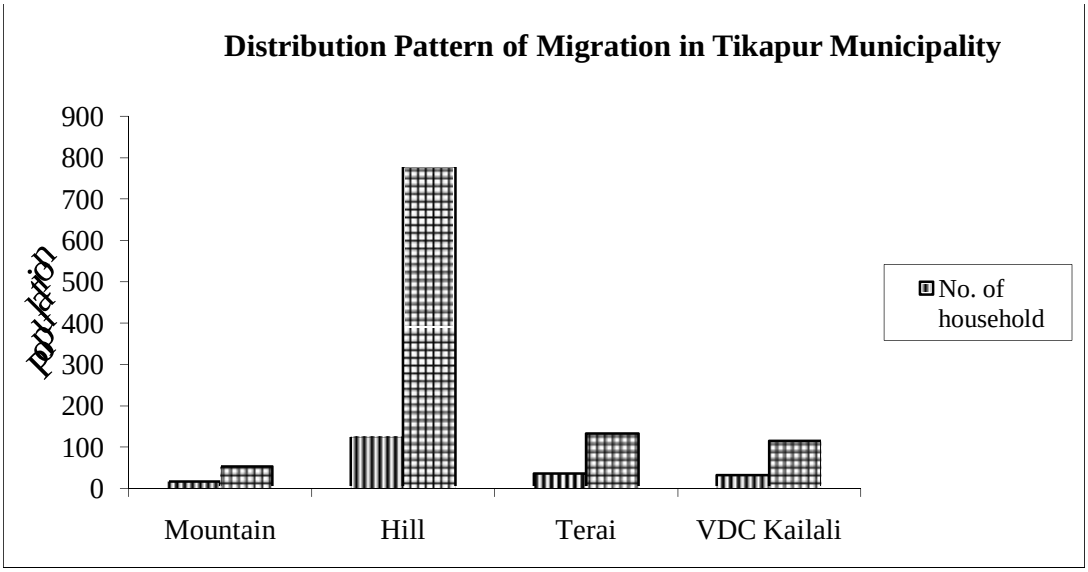


Figure 6.18

The table above presents the distribution pattern of migration out of the total migrant households 60.0 per cent are hill and 17.1 per cent are Terai, 15.3 were from VDC kailali, 7.6 per cent households from mountain. Among the internal migration majority are from the hills by Terai and mountain. The flow of migration is directly from resource which may be attributable among other economic region in the hope of finding better land for cultivation, better education, health, and job opportunity for employment.

(i) Urban Planning Trend in Terai Cities

The urban developments in Terai cities are majorly concentrated around the administrative and commercial areas on the either sides of Dhangadhi Main road, Kailali Multiple Campus areas, Hasanpur, Taranagar, Behadi, Mahendranagar Main market sector and Tikapur main market. Apart from these, most of the other parts of the municipalities are rural in nature with agriculture as a main source of livelihood. The establishment of regional administrative centre in Dhangadhi Municipality and the only operating airport in the far western development region has led to the formation of Dhangadhi Municipality as a market hub for transaction of goods and services for all the nine districts of the far western development region.

(ii) Land Value qualities in Cities Areas

The price of land is one of the most important criteria used by many scholars for the delineation of the fringe. Rodehaver (1947) adopted per acre assessed value of land and buildings as one of his criteria in his study of Madison fringe of Wisconsin state. Hind smith (1962) also delineated the fringe of Ontario on the basis of the value of the farm land assessed at higher than normal farm lands as shown by local assessoUS Doller Value in urban land, as in agricultural land is the result of economic or ground rent capitalized.

The land in the environs of Far-Western cities is chiefly meant for built-up uses, which enhance the land values. The data for the figure were collected in 2010 through field survey and municipality smarika. It is because the pattern of land use and land values are mutually determining. Further in cities economic rent is based on superiority of location only,

the sole function of city land being to furnish an area on which to erect buildings.

The significance of nearness is true not only for the inferior land (poor production) but also for the value of the fertile agricultural land, which is highest in the township nearest to the cities. The price of land near cities is increasing day by day and is many times more than the farm value. The buyer of a suburban lot acquires access to a bundle of valuable amenities including locational advantage, air quality, association with neighbors, landscape features and school, play-grounds and other public services.

Table 7.1: Land Value Qualities in Amargadhi Municipality

Ward. No.	2001(US Doller.Per hector)	2011(US Doller Per hector)	Net Increase	Per centage Increase
1	20000	110000	90000	450
2	16000	98000	82000	512.5
3	13000	87000	74000	569.23
4	33000	220000	187000	566.66
5	33000	262000	229000	693.93
6	49000	220000	171000	348.97
7	13000	87000	74000	569.23
8	33000	110000	77000	233.33
9	20000	110000	90000	450
10	20000	110000	90000	450
11	16000	98000	82000	512.5

Source: - Amargadhi Municipality Smarika 2010

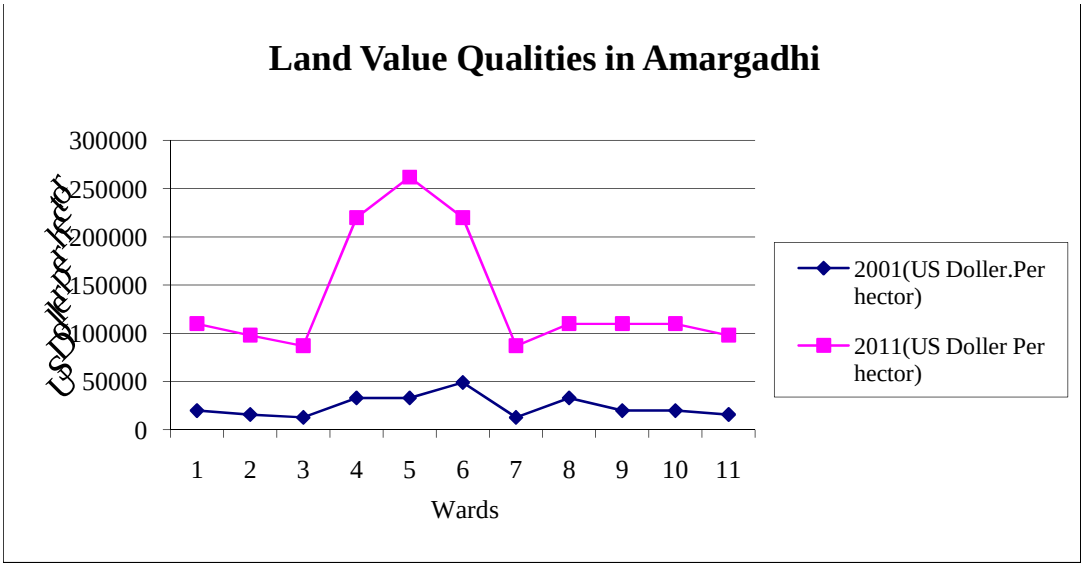


Figure 7.1

In the given table the land value is not equal in all areas of municipality. Market facilities, Irrigation facilities accessibility, flood; landslide, erosion, soil type, educational, health, slope etc. are affecting factors for the land value. The average land value of different localities is given below.

The municipal smarika shows the land value of different wards of the year 2001 and 2011. In 2001, the high land value were recorded wards are 6, US Doller 49,000; 4, US Doller 33,000; 5, US Doller 33,000; 8, US Doller 33,000 Per hector respectively because these wards are including the market centre and there is development of urban facilities and high accessibility. At the same time the low land value recorded ward are 1, US Doller 20,000; 9, US Doller 20,000; 10, US Doller 20,000; 2, US Doller 16,000; 11, US Doller16, 000; 3, US Doller 13,000; 7, US Doller 13,000 per hector respectively. It is due to these wards are mostly far from the market area as well as road. Thus the land value is not significant at that period. There is vast difference between the highest lowest land values. The high land value

is recorded in the areas which are good residential, commercial, quality education, and agriculture purposes. But where the areas are less fertile and there is lack of irrigation, they are unsuitable for residence, inaccessible and there is no possibility of commercial activities.

In the year 2011, in the same localities the high land value recorded wards are 5, US Doller 262000; 4, US Doller 220000; 6, US Doller 220, 000; 8, US Doller 110000; 1, US Doller 110000; 9, US Doller 110000; 10, US Doller 110000 Per hector respectively. At the same time the low land value in recorded wards are recorded ward are 2, US Doller 98000; 11, US Doller 98000; 3, US Doller 87000; 7, US Doller 87000 Per hector respectively.

Table 7.2: Land Value Qualities in Dasharathchand Municipality

Ward. No.	2001(US Doller Per hector)	2011(US DollerPer hector)	Net Increase	Per centage Increase
1	13000	98000	85000	653.84
2	13000	98000	85000	653.34
3	10000	82000	72000	720.0
4	8000	82000	74000	925.0
5	16000	164000	148000	925.0
6	10000	82000	72000	720.0
7	10000	82000	72000	720.0
8	8000	82000	74000	925.0
9	10000	82000	72000	720.0
10	7000	76000	69000	985.71
11	6000	60000	54000	900.0
12	6000	60000	54000	900.0
13	7000	66000	69000	985.7

Source: - Dasharathchand Municipality Smarika 2010

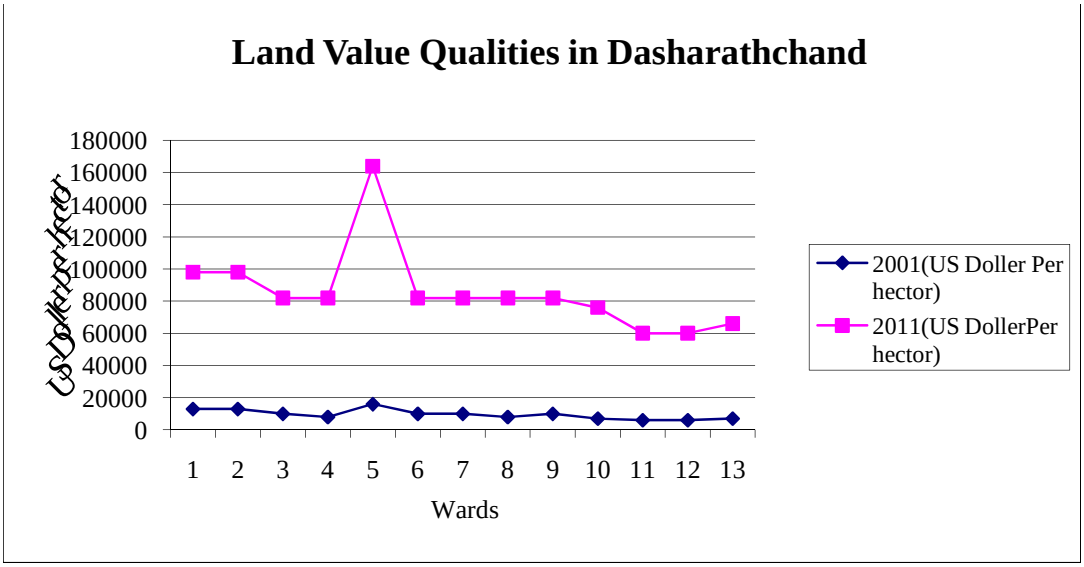


Figure 7.2

The given table shows the land value is not equal in all areas of municipality. Market facilities, Irrigation facilities, accessibility, flood; landslide, erosion, soil type, educational, health, slope etc. are affecting factors for the land value. The average land value of different localities is given below.

The municipal smarika shows the land value of different wards of the year 2001 and 2011. In 2001, the high land value were recorded wards are 5, US Doller 16000; 1, US Doller 13000; 2, US Doller 13000 Per hector respectively because these wards are including the market centre and there is development of urban facilities and high accessibility. At the same time the low land value recorded ward are 3, US Doller 10000; 6, US Doller 10000; 7, US Doller 10000; 9, US Doller 10000; 4, US Doller 8000; 8, US Doller 8000; 10, US Doller 7000; 13 US Doller7000; 11, US Doller 6000 and 12, US Doller 6000 Per hector respectively. It is due to these wards are mostly far from the market area as well as road. Thus the land value is not

significant at that period. There is vast difference between the highest lowest land values. The high land value is recorded in the areas which are good for residential, commercial, quality education, and agriculture purposes. But where the areas are less fertile and there is lack of irrigation, they are unsuitable for residence, inaccessible and there is no possibility of commercial activities.

In the year 2011, in the same localities the high land value recorded wards are 5, US Doller 164000; 1, US Doller 98000; 2, US Doller 98000 Per hector respectively. At the same time the low land value recorded wards are recorded ward are 3, US Doller 82000;4, US Doller 82000; 6, US Doller 82000; 7, Rs82000; 8, US Doller 82000; 9, US Doller 82000; 10, US Doller 76000; 13, US Doller 66000; 11, US Doller 6000 and ward 12, US Doller 6000 Per hector respectively.

Table 7.3: Land Value Qualities in Dhangadhi Municipality

Ward. No.	2001(US DollerPer hector)	2011(US DollerPer hector)	Net Increase	Per centage Increase
1	262000	1332000	1070000	408.39
2	66000	327000	262000	396.96
3	49000	349000	300000	612.24
4	39000	306000	267000	684.61
5	98000	459000	361000	368.36
6	20000	197000	177000	885.0
7	58000	306000	248000	427.58
8	66000	153000	87000	131.8
9	12000	58000	46000	383.33
10	13000	48000	35000	269.23
11	20000	47000	27000	135.0

12	20000	47000	27000	135.0
13	16000	98000	82000	512.5
14	20000	47000	27000	135.0

Source: - Dhangadhi Municipality Smarika 2010

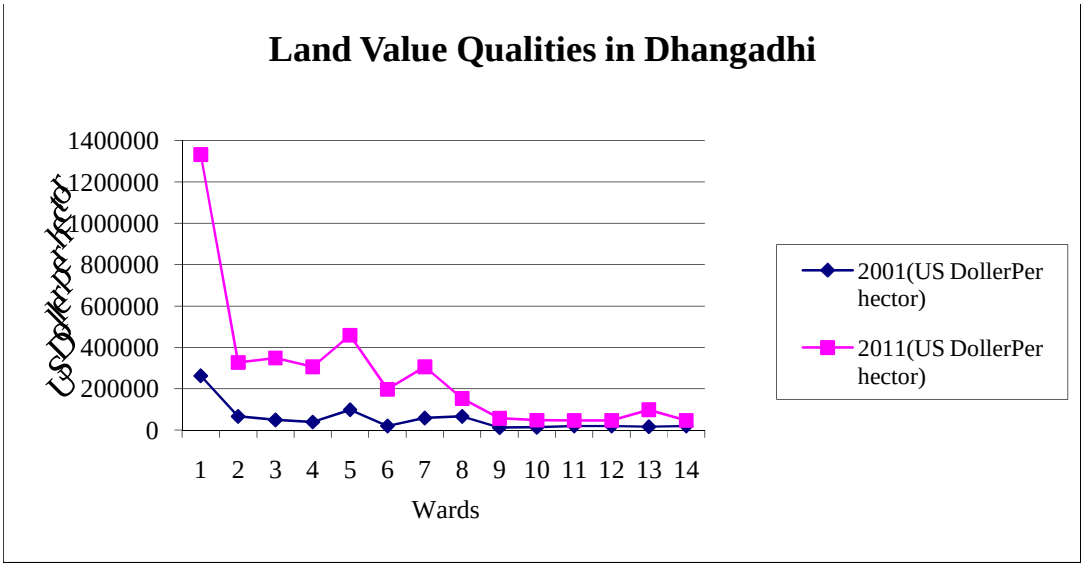


Figure 7.3

In the above table the land value is not equal in all areas of municipality. Market facilities, Irrigation facilities accessibility, flood; soil erosion, soil type, educational, health, transportation slope etc. are affecting factors for the land value. The average land value of different localities is given below.

The municipal smarika shows the land value of different wards of the year 2001 and 2011. In 2001, the high land value were recorded wards are 1, US Doller 262000; 5, US Doller 98000; 2, US Doller 66000; 8, US Doller 66000 Per hector respectively because these wards are including the market centre and there is development of urban facilities and high accessibility. At the same time the low land value recorded ward are 7, US Doller 58000; 3, US Doller 49000; 4, US Doller 39000; 6, US Doller 20000; 11, US Doller 20000; 12, US Doller 20000; 14, US Doller 20000; 13, US Doller 16000; 10, US Doller 13000 and ward 9. US Doller 12000 per hector respectively. It

is due to these wards are mostly far from the market area as well as road. Thus the land value is not significant at that period. There is vast difference between the highest lowest land values. The high land value is recorded in the areas which are good for residential, commercial, quality education, and agriculture purposes. But where the areas are less fertile and there is lack of irrigation, they are unsuitable for residence, inaccessible and there is no possibility of commercial activities.

In the year 2011, in the same localities the high land value recorded wards are 1, US Doller 1332000; 5, US Doller 459000; 3, US Doller 349000; 2, US Doller 327000; 4, US Doller 306000; 7, US Doller 306000 Per hector respectively. At the same time the low land value recorded wards are recorded ward are 6, US Doller 197000; 8, US Doller 153000; 13, US Doller 98000; 9, US Doller 58000; 10, US Doller 48000; 11, US Doller 47000; 12, US Doller 47000; 14, US Doller 47000 per hector respectively.

Table 7.4: Land Value Qualities in Dipayal Silgadhi Municipality

Ward. No.	2001(US DollerPer hector)	2011(US DollerPer hector)	Net Increase	Per centage Increase
1	14000	82000	68000	485.7
2	11000	48000	37000	336.36
3	13000	115000	102000	784.61
4	20000	163000	143000	715.0
5	8000	79000	71000	887.5
6	13000	115000	102000	784.6
7	15000	131000	116000	773.33
8	10000	82000	72000	720.0
9	13000	115000	102000	784.6
10	11000	48000	37000	336.36

11	7000	66000	59000	842.85
12	7000	49000	42000	600.0
13	8000	74000	71000	887.5
14	7000	66000	59000	842.85

Source: - Dipayal Silgadhi Municipality Smarika 2010

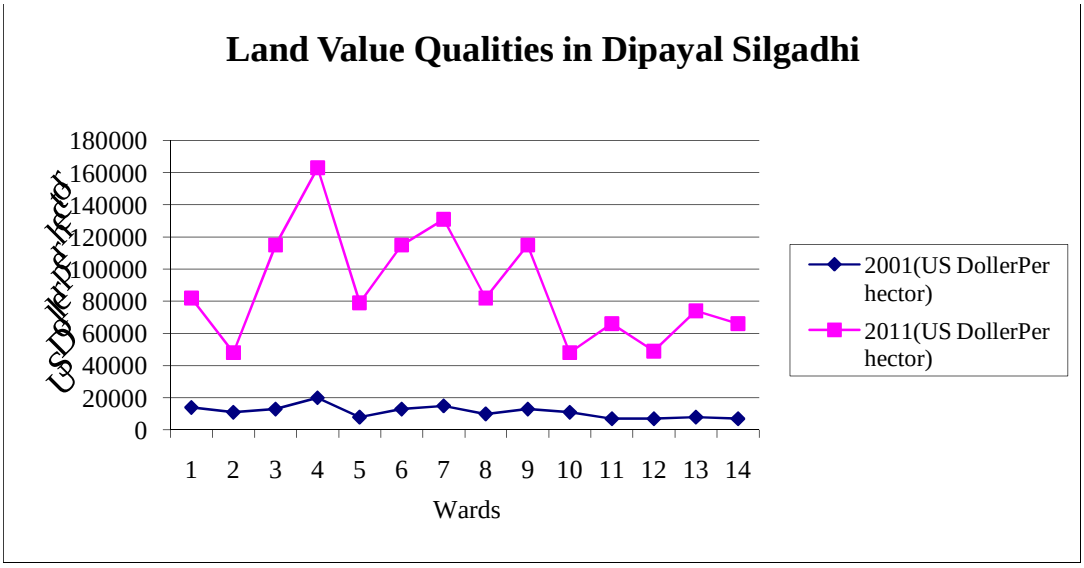


Figure 7.4

In the above table the land value is not equal in all areas of municipality. Market facilities, Irrigation facilities accessibility, flood; landslide, erosion, soil type, educational, health, slope etc. are affecting factors for the land value. The average land value of different localities is given below.

The municipal smarika shows the land value of different wards of the year 2001 and 2011. In 2001, the high land value were recorded wards are 4, US Doller 20000; 7, US Doller 15000; 1, US Doller14000 3, US Doller 13000; 6, US Doller 13000; 9, US Doller 13000 Per hector respectively because these wards are including the market centre and there is development of urban facilities and high accessibility. At the same time the low land value recorded ward are 2, US Doller 11000; 10, US Doller 11000;

8, US Doller10000; 5, US Doller 8000; 13, US Doller8000;12, US Doller 7000; 11, US 7000; 14, US Doller 7000 Per hector respectively. It is due to these wards are mostly far from the market area as well as road. Thus the land value is not significant at that period. There is vast difference between the highest lowest land values. The high land value is recorded in the areas which are good for residential, commercial, quality education, and agriculture purposes. But where the areas are less fertile and there is lack of irrigation, they are unsuitable for residence, inaccessible and there is no possibility of commercial activities.

In the year 2011, in the same localities the high land value recorded wards are 4, US Doller 163000; 7, US Doller 131000; 3, US Doller 115000; 6, US Doller 115000; 9, US Doller 115000 Per hector respectively. At the same time the low land value recorded wards are recorded ward are 2, US Doller 48000; 10, US Doller 48000; 1, US Doller 82000; 8, US Doller 82000; 5, US Doller 79000;12, US Doller 49000; 13, US Doller 79000; 14, US Doller 66000 Per hector respectively.

Table 7.5: Land Value Qualities in Mahendranagar Municipality

Ward. No.	2001(US DollerPer hector)	2011(US DollerPer hector)	Net Increase	Per centage Increase
1	20000	79000	59000	295.0
2	17000	79000	62000	364.70
3	26000	131000	105000	403.84
4	98000	328000	230000	234.69
5	20000	79000	59000	295.0
6	98000	328000	230000	234.69
7	5000	16000	11000	220

8	3000	13000	10000	333.33
9	16000	46000	30000	187.5
10	20000	49000	29000	145
11	17000	66000	49000	288.23
12	4000	16000	12000	300
13	3000	13000	10000	333.33
14	3000	13000	10000	333.33
15	16000	33000	17000	106.25
16	4000	16000	12000	300
17	4000	16000	12000	300
18	33000	193000	160000	484.84
19	3000	13000	10000	333.33

Source: - Mahendranagar Municipality Smarika 2010

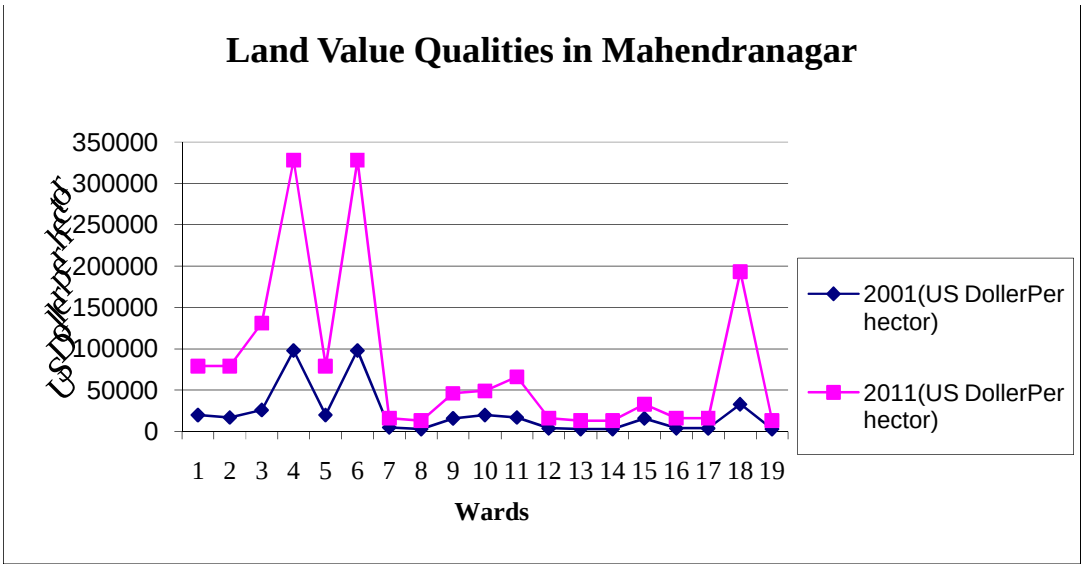


Figure 7.5

In the above table the land value is not equal in all areas of municipality. Market facilities, Irrigation facilities accessibility, flood; soil erosion, soil type, educational, health, transportation, slope etc. are affecting factors for the land value. The average land value of different localities is given below.

The municipal smarika shows the land value of different wards of the year 2001 and 2011. In 2001, the high land value were recorded wards are 4, US Doller 98000; 6, US Doller 98000; 18, US Doller33000; 3, US Doller 26000 per hector respectively because these wards are including the market centre and there is development of urban facilities and high accessibility. At the same time the low land value recorded ward are 1, US Doller 20000; 5, US Doller 20000; 10, US Doller 20000; 2, US Doller 17000; 11, US Doller 17000; 9, US Doller 16000; 7, US Doller 5000; 12, US Doller 4000; 17, US Doller 4000; 16, US Doller 4000; 8, US Doller 3000; 19, US Doller 3000 Per hector respectively. It is due to these wards are mostly far from the market area as well as road. Thus the land value is not significant at that period. There is vast difference between the highest lowest land values. The high land value is recorded in the areas which are good for residential, commercial, quality education, and agriculture purposes. But where the areas are less fertile and there is lack of irrigation, they are unsuitable for residence, inaccessible and there is no possibility of commercial activities.

In the year 2011, in the same localities the high land value recorded wards are 4, US Doller 328000; 6, US Doller 328000; 18, US Doller 193000; 3, US Doller 131000; 1, US Doller 79000; 2, US Doller 79000; 5, US Doller 79000; 11, US Doller 66000 per hector respectively. At the same time the low land value recorded wards are recorded ward are 10, US Doller 49000; 9, US Doller 46000; 11, US Doller 66000; 7, US Doller 16000; 12, US Doller16000; 16, US Doller 16000; 17, US Doller 16000; 8, US Doller 13000; 13, US Doller 13000; 14, Rs 13000; 19, US Doller 13000 Per hector respectively.

Table 7.6: Land Value Qualities in Tikapur Municipality

Ward. No.	2001(US DollerPer hector)	2011(US DollerPer hector)	Net Increase	Per centage Increase
1	7000	131000	124000	1771.42
2	6000	118000	112000	1866.66
3	6000	122000	116000	1933.33
4	13000	262000	249000	1915.38
5	9000	164000	155000	1722.22
6	10000	197000	187000	1870
7	10000	213000	203000	2030
8	11000	229000	218000	1981.81
9	35000	328000	293000	837.14

Source: -Tikapur Municipality Smarika 2010

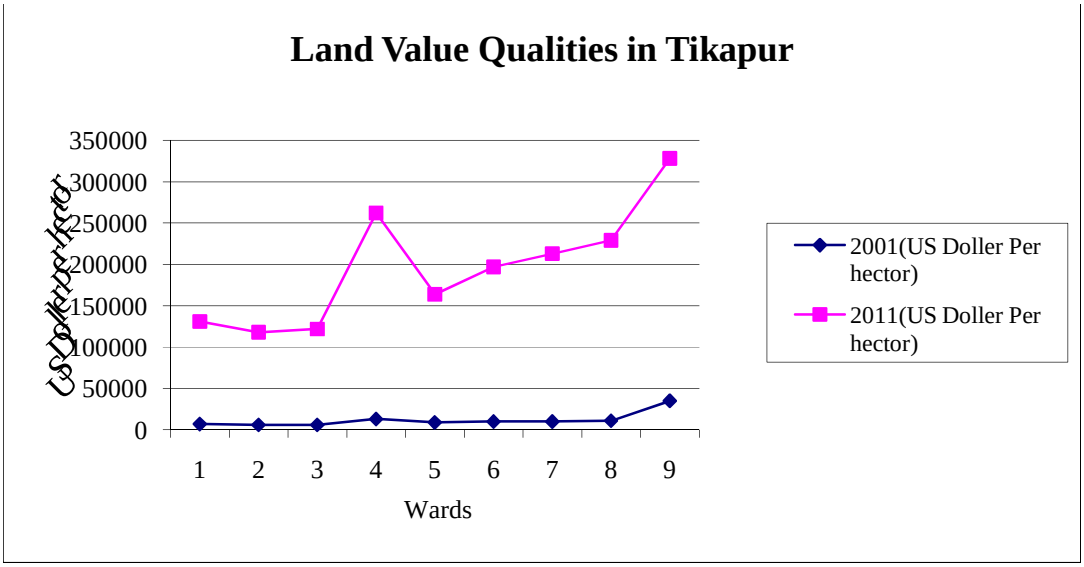


Figure 7.6

In the above table the land value is not equal in all areas of municipality. Market facilities, Irrigation facilities accessibility, flood; soil erosion, soil type, educational, health, slope etc. are affecting factors for the land value. The average land value of different localities is given below.

The municipal smarika shows the land value of different wards of the year 2001 and 2011. In 2001, the high land value were recorded wards are 9, US Doller 35000; 4, US Doller 13000; 8, US Doller 11000 Per hector respectively because these wards are including the market centre and there is development of urban facilities and high accessibility. At the same time the low land value recorded ward are 6, US Doller 10000; 7, US Doller 10000; 5, US Doller 10000; 1, US Doller 7000; 3, US Doller 6000; 2, US Doller 6000 Per hector respectively. It is due to these wards are mostly far from the market area as well as road. Thus the land value is not significant at that period. There is vast difference between the highest lowest land values. The high land value is recorded in the areas which are good for residential, commercial, quality education, and agriculture purposes. But where the

areas are less fertile and there is lack of irrigation, they are unsuitable for residence, inaccessible and there is no possibility of commercial activities.

In the year 2011, in the same localities the high land value recorded wards are 9, US Doller 328000; 4, US Doller 262000; 8, US Doller 229000; 7, US Doller 213000; 6, US Doller 197000 per hector respectively. At the same time the low land value recorded wards are recorded ward are 5, US Doller 164000; 1, US Doller 131000; 3, US Doller 122000; 2, US Doller 118000 per hector respectively.

(iii) Future Prospect of Land Value Pattern

Land cover is the biological state of the earth surface and immediate subsurface, which include biotic diversity, soil quality etc. Land cover is the distribution of physical characteristic of earth's surface in the form of vegetation, water-body, desert, ice, forest and other coverage features on the earth surface including human activities such as mine exposure and settlement (Khanal 2002). Land use involves the manner in which the natural land cover is manipulated by a human agent as well as the intent of manipulated or the purpose for which the land is utilized. The land value pattern is a resultant of the interaction of various physical, socio-economic, environmental and political factors and people's responsiveness towards these forces. The shift in the intent and utilization of the land value in response to the economic, physical, environmental or other factors constitute the land use change.

The process of land value change is very complex phenomena and takes the pathways with different magnitude and pace. Among the factors responsible for land use change, economic factor is seemed as a most predominant one. In economic terms, land is valued as per its utility and

return from it and the competition exists for the best use of land which will yield maximum profit. Ricardo in 1951 has postulated the rent theory to explain the land use change in economic terms. According to him, if land is intensively cultivated, the law of diminishing return is applied and increase in demand makes it necessary to bring in new and inferior land into use. This suggests that human beings seek to economize using the smallest quality of resources to obtain certain result.

Table 7.7: Future Prospect of Land Value Pattern in Amargadhi Municipality

Ward. No.	2001(US DollerPer hector)	2011(US DollerPer hector)	Net Increase	Future prospect after 2021 (US DollerPer hector)	Per centage Increase
1	20000	110000	90000	200000	450
2	16000	98000	82000	180000	512.5
3	13000	87000	74000	160000	569.23
4	33000	220000	187000	407000	566.66

5	33000	262000	229000	491000	693.93
6	49000	220000	171000	391000	348.97
7	13000	87000	74000	160000	569.23
8	33000	110000	77000	187000	233.33
9	20000	110000	90000	200000	450
10	20000	110000	90000	200000	450
11	16000	98000	82000	180000	512.5
Average	24181.8	137454.54	113272.72	250545.45	468.42

Source: -Amargadhi Municipality Smarika 2010

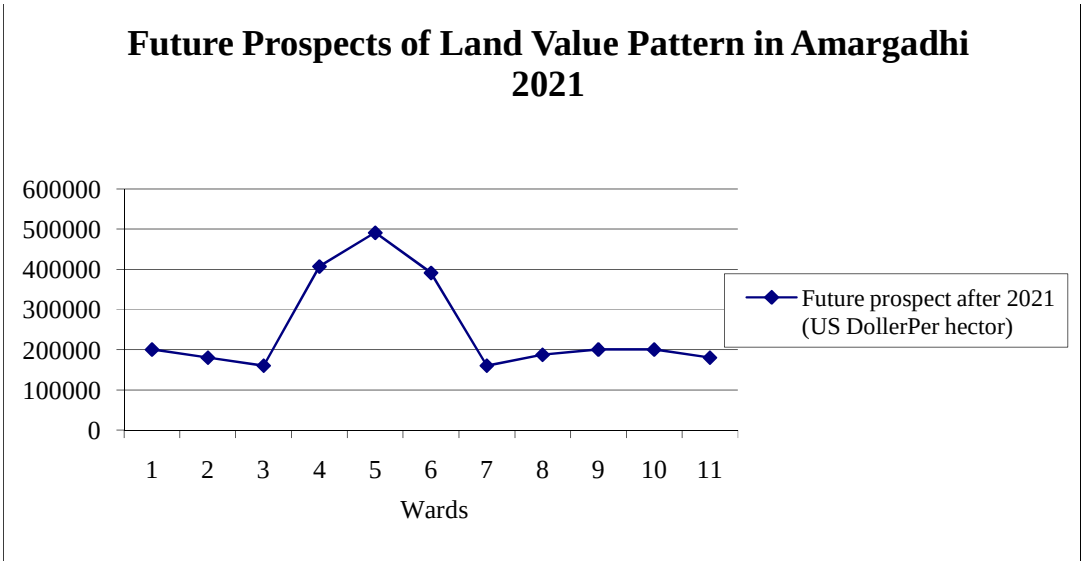


Figure 7.7

The table above shows that the average land value in 2001 was US Doller 24181.8 Per hector. During this period the highest land values were recorded at the ward no. 6 and the lowest land values were recorded at ward no. 3 and 7 of the municipality. It is because of the ward no. 6 and 5 is core area of Amargadhi, or main market centre of municipality. The net increasement of land value is by 468.42 per cent during the period between

2001and 2011. In 2011, the highest land value is recorded at ward no. 5 and the lowest land value is recorded at the ward no. 3 and 7.

Table 7.8: Future Prospect of Land Value Pattern in Dasharathchand Municipality

Ward. No.	2001(US Doller per hector)	2011(US Doller per hector)	Net Increase	Future prospect after 2021 (US Doller per hector)	Per centage Increase
1	13000	98000	85000	183000	653.84
2	13000	98000	85000	183000	653.34
3	10000	82000	72000	154000	720.0
4	8000	82000	74000	156000	925.0
5	16000	164000	148000	312000	925.0
6	10000	82000	72000	154000	720.0
7	10000	82000	72000	154000	720.0
8	8000	82000	74000	156000	925.0
9	10000	82000	72000	154000	720.0
10	7000	76000	69000	145000	985.71
11	6000	60000	54000	114000	900.0
12	6000	60000	54000	114000	900.0
13	7000	66000	69000	135000	985.7
Average	9538.46	85692.30	76923.07	162615.38	806.45

Source: -Dasharathchand Municipality Smarika 2010

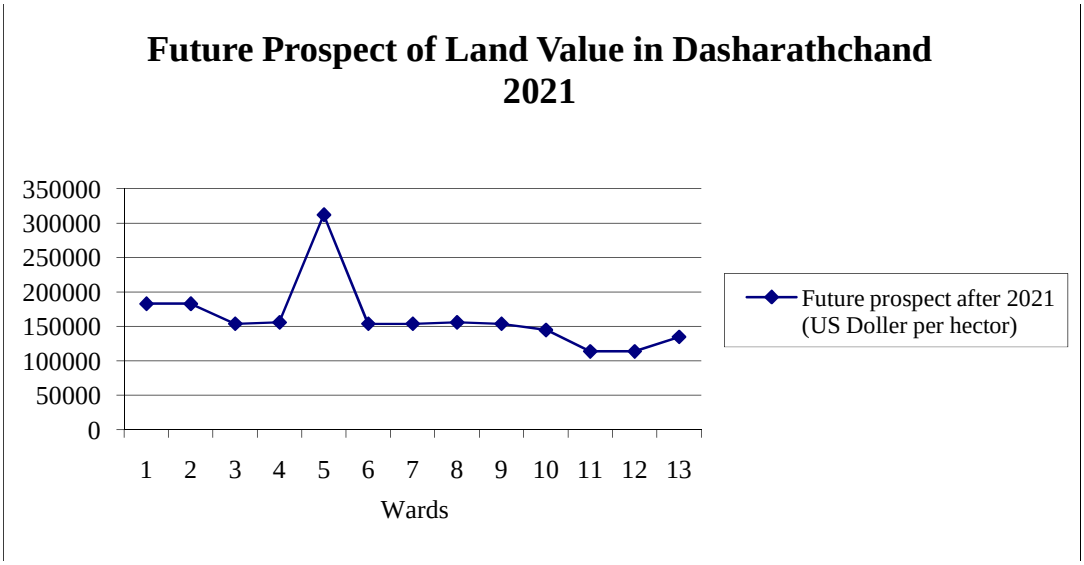


Figure 7.8

The above given table shows that the average land value in 2001, was US Doller 9538.46 per hector. During this period the highest land values were recorded at the ward no. 5 and the lowest land value were recorded at ward no. 11 and 12 of the municipality. It is because of the ward no. 5 is core area of Dasharathchand, or main market centre of municipality. The net increasement of land value is by 806.45 per cent during the period between 2001and 2011. In 2011, the highest land value is recorded at ward no. 5 and the lowest land value is recorded at the ward 10.

Table 7.9: Future Prospect of Land Value Pattern in Dhangadhi Municipality

Ward. No.	2001(US DollerPer hector)	2011(US DollerPer hector)	Net Increase	Future prospect after 2021 (US DollerPer hector)	Per centage Increase
1	262000	1332000	1070000	2402000	408.39
2	66000	327000	262000	589000	396.96
3	49000	349000	300000	649000	612.24
4	39000	306000	267000	573000	684.61
5	98000	459000	361000	820000	368.36
6	20000	197000	177000	374000	885.0
7	58000	306000	248000	554000	427.58
8	66000	153000	87000	240000	131.8
9	12000	58000	46000	104000	383.33
10	13000	48000	35000	83000	269.23
11	20000	47000	27000	74000	135.0
12	20000	47000	27000	74000	135.0
13	16000	98000	82000	108000	512.5
14	20000	47000	27000	74000	135.0
Average	54214.28	296571.42	215428.57	479857.14	397.36

Source: -Dhangadhi Municipality Smarika 2010

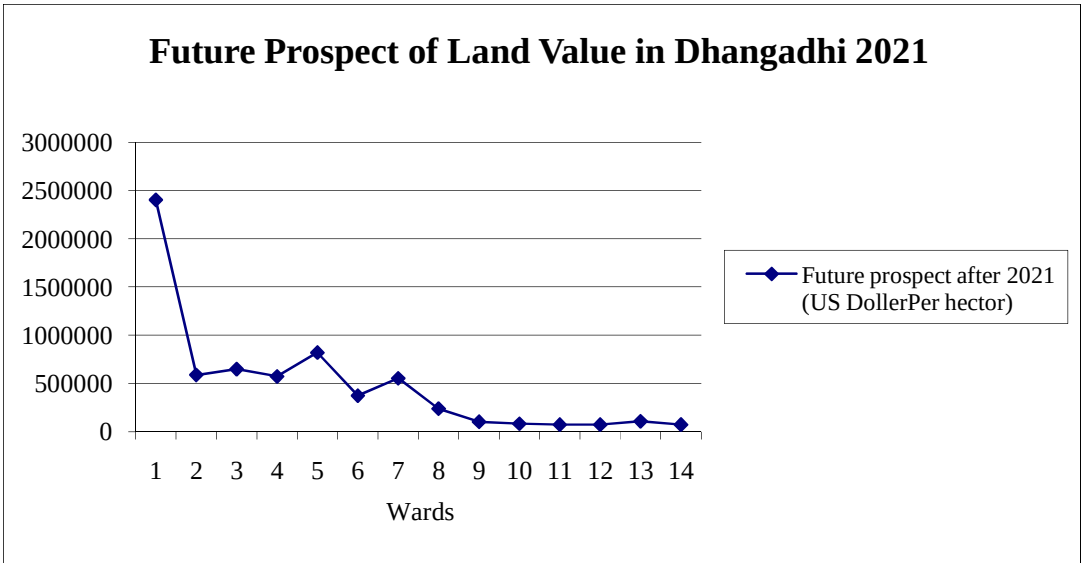


Figure 7.9

The given table shows that the average land value in 2001 was US Doller 54214.28 per hector. During this period the highest land values were recorded at the ward no. 1 and the lowest land value were recorded at ward no. 9 of the municipality. It is because the ward no. 1 is core area of Dhangadhi, or main market centre of municipality. The net increasement of land value is by 397.36 per cent during the period between 2001and 2011. In 2011, the highest land value is recorded at ward no. 1 and the lowest land value is recorded at the ward no. 11 and 12.

Table 7.10: Future Prospect of Land Value Pattern in Dipayal Silgadhi Municipality

Ward. No.	2001(US Doller per hector)	2011(US Doller per hector)	Net Increase	Future prospect after 2021 (US Doller per hector)	Per centage Increase
1	14000	82000	68000	150000	485.7
2	11000	48000	37000	85000	336.36
3	13000	115000	102000	217000	784.61
4	20000	163000	143000	306000	715.0
5	8000	79000	71000	150000	887.5
6	13000	115000	102000	217000	784.6
7	15000	131000	116000	247000	773.33
8	10000	82000	72000	154000	720.0
9	13000	115000	102000	217000	784.6
10	11000	48000	37000	85000	336.36
11	7000	66000	59000	125000	842.85
12	7000	49000	42000	91000	600.0
13	8000	74000	71000	150000	887.5
14	7000	66000	59000	125000	842.85
Average	11214.29	88228.57	77214.29	165642.86	688.53

Source: -Dipayal Silgadhi Municipality Smarika 2010

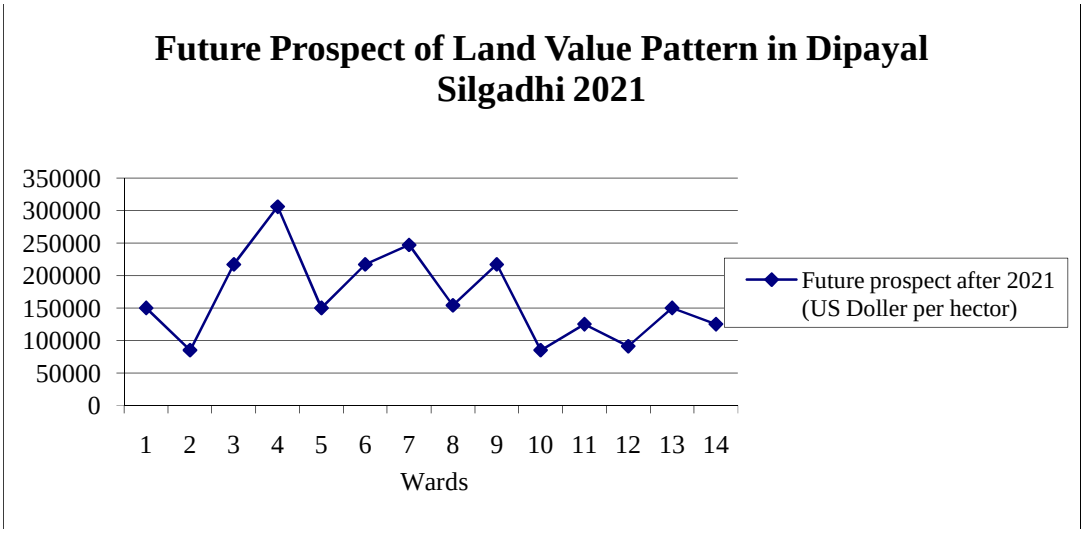


Figure 7.10

The table above shows that the average land value in 2001 was US Doller 11214.29 per hector. During this period the highest land values were recorded at the ward no. 4 and the lowest land value were recorded at ward no. 11 and 14 of the municipality. It is because of the ward no. 4 is core area of Dipayal Silgadhi, or main market centre of municipality. The net increasement of land value is by 688.53 per cent during the period between 2001and 2011. In 2011, the highest land value is recorded at ward no. 4 and the lowest land value is recorded at the ward no. 11and 14.

Table 7.11: Future Prospect of Land Value Pattern in Mahendranagar Municipality

Ward. No.	2001(US Doller per hector)	2011(US Doller per hector)	Net Increase	Future prospect after 2021(US Doller per hector)	Per centage Increase
1	20000	79000	59000	138000	295.0
2	17000	79000	62000	141000	364.70
3	26000	131000	105000	236000	403.84
4	98000	328000	230000	558000	234.69
5	20000	79000	59000	138000	295.0
6	98000	328000	230000	558000	234.69
7	5000	16000	11000	27000	220
8	3000	13000	10000	23000	333.33
9	16000	46000	30000	76000	187.5
10	20000	49000	29000	78000	145
11	17000	66000	49000	113000	288.23
12	4000	16000	12000	28000	300

13	3000	13000	10000	23000	333.33
14	3000	13000	10000	23000	333.33
15	16000	33000	17000	50000	106.25
16	4000	16000	12000	28000	300
17	4000	16000	12000	28000	300
18	33000	193000	160000	353000	484.84
19	3000	13000	10000	23000	333.33
Average	21578.95	80368.42	64000.0	139157.89	296.58

Source: -Mahendranagar Municipality Smarika 2010

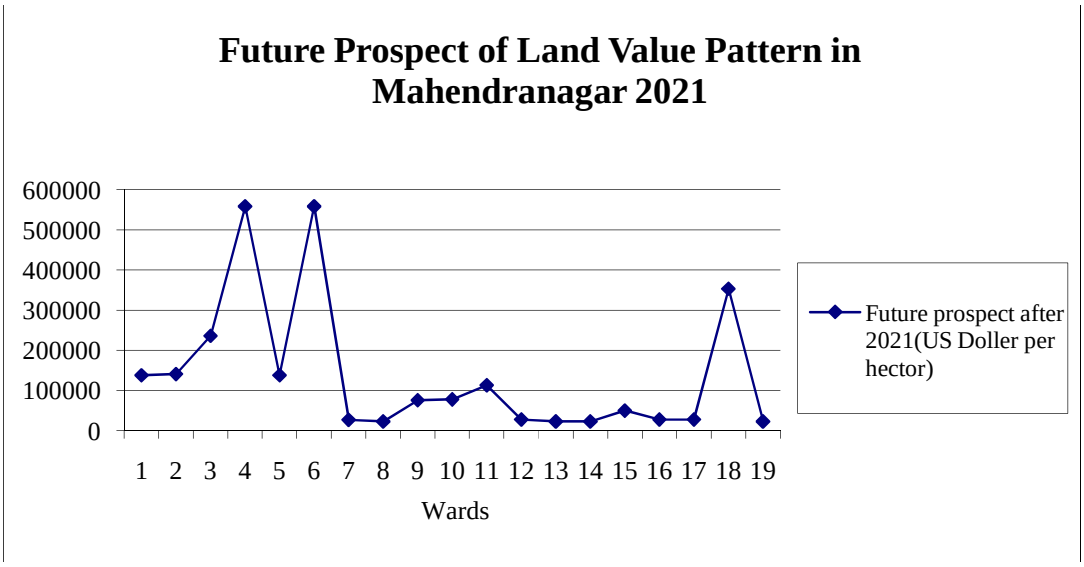


Figure 7.11

The table above shows that the average land value in 2001 was US Doller 21578.95 per hector. During this period the highest land values were recorded at the ward no. 4and 6 and the lowest land value were recorded at ward no. 8, 13, 14 and 19 of the municipality. It is because of the ward no. 4 and 6 is core area of Mahendranagar, or main market centre of municipality. The net increasement of land value is by 296058 per cent during the period between 2001and 2011. In 2011, the highest land value is recorded at ward

no. 4 and 6 and the lowest land value is recorded at the ward no. 8, 13 and 14.

Table 7.12: Future Prospect of Land Value Pattern in Tikapur Municipality

Ward. No.	2001(US Doller per hector)	2011(US Doller per hector)	Net Increase	Future prospect after 2021(US Doller per hector)	Per centage Increase
1	7000	131000	124000	255000	1771.42
2	6000	118000	112000	230000	1866.66
3	6000	122000	116000	238000	1933.33
4	13000	262000	249000	511000	1915.38
5	9000	164000	155000	319000	1722.22
6	10000	197000	187000	384000	1870
7	10000	213000	203000	416000	2030
8	11000	229000	218000	447000	1981.81
9	35000	328000	293000	621000	837.14
Average	11888.89	196000	184111.12	380111.12	1548.59

Source: -Tikapur Municipality Smarika 2010

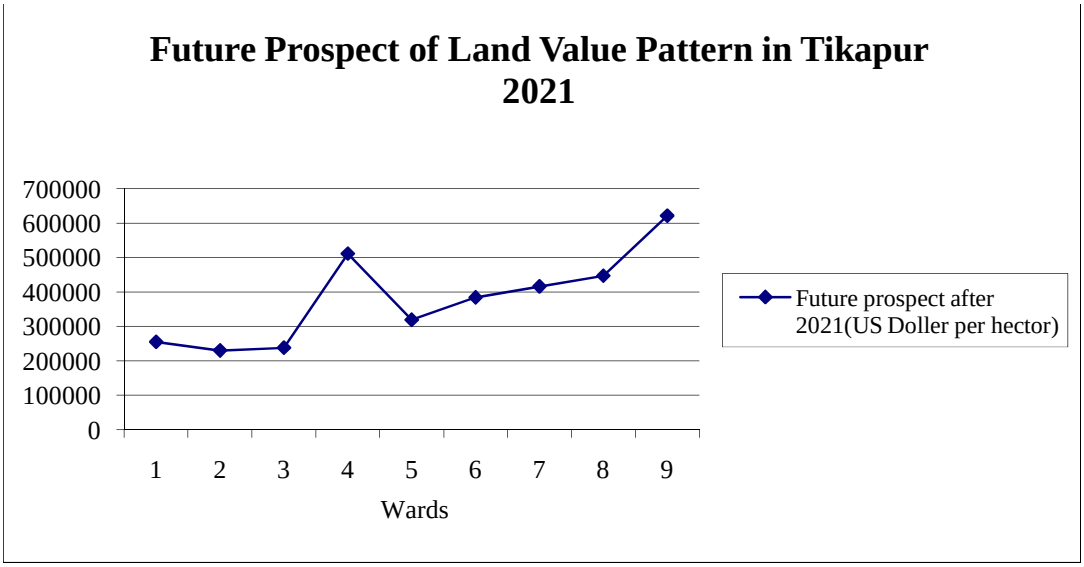


Figure 7.12

The table above shows that the average land value in 2001 was US Doller 11888.89 per hector. During this period the highest land value were recorded at the ward no. 9 and the lowest land values were recorded at ward no. 2 of the municipality. It is because of the ward no. 9 is core area of Tikapur, or main market centre of municipality. The net increasement of land value is by 1548.59 per cent during the period between 2001and 2011. In 2011, the highest land value is recorded at ward no. 9 and the lowest land value is recorded at the ward no. 2.

(iv) Urban Land Utilization in Cities Areas

Land is the prime resource of mankind. It provides room for various human activities and uses. The spatial manifestations of urbanization include growing per centage of non agriculture land use and intensification of agricultural land utilization. The pattern of land utilization therefore is being examined with special reference to the agricultural and non agricultural uses

which together constitute over 90 per cent of the total area of the rural urban fringe of Far-western cities.

The urban land utilization of Far-western cities is as follows.

Table 7.13: Land Utilization of Amargadhi Municipality

Land uses categories	Total area (in hect.)	Per centage of the total area
Settlement area	30.8	0.31
Agricultural area	3256.58	32.93
Business area	5	0.05
Forest area	6597	66.70
Total	9887.38	100

Source: - Amargadhi Municipality Smarika 2010

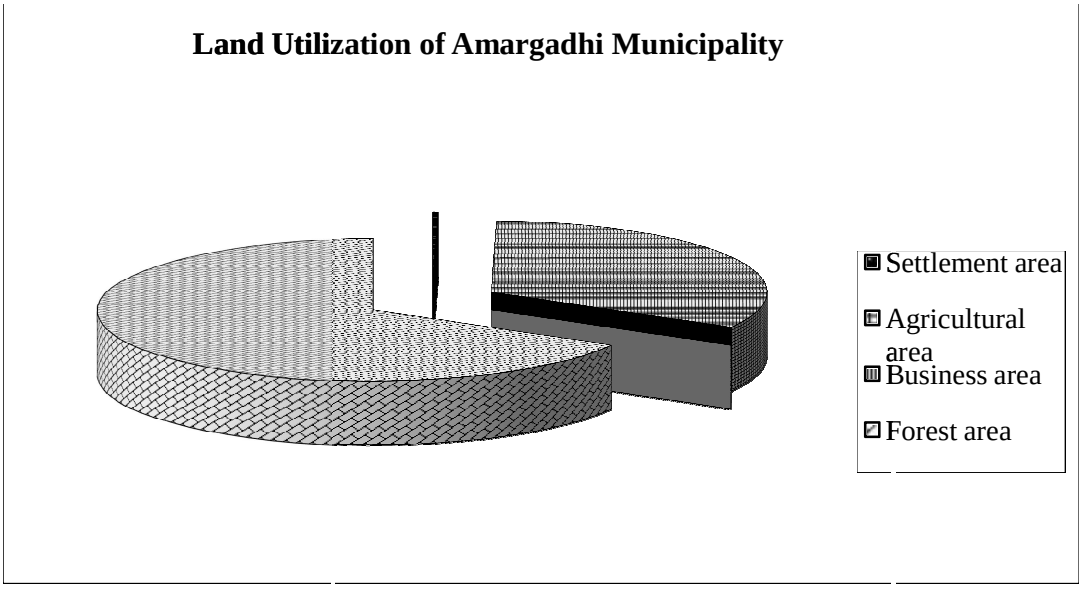
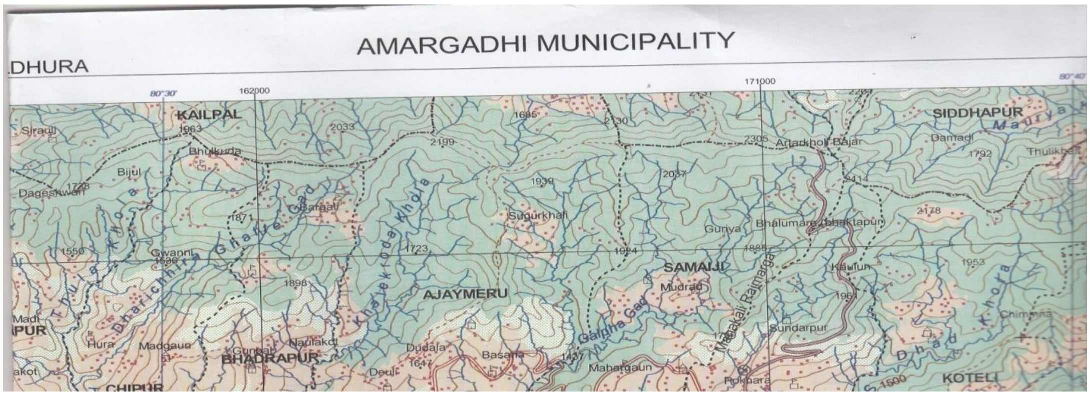
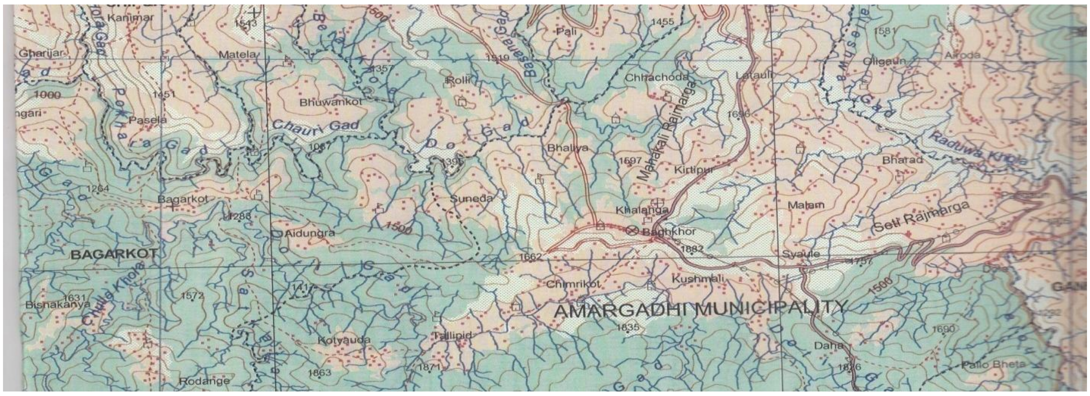


Figure 7.13

The table above shows the forest land is more dominant in Amargadhi municipality. The forest land has covered 66.70 per cent (6597 hect.) of the

total area. Agriculture land is second most dominant land use type in this area. It covers32.93 per cent (3256.58 hect) area. Another important land use type is settlement land, which covers 0.31per cent (30.8 hect.) area. Business area includes market and industry, which cover 0.05 per cent of the total area.


AMARGADHI MUNICIPALITY
DHURA
80°30'
162000
171000
80°40'
KAILPAL
SIDDHAPUR
AJAYMERU
SAMAIJI
BHADRAPUR
CHIPUR
KOTELI
Mahakali Rajmarga
Artarkholi Bajar
Sugurkhal
Basaria
Maharqaun
Sundarpur


BAGARKOT
AMARGADHI MUNICIPALITY
Seti Rajmarga
Mahakali Rajmarga
Chauri Gad
Bhuwankot
Bagarkot
Aidungra
Suneda
Bhaliya
Kirtipur
Khalanga
Baghkhor
Chimrikot
Kushmali
Malam
Bharad
Syaule
Chirachoda
Raduwa Khola
Kotyauda
Paslu Bheta
Pasela
Bishnakanya

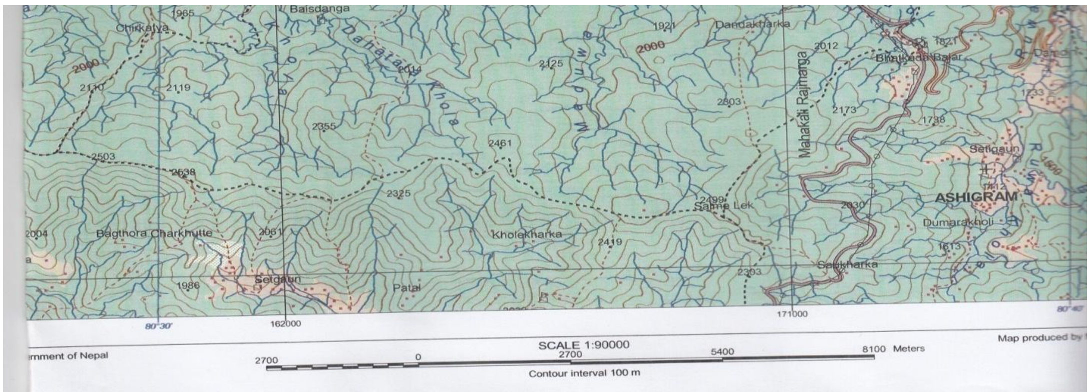

Baisdanga
Chirkelya
Dandakharka
Mahakali Rajmarga
ASHIGRAM
Setigaun
Dumarakholi
Bagthora Charkhutte
Kholekharka
Setgaun
Patal
Saukharka
80°30'
162000
171000
80°40'
SCALE 1:90000
2700 0 2700 5400 8100 Meters
Contour interval 100 m
rnment of Nepal
Map produced by

Table 7.14: Land Utilization of Dasharathchand Municipality

Land uses categories	Total area (in hect.)	Per centage of the total area
Settlement area	674.18	12.87
Agricultural area	2981.32	56.93
Business area	89.74	1.71
Forest area	1491.21	28.47
Total	5236.45	100

Source: - Dasharathchand Municipality Smarika 2010

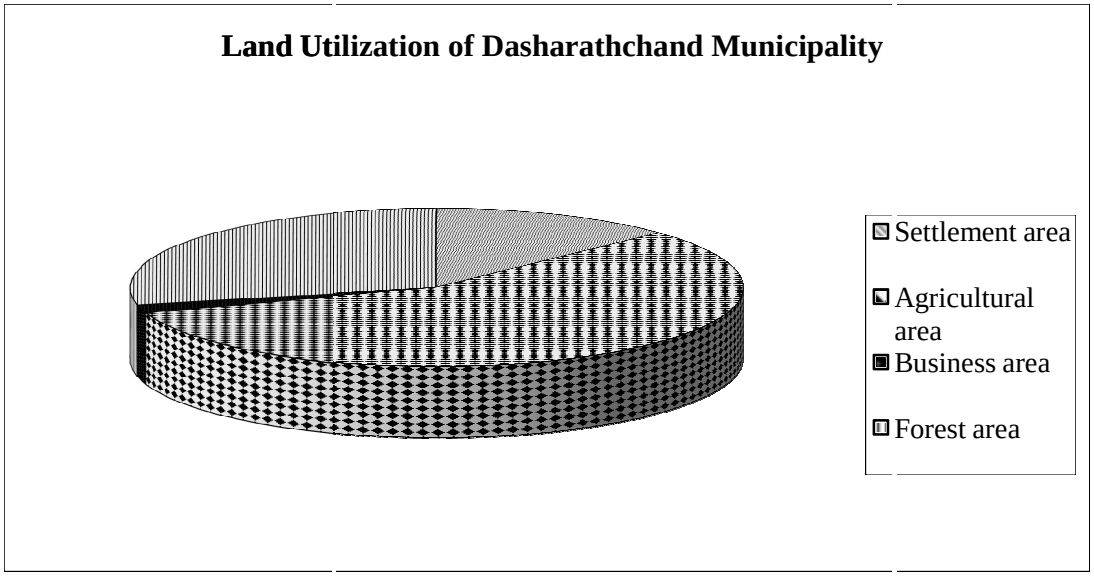
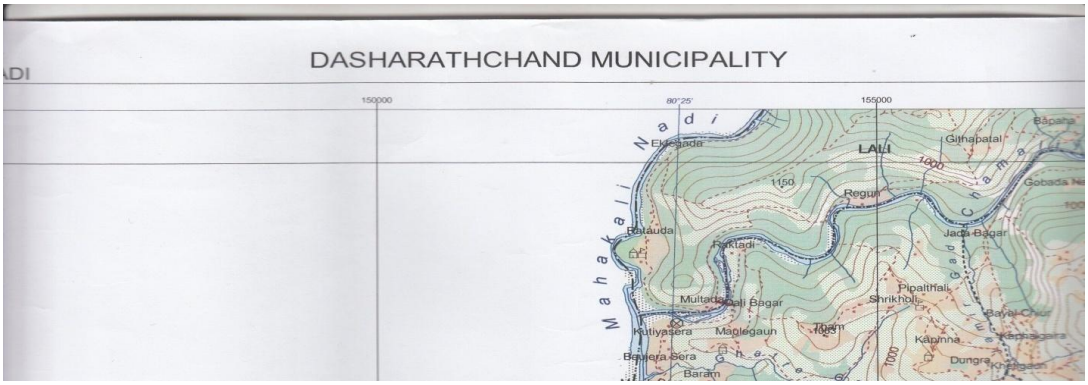


Figure 7.14

The table above shows the agriculture land is more dominant in Dasharathchand municipality. The agriculture land has covered 56.93 per cent (2981.32 hect.) of the total area.Forest land is second most dominant land use type in this area. It covers 28.47 per cent (1491.21 hect) area. Another important land use type is settlement land, which covers 12.87 per

cent (674.18 hect.) area. Business area includes market and small industry, which cover 1.71 per cent of the total area.


DASHARATHCHAND MUNICIPALITY
150000
80°25'
155000
Mahakali Nadi
Ekdanda
LALI
Gilhabatal
Bapaha
1600
1150
Regun
Gobada
Rotauda
Jada Bagar
Pipalthali
Shrikholi
Baya Chaur
Kutiyasera
Maglegaun
Kapanna
Dungra
Beniera Sera
Baram


INDIA
Mahakali Nadi
DASHARATHCHAND MUNICIPALITY
Latkawali Gaira
Mati Khanna
Nagtadi
Jebali
Latkawali
Bakwana
Kharak
Thalagadgaun
Mainali
Gwahi
Gotlad
Simayal
Phadtola
Sangaliya
Sintadi
Titaligaun
Ganjari
Sandi
Gorchuda
Maurigaun
Sundarkhal
Badanda
Pauda
Nataldi
Chauraha
Markandgaun
Bamrada
Bhulgaun
Dhaulyali
Athbisia
Riyana
Baskot
Gothalapani
Satbanjh - Baitadi
Jebalgada
Rachpala
Gadi
Binasaun
Ratamata
Chaupala
Kapadigaun
Ballekh
Sitabi Tok

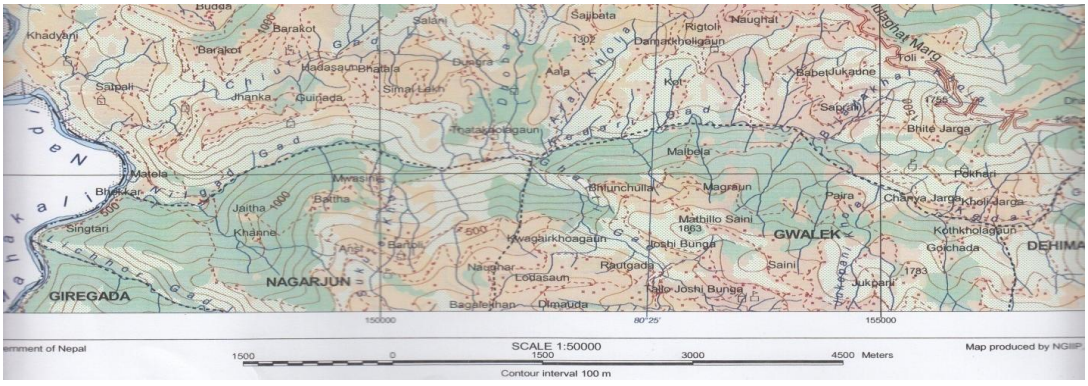

Khadyani
Barakot
Salani
Saibata
Rigtoli
Naughal
Damakholigaun
Toli
Madasaun
Bhatola
Aala
Kot
Babet Jukadne
Saipali
Jhanka
Guinada
Simal Lekh
Saipali
Bhite Jarga
Thalakot Gaun
Malbela
Malela
Bhitekar
Bhunchulla
Magrsun
Pokhari
Jaitha
Baitha
Paira
Chanya Jarga
Kholi Jarga
Singtari
Khanne
Mathillo Saini
Kothkholagaun
Bartola
Joshi Bungur
GWALEK
Gochada
DEHIMA
Nagphar
Rautgada
Saini
Lodasaun
Jukpani
GIREGADA
NAGARJUN
Bagalekhan
Dimauda
150000
80°25'
155000
SCALE 1:50000
1500 0 1500 3000 4500 Meters
Contour interval 100 m
Map produced by NGIIP

Table 7.15: Land Utilization of Dhangadhi Municipality

Land uses categories	Total area (in hect.)	Per centage of the total area
Settlement area	1130	11.39
Agricultural area	6256	65.85
Business area	70	0.74
Forest area	1479	15.56
others	558	5.91
Total	9493	100

Source: - Dhangadhi Municipality Smarika 2010

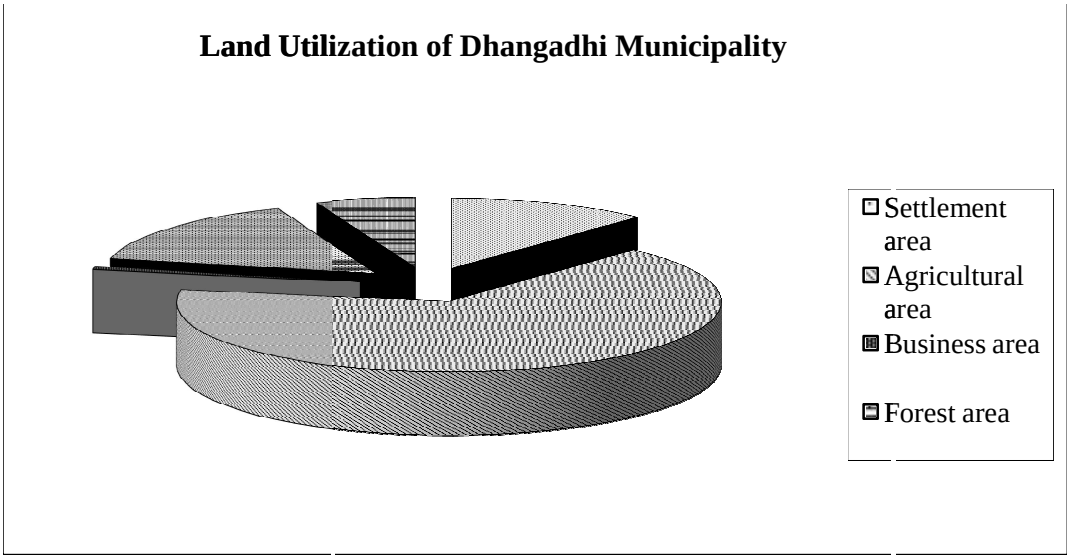
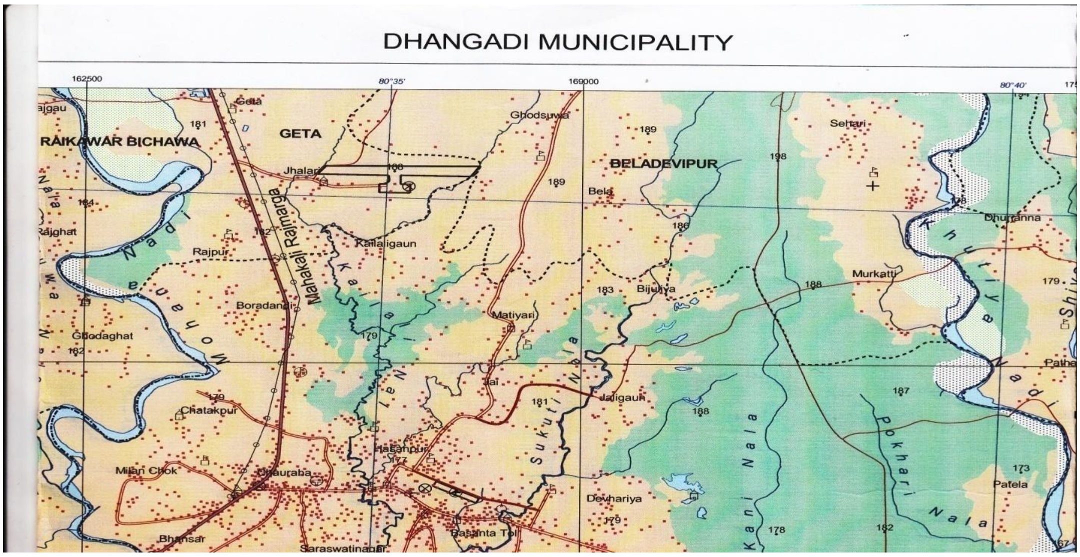


Figure 7.15

The table above shows the agriculture land is more dominant in Dhangadhi municipality. The agriculture land has covered 65.85 per cent (6256 hect.) of the total area. Forest land is second most dominant land use type in this area. It covers 15.56 per cent (1479hect) area. Another important

land use type is settlement land, which covers 11.39 per cent (1130 hect.) area. Business area includes market and industry, which cover 0.74 per cent of the total area.


DHANGADI MUNICIPALITY
162500
80°35'
169000
80°40'
RAIKAWAR BICHAWA
GETA
BELADEVIPUR
Jhalari
Ghodsuwa
Setari
Beli
Rajghat
Rajpur
Kailaligaun
Mahakali Rajmarga
Murkatti
Dhurmina
Boradandi
Godaghat
Matiyari
Bijuliya
Chatakpur
Jaligaun
Milan Chok
Chauraha
Hasanpur
Devhariya
Patela
Bhimsar
Saraswatinagar
Sukuli Nala
Kani Nala
Pokhari Nala
Khutiya Nadi
Mohana Nadi

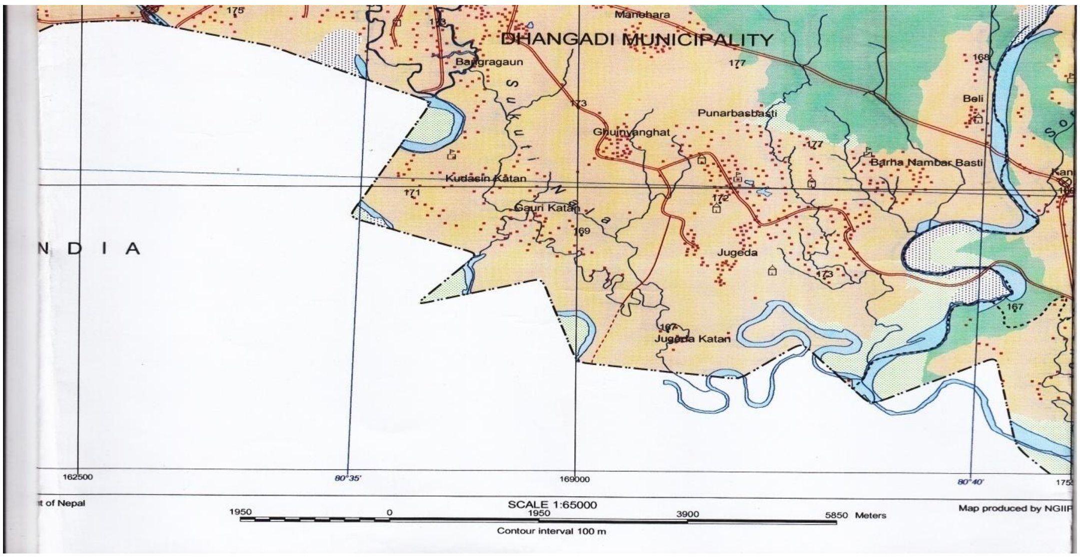

Manehara
DHANGADI MUNICIPALITY
Baijragaun
Punarbasbasti
Beli
Ghuiyanghat
Barha Nambar Basti
Kudasin Katan
Gauri Katan
Jugeda
Jugeda Katan
INDIA
162500
80°35'
169000
80°40'
of Nepal
SCALE 1:65000
1950 0 1950 3900 5850 Meters
Contour interval 100 m
Map produced by NGIIP

Table 7.16: Land Utilization of Dipayal silgadhi Municipality

Land uses categories	Total area (in hec.)	Per centage of the total area
Settlement area	23781	58.39
Agricultural area	2410	5.94
Business area	440	1.08
Forest area	5355	13.14
others	8727	21.43
Total	40723	100

Source: - Dipayal silgadhi Municipality Smarika 2010

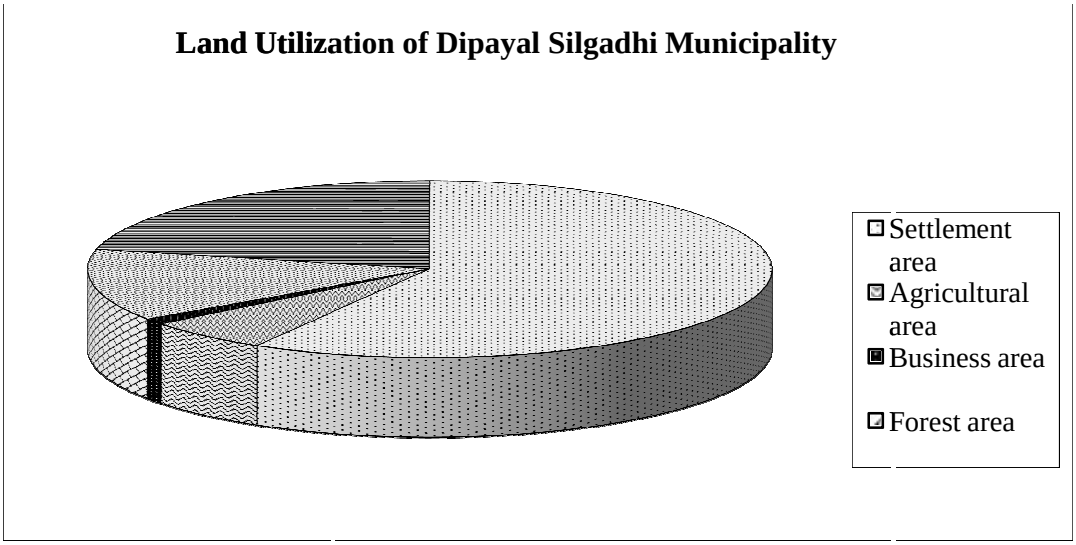


Figure 7.16

The table above shows the settlement land is more dominant in Dipayal silgadhi municipality. The settlement land has covered 58.39 per cent (23781 hect.) of the total area. Others land including river, sand, airport,Army and Police training centre, which covers 21.43 per cent

(8727hect) area. Another important land use type are forest and agriculture land, which covers 13.14 per cent (5355 hect.) and 5.94 per cent (2410 hect) respectively. Business area includes market and industry, which cover 1.08 per cent of the total area.


DIPAYAL SILGADHI MUNICIPALITY
196000
80°55'
203000
81°00'
210000
MAHADEVSTHAN
KHATIWADA
BANJH KAKANI
KALIKASTHAN
KALENA
Bhuwa
Katelgaun
Goladeula
Bhapar Lek
Nuwakot
Babari Tank
Kotanniar
Banyal
Bhattyani
Totamara
Dailekh
Swada
Bhankot
Babunkanda
Pauthegada
Jarim
Kotigaun
Khulek
Mallo Kalena
Sirkholi Sain
Seuli Halne
Danda Gwani
Baegatad
Bad Amala Kharka
Rauwa Gad
Palta Khola
Sasam Gad
Silgadi - Satebagar Marga

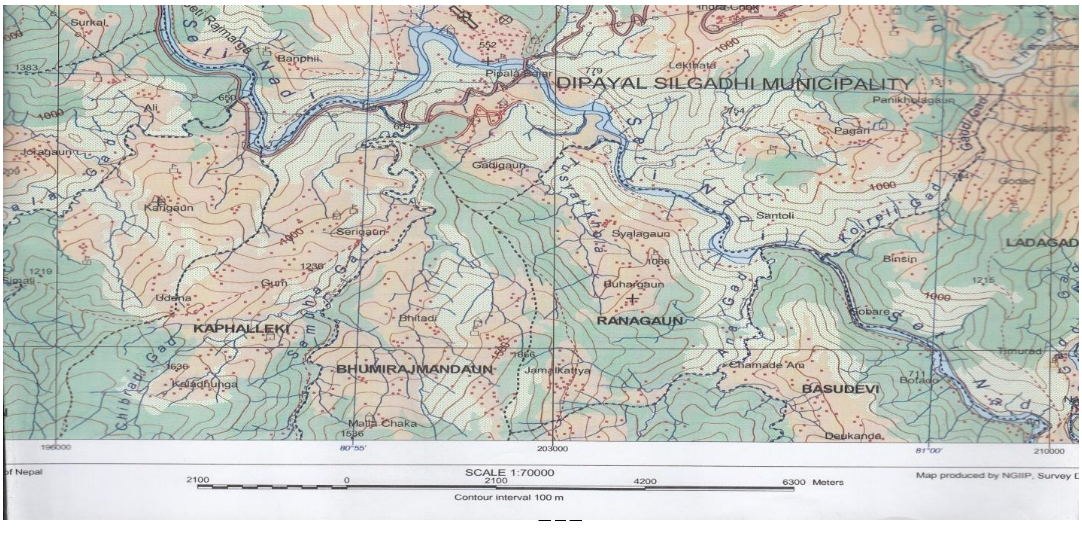

DIPAYAL SILGADHI MUNICIPALITY
Surkal
Banphil
Pipala Bajar
Lekthala
Panikholagaun
Pagari
Jotagaun
Gadigaun
Kanigaun
Serigaun
Santoli
Syalagaun
Binsin
LADAGADA
Buhargaun
Udena
KAPHALLEKI
Bhitadi
RANAGAUN
BHUMIRAJMANDAUN
Jamalkattya
Chamade Ara
BASUDEVI
Bofada
Kaladhunga
Malla Chaka
Daukande
Timurad
196000
80°55'
203000
81°00'
210000
SCALE 1:70000
2100 0 2100 4200 6300 Meters
Contour interval 100 m
Map produced by NGIIP, Survey D

Table 7.17: Land Utilization of Mahendranagar Municipality

Land uses categories	Total area (in hec.)	Per centage of the total area
Settlement area	1600	8.14
Agricultural area	7623.09	38.79
Business area	4.91	0.02
Forest area	5082.0	25.86
others	5340	27.17
Total	19650	100

Source: - Mahendranagar Municipality Smarika 2010

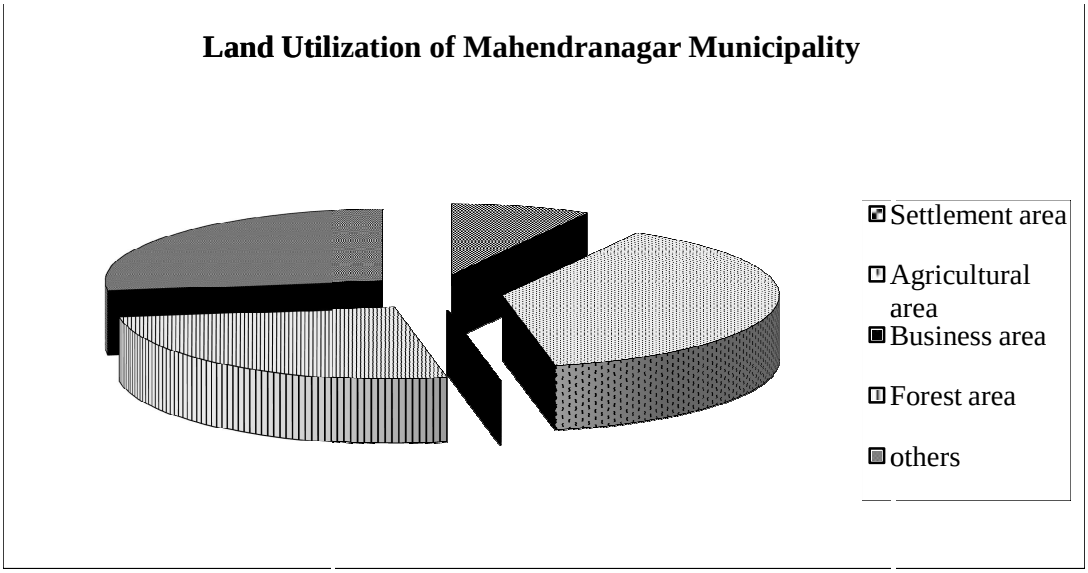
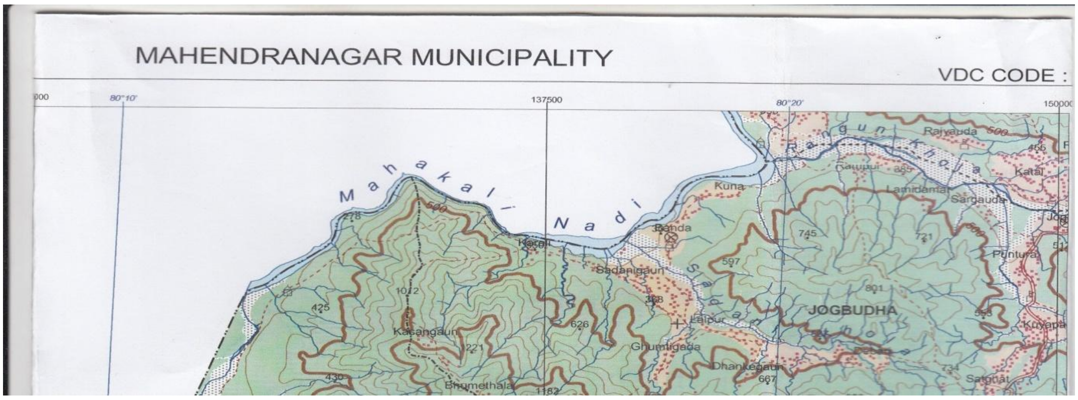
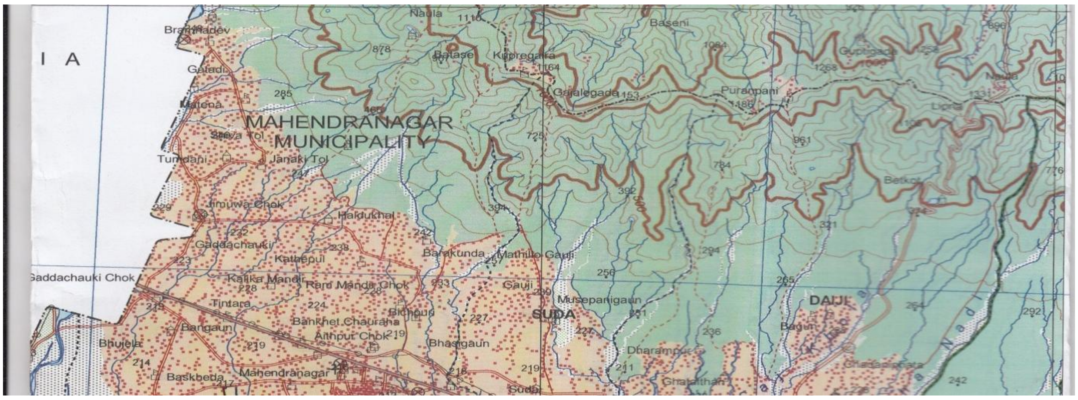


Figure 7.17

The table above shows the agriculture land is more dominant in Mahendranagar municipality. The agriculture land has covered 38.79 per cent (7623.09 hect.) of the total area. Forest land is the most dominant land use type in this area. It covers 25.86 per cent (5082 hect) area. Another

important land use type is settlement land, which covers 8.14 per cent (1600 hect.) area. Business area includes market and industry, which cover 0.02 per cent of the total area.


MAHENDRANAGAR MUNICIPALITY
VDC CODE :
80°10'
137500
80°20'
Mahakali Nadi
JOGBUDHA
Kuna
Banda
Dhankeghatta
Ghumtigada
Bhumethala


I A
MAHENDRANAGAR MUNICIPALITY
Janaki Tol
Tundhani
Haldukhal
Gaddachauki
Gaddachauki Chok
Kalika Mandir
Rani Manda Chok
Tintara
Bangaun
Banrhet Chauraha
Bhujela
Bankbetta
Mahendranagar
Bhagagaun
SUDA
Sudá
Musepanigaun
Dharampur
DAIJI
Baskot
Purampani
Baseni

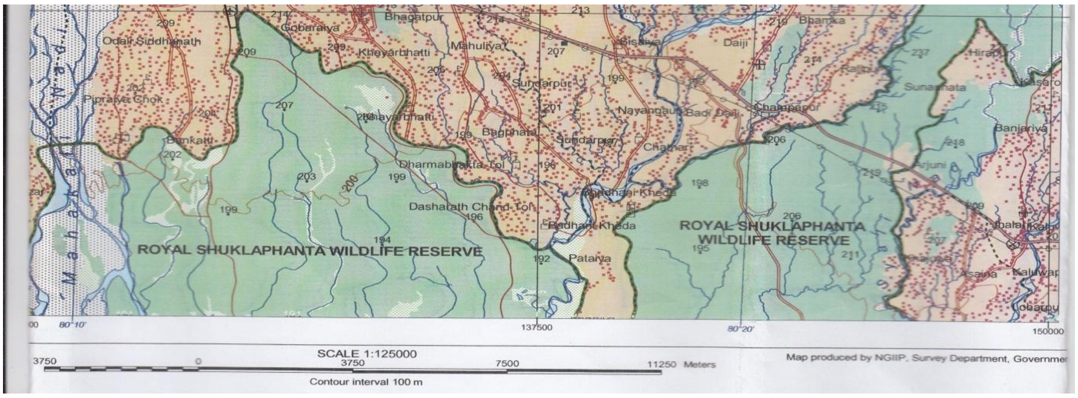

Odar Siddhanath
Bhagatpur
Khayarbhatti
Mahuliya
Sundarpur
Daiji
Bhamka
Nayagaun
Sunamata
Banjariya
Dharmabhakta Tol
Dashrath Chand Tol
Patarya
ROYAL SHUKLAPHANTA WILDLIFE RESERVE
ROYAL SHUKLAPHANTA WILDLIFE RESERVE
80°10'
137500
80°20'
150000
SCALE 1:125000
3750
0
3750
7500
11250 Meters
Contour interval 100 m
Map produced by NGIIP, Survey Department, Governme

Table 7.18: Land Utilization of Tikapur Municipality

Land uses categories	Total area (in hec.)	Per centage of the total area
Settlement area	706	9.94
Agricultural area	4537	63.86
Business area	340	4.78
Forest area	1182	16.64
Others	339	4.77
Total	7104	100

Source: - Tikapur Municipality Smarika 2010

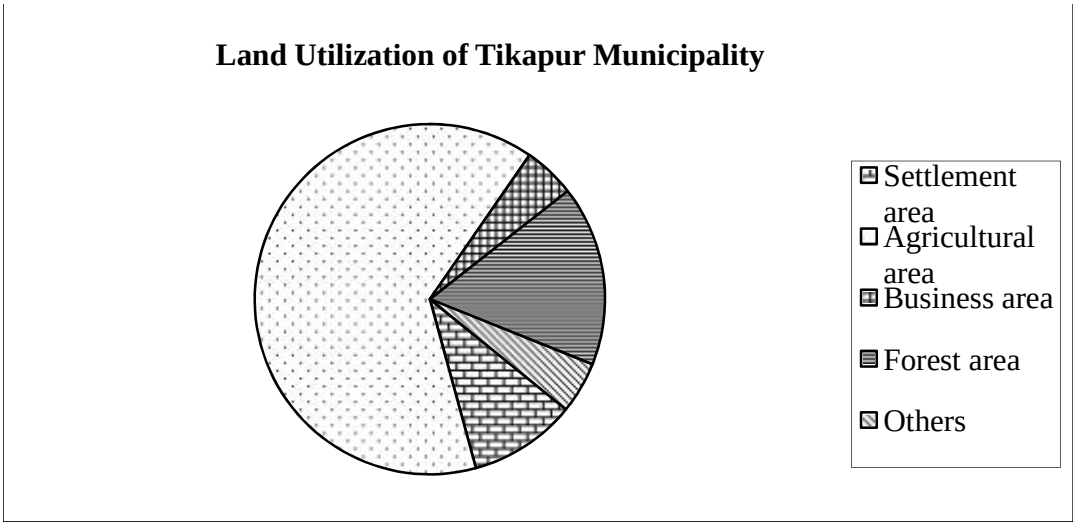
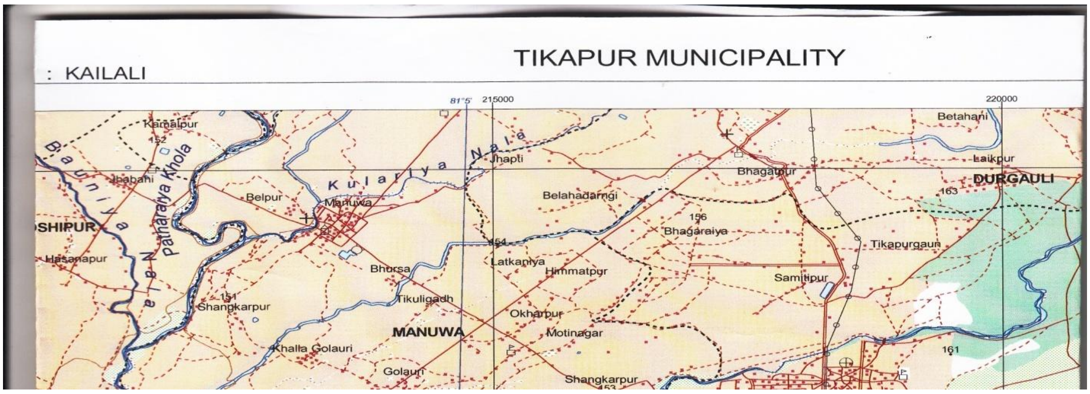
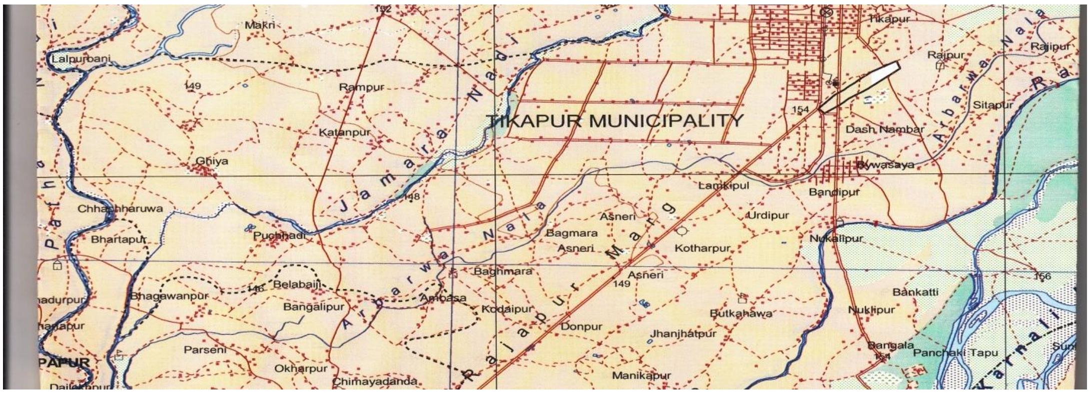


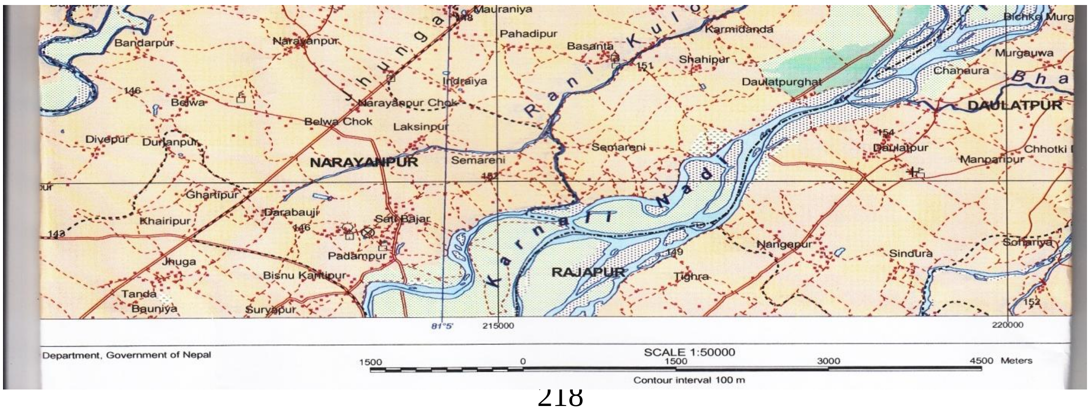
Figure 7.18

The table above shows the agriculture land is more dominant in Tikapur municipality. The agriculture land has covered 63.86 per cent (4537 hect.) of the total area. Forest land is the most dominant land use type in this area. It covers 16.64 per cent (1182 hect) area. Another important land use type is settlement land, which covers 9.94 per cent (706 hect.) area. Business

area includes market and industry, which cover 4.78 per cent of the total area.


: KAILALI
TIKAPUR MUNICIPALITY
81°5'
215000
220000
Betahani
Kamalpur
Jhapti
Bhagatpur
Laikpur
DURGAULI
Kulariya Nala
Pathraiya Khola
Belpur
Manuwa
Belahadamgi
SHIPUR
Bhagaraiya
Tikapurgaun
Hasanapur
Latkapiya
Himmatpur
Bhursa
Samitipur
Shangkarpur
Tikuligadh
Okharpur
MANUWA
Motinagar
Khalla Golauri
Golauri
Shangkarpur


Makri
Tikapur
Rajipur
Rajipur
Lalpurbani
Rampur
Jamara Nadi
TIKAPUR MUNICIPALITY
Sitapur
Katanpur
Dash Nambar
Ghiya
Byawasaya
Lamkipul
Bandipur
Chhapbharuwa
Urdipur
Bhartapur
Asneri
Purbhadi
Bagmara
Asneri
Kotharpur
Nukalipur
Rajapur Marg
Babhmara
Asneri
Belabaili
Bangalipur
Bhagawanpur
Arbarwa Nala
Kodaipur
Butkahawa
Bankatti
Nuklipur
Donpur
Jhanjhatpur
Parseni
Bangala
Panchaki Tapu
Karnali
PAPUR
Okharpur
Chimayadanda
Manikapur


Mauraniya
Karmidanda
Bandarpur
Narayanpur
Pahadipur
Basanta
Shahipur
Murgauwa
Chanaura
Indraiya
Daulatpurghat
Belwa
Narayanpur Chok
DAULATPUR
Belwa Chok
Laksinpur
Rani Kulo
Divapur
Durlanpur
Semareni
Daulatpur
Manpanpur
NARAYANPUR
Semareni
Ghartipur
Khairipur
Darabauji
Sati Bajar
Karnali Nadi
Nangapur
Sindura
Padampur
Jhuga
Bisnu Kamipur
RAJAPUR
Tighra
Tanda
Bauniya
Suryapur
81°5'
215000
220000
Department, Government of Nepal
SCALE 1:50000
1500
0
1500
3000
4500 Meters
Contour interval 100 m

Resume of Conclusions

During the last 50 years Nepal has been experiencing considerable rise of population and rural to urban migration which has resulted the rapid urbanization in the country. Nepal- British India Treaty of 1923 the political change of 1951 and the Indian railway expansion along with southern border to Nepal created a spatial framework for the urban growth in Nepal. After 1951 Nepal was opened to outside world and implementation of development plans for strengthening the economic and political status of the country having also directly and indirectly resulted into the emergence and expansion of the towns.

The population of the country increased from 8.3 million in 1952/54 census to 23.1 million in 2001. In this period the total population increased by 2.80 times whereas rural population increased by 2.2 times and urban population increased by nine times. Nepal is experiencing higher population growth rate and one of the country having highest urban growth rates in South Asian Countries. For the period of 1991-2001, it was 9.11 per cent per annum. At regional level Hills/Mountain region is recorded highest urban growth rate. A significant per centage increase in urban population is recording in Hills/Mountain region whereas the absolute is notable in Terai and Inner Terai regions.The rural-urban amenity and service differentials cause the rural migration to urban areas.Employment and wage levels are the other attractions. Over burdening of rural sources by growing population in villages explain the push factor of urbanization.

The average annual growth rates of urban population during the last two decades have been increased rapidly which suggest that the country is at an accelerating phase of urbanization process.

The rising younger age population in both urban and rural areas and marked decline in sex ratio and young adult ages in rural areas suggest very high rate of rural to urban migration. The sex ratio of working age groups is lower in rural areas. It could be attributed due to male selective migration into urban areas.

Through the socio-economic and demographic characteristics of urban areas shows distinct differences from those of rural areas. The available census data indicate that the differences are narrowing. Urban activity rates are lower than rural activity rates for both male and female rates up to 2001. Male/female differences in these characteristics are also notable. The gap between male and female in activity rates and literacy rate is a distinguished characteristic of urbanization in Far-western Nepal. This pattern would be result of less opportunity in education, in rural areas for particularly females. Female activity is higher in rural areas than in urban areas, it might be because of more females are working outside the household in rural areas and in urban areas more females are engaged in household working and might be due to definitional problem in the censuses.

Land is a natural resource. The economic development of any region depends upon the best and proper use of land. But the most important and dynamic competition is found between agricultural and non-agricultural uses in the urban fringe bringing about the tremendous change in land use. The growing need of commercial, administrative, industrial and residential complexes caused the rapid growth of urbanization in the outlying areas of the cities. These urbanizing processes forced by increase of population due to natural growth immigration have rendered an unplanned and haphazard growth of urban encroachment bringing about considerable change in agricultural land uses and land value in the peripheral areas of the cities.

In this context of urbanization in Far-western Nepal some measures can be suggested as:

- Urbanization can be taken as means of development. It can help change in demographic and socio-economic characteristics of the people. It helps to diffuse information for its hinterland area and people can exchange goods and services. Urban areas can provide more facilities to rural people. In this respect a planned urbanization more especially in Hills/Mountain areas should be develop as market center it will help increase the level of development of the region.
- Rural to urban migration is the most important contributing factor of urban growth with improving the infrastructures and maximizing the income of rural people, the haphazard growth of urban areas can be reduced.
- Each municipality or urban areas should be developed as a service centre for its geographic zone of influence not only as a settlement unit. Regional approach may be relevant.
- For sustainable development of the urbanization in Nepal, the priority should be given to medium sized or small towns rather than large towns or cities. Because a country like Nepal a large number of medium and small sized towns will be more desirable than a small number of very large cities.
- Threshold population used for designation of urban areas should be changed for Hills/Mountain and Terai region.

In 1964, Nepal implemented a Land Reform Programme and fixed ceiling on landholding in the Terai, inner Terai, Kathmandu valley, and hill

regions. However, the excess land available for redistribution was not sufficient to solve the problem of landless peasants.

In the Fifth Five-Year Plan Period (1976-80) specific attention was given to population policy, including the problem of uncontrolled migration from the hills to the Terai areas.

Lack of effective machinery has been a major constraint on the implementation of internal migration policies in Nepal. Despite consideration investment, the land settlement programme had not been able to solve population distribution problems or to raise the standard of living of the settlers. The present indications are that the settlers are just waiting to acquire land ownership certificates before they sell their land and go elsewhere. If attempts are not made immediately to improve conditions in the settlement areas, the whole programme may emerge as a failure.

However, in view of the virtual non-existence of reclaimable land owning to the need for conserving forest resources, the prospects for redistributing population through land resettlement programmes are bleak. The solution to the growing population and unemployment in the hills has to be sought and within the agricultural sector. Improvements in the agrarian structure and rural economic conditions should be sought through changes in land tenure and landholding polices, a land consolidation programme, control of land fragmentation, provision of irrigation, introduction of co-operative farming, and development of cottage and small-scale industries.

One of the major constraints on agricultural development in Nepal, particularly in the hills, is the lack of accessibility to markets. Efforts should be made to improve agricultural marketing, either by developing marketing institutions or by providing incentives to the indigenous traders. Considering

the inaccessibility of much of the hill areas, there is an urgent need for permanent link roads with important highways, towns, and settlements.

Nepal, a sovereign independent Himalayan Country, wedged between two giant neighbors, the Republic of India in the south, east, west and the People's Republic of China in the north, extends between $80^{o}26'$ and $88^{o}12'$ East longitudes, and $26^{o}26'$ and $30^{o}27'$ North latitudes with an area of 147181 square kilometres. The country, stretching for 800 kilometres from east to west with a width of 130 to 240 kilometres from south to north, resembles an elongated rectangle.

Nepal is one of the smallest countries in the world. Administratively it is divided into 5 development regions, 14 zones and 75 districts. The study area is **Far-Western Development Region** in terms of declared in 1980. Among the five developments region of the country the Far- Western development region is the smallest area, density of population and development efforts.

The Far-Western region is surrounded by India in the west and south China in the north and Mid-western development region of Nepal in the east. Its covers an area of 19539 sq. km. According to 2001 census the population of study region is 2191330 which are 9.47 per cent of total population of the country.

Amargadhi Municipality

Amargadhi Municipality is the headquarter of Dadeldhura District and is situated in Mahakali Zone and Far-western region of Nepal. Amargadhi Municipality covers an area of 138.95 Sq.Km. and shares its boundary with Ganeshpur Ashigram and Manilek V.D.C in the east, Bagarkoat and Ajaymeru V.D.C in the west, Samaiji Koteli V.D.C and Baitadi district in the north and Gangkhet V.D.C in the south. According to Population Census

2001, this municipality had a density of 132.4 persons per Sq. Km. The Municipality was established in 1996 (2053B.S.) and is divided into 11 wards. The annual population growth rate of Amargadhi Municipality is 1.91 per cent.

Dasharathchand Municipality

Dasharathchand Municipality is the headquarter of Baitadi District and is situated in Mahakali Zone and Far-western region of Nepal. Dasharathchand Municipality covers an area of 55.01 Sq.Km. and shares its boundary with Dehimandu and Durgabhawani V.D.C in the east, Mahakali River and India in the west, Shree kedar, Nwali V.D.C and Darchula district in the north and Nagarjun and Gwalek V.D.C in the south. According to Population Census 2001, this municipality had a density of 333.5 persons per Sq. Km. The Municipality was established in 1996 (2053B.S.) and is divided into 13 wards. The annual population growth rate of Dasharathchand Municipality is 1.98 per cent.

Dhangadhi Municipality

Dhangadhi Municipality is the headquarter of Kailali District and is situated in Seti Zone and Far-western Development region of Nepal. Dhangadhi Municipality covers an area of 95 Sq.Km. and shares its boundary with Beladebipur V.D.C in the north, Mohana River and India in the south, Khutiya River in the east and Geta V.D.C and Mohana River in the west. According to Population Census 2001, this municipality had a density of 650.2 persons per Sq. Km. The Municipality was established in 1976(2033B.S.) and is divided into 14 wards. The annual population growth rate of Dhangadhi Municipality is 5.16 per cent.

Dipayal Silgadhi Municipality

Dipayal Silgadhi Municipality is the headquarter of Doti District and is situated in Seti Zone and Far-western Development region of Nepal. Dipayal Silgadhi Municipality covers an area of 73.13 Sq.Km. and shares its boundary with Kalikasthan, Banghkakani Khatiwada and Kalena V.D.C in the north, Kaphalleki, Ranagaun, Basudevi and Mudbhara V.D.C in the south, Khirsain and Ladagada V.D.C in the east and Barpata and Pachnali V.D.C in the west. According to Population Census 2001, this municipality had a density of 298.2 persons per Sq. Km. The Municipality was established in 1982(2038B.S.) and is divided into 14 wards. The annual population growth rate of Dhangadhi Municipality is 2.02 per cent.

Mahendranagar Municipality

Mahendranagar Municipality is the headquarter of Kanchanpur District and is situated in Mahakali Zone and Far-western region of Nepal. Mahendranagar Municipality covers an area of 171.24 Sq.Km. and shares its boundary with Suda V.D.C in the east, Mahakali River and India in the west, Dadeldhura district in the north and Shuklaphanta wildlife reserve in the south. According to Population Census 2001, this municipality had a density of 472.1 persons per Sq. Km. The Municipality was established in 1978 (2035B.S.) and is divided into 19 wards. The annual population growth rate of Kanchanpur Municipality is 3.91 per cent.

Tikapur Municipality

Tikapur Municipality is the situated of Kailali District and Far-western Development region of Nepal. Tikapur Municipality covers an area of 71.04 Sq.Km. and shares its boundary with Durgauli V.D.C in the north, Narayampur V.D.C in the south, Karnali River and Bardiya district in the east and Manuwa and Thapapur V.D.C in the west. According to Population Census 2001, this municipality had a density of 577 persons per Sq. Km.

The Municipality was established in 1996(2053B.S.) and is divided into 9wards. The annual population growth rate of Tikapur Municipality is 5.84 per cent.

The Far-western Development Region urbanization trend is increasing. In 1981 only 5.38 per cent of the Far-western total population was considered urban, living in 2 designated urban areas. This per centage rose to 10.67 in 3 municipalities, in 1991, 10.76 in 6 municipalities in 2001, and 13.58 in 6 municipalities in 2011. The in-migrants towards the Far-western cities caused the high pressure of population and rate of increase of population is also high in the municipalities. This increase of population now causes many problems as fuel problem, food problem, housing problem, employment problem, drinking water problem and sewage problem.

The land in the environs of Far-Western cities is chiefly meant for built-up uses, which enhance the land values. The data for the figure were collected in 2010 through field survey and municipality Smarika. It is because the pattern of land use and land values are mutually determining. Further in cities economic rent is based on superiority of location only, the sole function of city land being to furnish an area on which to erect buildings.

The significance of nearness is true not only for the inferior land (poor production) but also for the value of the fertile agricultural land, which is highest in the township nearest to the cities. The price of land near cities is increasing day by day and is many times more than the farm value. The buyer of a suburban lot acquires access to a bundle of valuable amenities including location advantage, air quality, association with neighbours, landscape features and school, play-grounds and other public services.

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Dipayal Silgadhi Municipality

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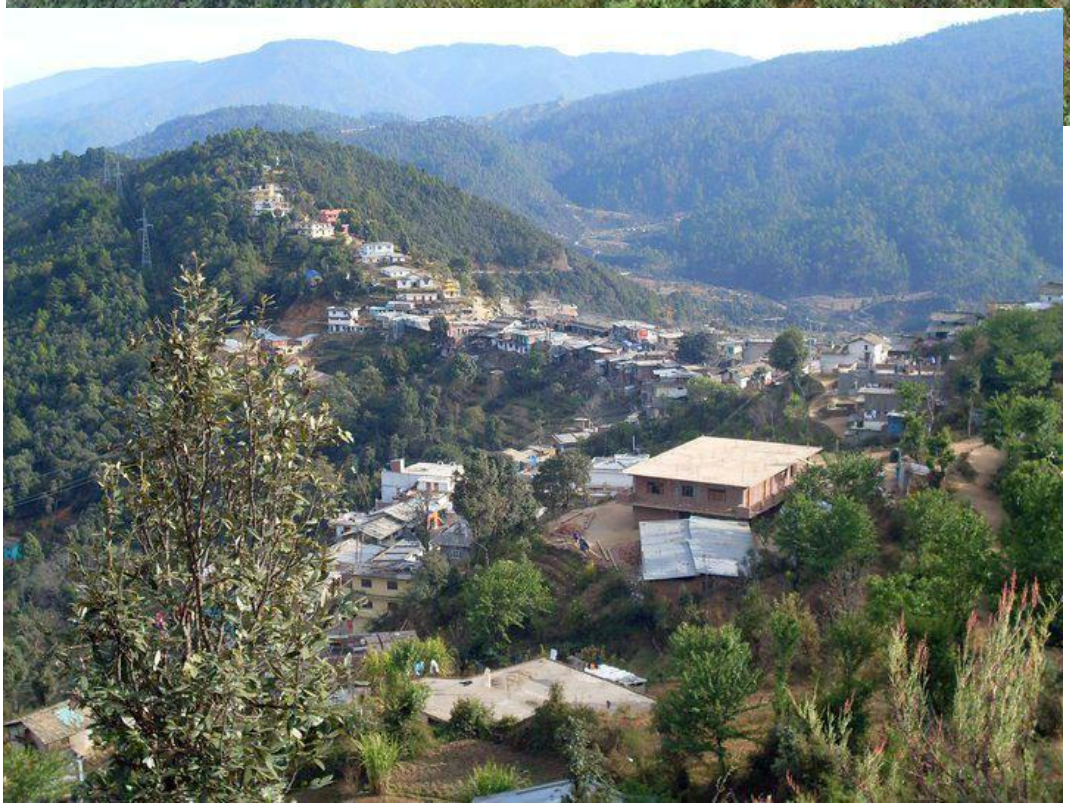
Dipayal Silgadhi Municipality



Amargadhi Municipality

Amargadhi Municipality

Amargadhi Municipality

Dasharathchand Municipality

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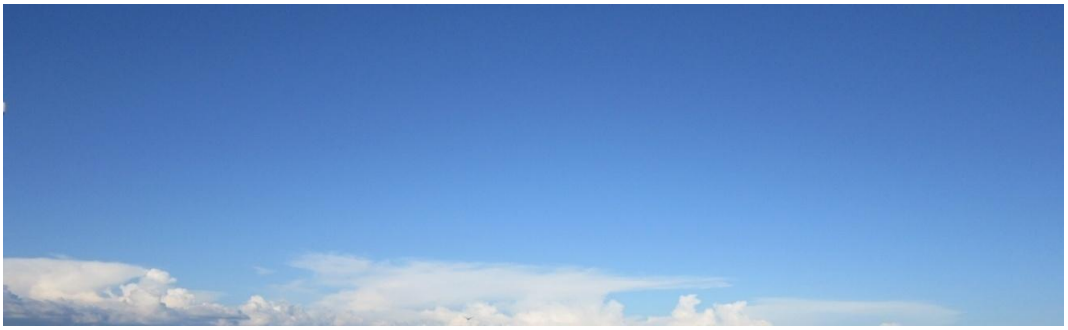
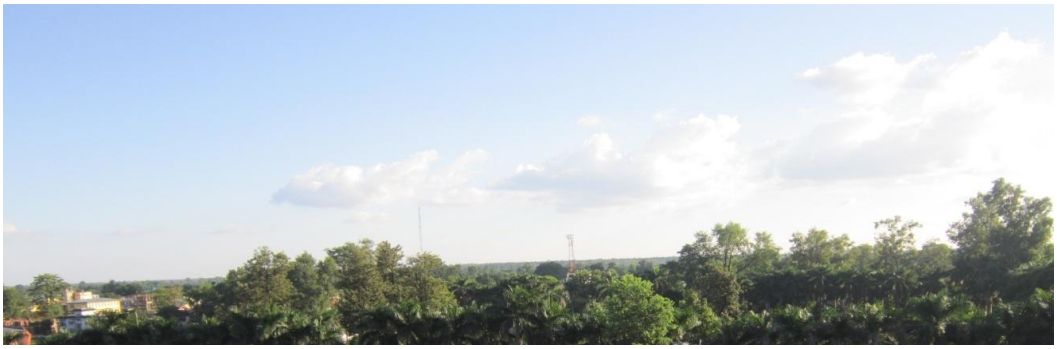


Dhangadhi Municipality



Dhangadhi Municipality

Mahendranagar Municipality

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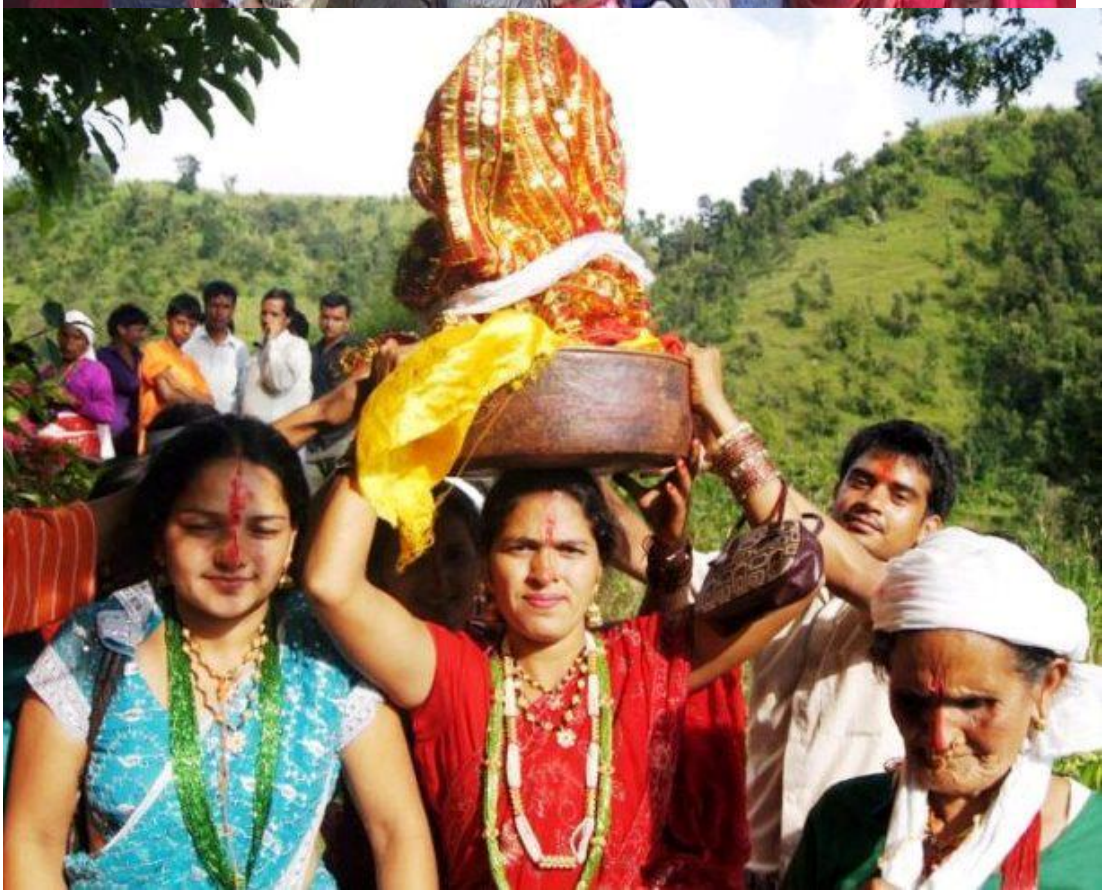
CULTURAL PHOTOS OF FAR-WESTERN UEBAN



Gaura Parba in Dasharathchand

Chhaliya Programme in Amargadhi

Deuda Programme in Mahendranagar

Deuda Programme in Dhangadhi


Kalas yatra in Dipayal Silgadhi

Deuda programme in Tikapur

Tharu culture programme in Dhangadhi

Tharu culture programme in Dhangadhi

Sailayaswori Temple of Silgadhi

Rana Tharu culture in Mahendranagar

Tharu culture in Dhangadhi

Tikapur Uddhan park in Tikapur

Underconstruction of Road in Amargadhi

Underconstruction of Road in Amargadhi

Residence of Dhangadhi

Residence of Tikapur

Appendices I

HOUSEHOLD SURVEY

Name if the household Head …… . ……..Family

Size…

Municipality……. Ward No……. Tole……

S.No	Name	Relation	Sex	Age	Marital Status	Occupation	Education

1. When did you build this house? Year…….
2. Are you local or migrated? Yes/No

   If migrated, then where is your original area?

   (a) District ---------- (b) VDC---------- (c) Year---------

   ----

3. What is the main occupation of your family?

(a) Agriculture. (b) Business (c) Service (d) Daily wages (e) Others

4. Do you have own land? Yes/No

   If yes, how much land do you have?.....

   When did you buy the land?.....

5. How much land did you buy?

   (a)Bigha----------(b) Katha---------- (c) Dhur---------

6. What was the condition of your land before 20 years ago?

   (a) Cultivated land (b) Bush (c) Forest (d) Barren land

   (e) Others

7. Whether the cultivated land is increasing or decreasing and constant?

   (a) Increasing (b) Decreasing (c) Constant

8. If decreasing, it changes into:-

   (a) Built-up Area (b) Road (c) Market (d) Bush land (e) Barren land

   (f) Forest Area

   (g) Others

9. If increasing, it changes into:-

   (a) Market (b) Road (c) Built-up Area (d) Barren land (e) Forest Area

   (f) Others

10. What is the effect on your living standards due to land use change?

    (a) Increasing (b) Decreasing (c) Same (no effect)

11. What many be the impact due to the land use change?

i……..

ii……..

iii……

iv……

12. If impacts are negative then what could be the solution?

i……

ii……

iii……..

iv…….

13. How much does a plot of land cost per katha?

i. Land value per katha at present…….

ii Land value per katha 20 years ago……..

Family information

Age Groups	Total Population	Male	Female
0-14			
15-59			
60and above			
Total			

Educational information

Level of Education	Total Population	Male	Female
Illiterate			
Literate			
Under SLC			
CL			
Bachelor Level			
Masters and Above			
Total			

Occupational information

Main Occupation	Total Involved		Side Occupation	Total Involved	
	Male	Female		Male	Female
Service			Service		
Business			Business		
Industry			Industry		
Agriculture			Agriculture		
Labors/Wages			Labors/Wages		
Others			Others		

Urban Facilities Information

Types of Facilities	Yes	No

Electricity		
Telephone		
Road		
Sewerage		
Toilet		
Waste Collection		
Drinking Water		
Others		

Appendices II

Individual of Group Discussion

(Visit old and knowledgeable persons to collect following information)

1. History of migration

In-migration		Out-migration		
Year		Seasonal	Temporary	Permanent
No. of Household				
No. of Person				
Place of migration				
Reasons				

2. History of Land covers change

Land use (form)	Pathways (to)	Approx. area	Year	Reason for Change

3 History of grazing land management.

4. History of other public land management.

5. History of road and bridge development.

6. History of market center development.

7. History of urban development project.

Infrastructures and services available in the village

Infrastructures and services	Available within (Number)	Nearest Place	
		Distance	Time
Schools by levels			
Hospital			
Banks			
Cooperatives			
Service centers			
Road			
Transportation Services			
Drinking facilities			
Electricity			
Markets			

NGOs/INGO support projects			
Govt. development programs			
Others if any			

Appendices III

CONVERSION FACTORS

Meters	Yards	Feet	Inches
1	1.0936	3.2808	39.3696
0.3048	1	3	36
0.0254	0.3333	1	12
0.0254	0.0278	0.0823	1

Kilometers	Nautical Miles	Miles	Koshes
1	0.53996	0.62139	0.31069
1.852	1	1.1508	0.5754
1.6093	0.869	1	0.5

BASIC UNITS OF AREA

British/ English System	Metric System
144 sq. inch = 1 sq.ft = 1 sq. Yard	100sq.mm = 1sq. cm
9 sq ft = 1 sq. yard	100 sq.cm = 1 sq. dm
3. ¼ sq. yard = 1 sq. rod	100 sq.dm = 1j sq.m
40 sq. ros = 1 rood	100 sq. m =1Arc = 1 sq.DM
4 rood = 1 Arc = 1 sq. mile	100 hectors = 1 sq. km.
484 sq. yards = 1j sq. chain	
10 sq. chain = 1 Acre	

Bigaha System	Ropani System
4 kanuwa = 1 Dhur	4 Dam = 1 paisa
20 Dhur = 1 Kaththa	4 Paisa = 1 Anna
20 Kaththa = 1 Bigaha	4 Anna = 1 Suka
270' * 270' = 1 Bigaha	4 Suka = 1 Ropani (16 Anna)
	74' *74' = 1 Ropani

Sq. meter	Sq. yard	Sq. feet	Sq. inch
1	1.196	10.7639	1550
0.8361	1	9	1296
0.0929	1.1111	1	144
0.00065	0.00077	0.0069	1

Hectors	Ares	Acres	Square Yards
1	100	2.47107	11960
0.01	1	0.0247	119.6

0.40469	40.469	1	4840
0.000084	0.0084	0.00021	1

Bigaha	Ropani	Hector	Acre
1	13.312637	0.677263	1.1125714
0.0751166	1	0.050874	0.125714
1.4765313	19.656406	1	2.47107
0.559752	7.9546	0.40469	1

1 Bigaha = 13 Ropani 5 Anna 0 Paisa 0.036 Dam

1 Ropani = 0 Bigaha 1 kaththa 10 Dhur 0.2 Kanuwa

Sq.meter	Bigaha	Kaththa	Dhur	Kanuwa
1	0.00014765	0.002953	0.059061	0.236245
6772.63	1	20	400	1600
338.6315	0.05	1	20	80
16.93157	0.0025	0.05	1	4
4.23287	0.000625	0.125	0.25	1

1 Acre = 22yrd * 220yard = 4840 sq. yard = 43560 sq.ft.

i.e 1 chain * 10 chain sq. chain i.e. 10 * 66' *66'

Sq. meter	Ropani	Anna	Paisa	Dam
1	0.00916564	0.031450	0.125801	0.503204
508.74	1	16	64	256
31.79625	0.0625	1	4	16
7.94906	0.015625	0.25	1	4
1.987266	0.0003906	0.0625	0.25	1

Appendices IV

DEPENDENCY RATIO

$$\text{Child Dependency Ratio} = \frac{\text{Total population of 0-14 age groups} * 100}{\text{Total population of 15-59 age groups}}$$

$$\text{Old Dependency Ration} = \frac{\text{Total population of 60 + above age groups} * 100}{}$$

Total population of 15-59 age groups

$$\text{Total Dependency Ratio} = \frac{\text{Total population of 0-14 + 60 above age group}}{\text{Total population of 15-59 age groups}} * 100$$

SEX RATIO

$$\text{Sex Ratio} = \frac{\text{Total Number of Females}}{\text{Total Number of Males}} * 100$$