

CHAPTER - ONE

Conceptual Framework and Methodology

Urbanization is the process by which an increasing proportion of the country's population starts residing in urban areas. This term mainly related with the concern of study of urban geography and other related studies. It stands for the study of urban concentration and urban phenomena. (Uduporuwa,2010). Today, many countries have identified urbanization as a developmental process, and one of the key forces underlying technological innovation, economic development and socio-political development. Most of the developed and developing countries have recognized urbanization as crucial phenomena of economic growth, and social changes of a country because it provides a stimulus towards growth and development. They believe that urban areas are the attentions and agent of innovation, diffusion and socio-economic transformation of society(Mangize, 2005).

Urbanization is an index of transformation from traditional rural economic to modern industrial one. It is progressive concentration of population in urban unit. In the study of urbanization it is pertinent to know how urban areas are defined because, from the demographic point of view the level of urbanization is measured in terms of percentage of population living in urban areas. Davis writes, "Urbanization is a process of switch from spread out pattern of human settlement to one of concentration in urban centres. (1965).

Davis's view of urbanization can be understood as the changes in the proportion of the population of a nation living in urban places. In other words urbanization is the process of people moving to cities or other densely settled areas. The term is also used to describe the changes in social organization that occur as a consequence of population concentration. Urbanization is thus a process by which rural area become transformed into urban areas. In the demographic terms, urbanization is an increase in population concentration (number and density), organizationally. It is an alteration in structure and pattern of organization. It is the complex process by which a large number of people from rural areas settle in, work in and live in cities. Although urbanization occurred in ancient and piece industrial times as well, it is most dramatically associated with the development of industrial and post industrial societies (Magit, 2000).

Urban growth is the increase of proportion of urban population living in urban areas of a country and it is also percent of urban population out of the total population in a country. In the broader sense urbanization is a vast process of development of increasing activities of people in areas known as urban which reflects the structural changes in physical, social, economic, demographic and cultural factors of human life. In general, the development level of a any country has direct related with the urbanization level of this country. Urbanization offers increased opportunities for specialized production of goods and services. Moreover, urbanization increases the general scale of settlements due to the progressive concentration of people and activities in urban areas, changes the economy where by non-agricultural activities become the dominant change in the structural characteristics of demography, spreads the urbanism beyond the built-up areas of city including rural dilution and diffuses economic social and technological changes in the rural areas (Uduporuwa, 2010).

The present years is seeing urbanization as one of the major social changes extensive all over the world, especially in developing countries where urban growth rates are rapidly increasing. Urbanization takes fundamental changes in people's way of life, in the number of people they see in the places they are, and often in the quality of water they drink, the air they breathe, and the housing in which they live. Such changes have profound implications both positive and negative for the health of city residents. (Stephen and others, 1996)

Urban change is the result of urbanization process. Urbanization in general is known as the process of growth in the proportion of population residing in urban palaces (CBS 2003). This is characterized by higher population growth within the city as well as migration of people from outside areas mainly rural to urban. The urbanization process also involves the increase in number of urban centres and fingers. Also in this process agricultural land is continuously being converted for urban uses all over the world. (Pradhan, 2004)

Increasing urbanization is one of the fast growing processes in the developing countries. Most of the fastest growing cities in the world are situated in the developing countries. This scenario indicates that the urban growth and urbanization process is a concerned matter of the developing countries. In 2001, about 46% of world populations lived in urban areas. This population is 40% in the developing region of the world (Gyawali, 2004). Among developing countries Latin American countries have the highest proportion of their population living in urban areas. But East and South Asian countries are likely to have the fastest growth rates in the next 30 years.

Almost all of the future world population growth will be in towns and cities (PRB on line). The twenty first century has revealed rapid and unprecedented urbanization in Asia particularly for the population giants like China and India though urbanization processes have been firmly entrenched globally across most of the region (Banerjee and other, 2013)

Nepal is one of the less developed countries of the world. Nepal's level of urbanization is low in terms of the size of urban population and number of urban places but it is growing both in terms of number of urban places and size of population living in the urban areas (Subedi, 2009). At present the urban population of Nepal founds nearly 14% of the total population of country, which is quite low as compared to the urbanization levels of its neighbours in 2000 AD - India 28%, Pakistan 37%, Bangladesh 25% and Srilanka 24%. (Pradhan, 2004)

The rate of urban growth in the country has been faster in the recent decades. In 1952, the urban population of Nepal was 238275 that increased to 3227878 in 2001. During the same period the urban places increased from 10 in 1952 to 58 in 2001. Now the number of urban areas (Municipalities) increase from 10 to 58 during last 59 years period, even than the increasing trends of urbanization is clear since 1952/1954. The proportion of urban population went up from 2.89 to 14.2 percentages during the six decades (CBS 2001). There is a number of urban towns increased. This increasing pattern is show to the future trend of urbanization in Nepal.

Urban population has increased by 16 times from 1952/54 to 2001 while the country's population increased by 2.8 times, from 0.28 million to 3.22 million in 2001, in the same period. The population size of the country has increased noticeably over the last 30 years. In 1981 Nepal's total population was 11.6 million which increased to 26.5 million by 2011. Correspondingly the urban population has increased from about one million in 1981 to 4.5 million in 2011. The urban population as a percentage of the total population of the country reached 17.1% by 2011 and with new declaration of Municipalities there has been an increase of urban population of percentage and number of urban areas. The number of urban areas and urban population has rapidly increased in Nepal. On the other side most of the urban areas in Nepal are emerging fast, in uncontrolled, unplanned ways inviting a number of complexities causing urban environmental degradation and like other problems. If the growth of the urban areas is unplanned, and haphazard, the life of the people gets complicated to the extent of no limit (Gurung, 2001).

In the urban areas of Nepal, environmental pollution and environmental degradation have been accelerating in the past three decades. Pollution of land, water and air has seriously threatened the quality of life of urban residents (Adhikari, 1998)

Urbanization is characterised by diversification i.e. manufacturing, trade, commerce, transport, communication and so many professional, personal, official and institutional services. Alongside these varied and multi faceted attraction of urban areas there naturally arise problems of population pressure, housing and land shortage of playgrounds, parks and open spaces for recreation and insufficient amenities for life and high level of environmental pollution (Maurya, 1989). Urban population growth interacts with its environment. Due to urban population growth, people change their environment through their consumption of food, energy, water and land. And in turn, the polluted urban environment disturbs the quality of life of the urban peoples.

The origin of towns in Terai is recent. Urbanization in them 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 (Kansakar,1990). There was rapid growth in urban centres after that they are quite new towns and they had gained the status of urban unit (Nagarpalika) after 1977. According to census the urban population of this region was 71108 in 1981 that become to 119163 in 1991, 245804 in 2001 and 26769 in 2011.

Likewise, there are also rapidly growing urban centres (areas) and urban population in the far western Terai of Nepal. Hence, it requires a detailed study of the process of urbanization, urban situation and urban environment mostly demographic point of view of this region.

1.1. Statement of Problem

The present study is concerned with the trends of urban growth and urbanization in Far-Western Terai of Nepal. The study area of Far-Western Terai presents varieties of socio-cultural, economic and demographic scenario due to urban growth and urbanization. Mainly the situation of urban growth in Terai area is different from the other part of the country.

According to the nature and situation of urbanization in the study area, the research will be mainly focused on urban population growth, urban facilities, urban-rural differences, urban land use and its morphology and general scenario of urban environment mostly demographic prospective of Far-Western Terai.

Nepal is experiencing population explosion and rapid urbanization. The total population of the country during the decade 1991 to 2001 has increased by the average annual growth rate of

2.24%. During the same period the total urban population increased by about 6.65%. The share of urban population in Terai region was about 17% in 1952/54 census than after its share in urban population rapidly increased and in 2001 census. Terai region has 30 Municipalities (urban areas) that share 51% of the total population of Nepal.

Urbanization or the urban growth has been one of the most significant demographic features of the present day. In the last five decades there has been rapid population growth in the Municipalities and the number of new urban centres has been increasing significantly in the Nepal. The main reason behind such a population explosion (growth) in urban areas is the high influx of people from rural areas. On the other hand the urban population growth is due to annexation and extension of areas into the existing Municipalities as well as natural population growth of urban areas.

Nepal's urban growth rate is the highest among the most of South and South East Asian countries. In the context of Nepal, demographic factor which is working as generating factors of urbanization is the major problem like that in other developing countries.

Kathmandu valley, one of the fastest growing cities worldwide is facing severe socio-economic and environmental threats in the absence of a clear and comprehensive planning and land policy, according to planners. Rapid expansion of the urban environment coupled with unmanaged settlements and unplanned development, has led the capital to suffer from air pollution, traffic congestion, haphazard solid waste disposal and the loss of a rich cultural heritage. Also the agricultural land pattern has converted into human settlement, industry, market and other uses due to rapid urbanization. Similarly forest area has declined. So if the urban population, urban areas and number of urban places continue increasing at the same speed in an unplanned, uncontrolled, haphazard way, the state will invitation a number of complexities and problems.

It is understandable that rapid urban growth and urbanization process creates complexities in urban areas. Therefore the title of the proposed research has been stated as "Trends of Urban Growth and Urbanization in Far-Western Terai of Nepal". The present study is expected to answer the following research questions:-

- What are the conditions of urban facilities in urban areas?
- What are the urban and rural differences of the study area?
- What are the process trends and level of urban growth and urbanization?
- What is the urban land use pattern and its morphology?

- What is the present general environmental situation in the study area?

1.2. Conceptual Framework

In a more hard sense, urban area (centre) is a place where actions like exchange of services and ideas take place. It is a place for agro processing mills or small scale industries, a place for community and production services, a place for fair or hat (periodic market) or social gatherings and place for transport service or break of bulk service. All these activities act as complement to each other and are considered as a total strength of market force.

There are basic services as well as other specialist services that aren't found in rural areas. There are more job opportunities and a greater variation of jobs. Health is another major factor. People, particularly the elderly are often forced to move to cities where there are doctors and hospitals that can provide for their health needs. Other factors include a greater variety of entertainment (restaurants, movies theaters, theme parks etc.) and a better quality of education, namely universities. Due to their high population, urban areas can also have much more diverse social communities allowing others to find people like them when they might not be able in rural areas.

The criteria to define urban area differ from region to region that creates a problem in comparative analysis. It can be said that the general criteria which are used to define urban areas depend on population size, population density and availability of services such as schools, hospitals, banks, trade, industries and others. The population is considered as the main criteria to define urban area. Population size differs from country to country. For example population of 200 people in Denmark, 300 in Iceland, 1000 in New Zealand, 2000 in France, 2500 in the USA, 5000 in Belgium, India, China and Netherlands are the criteria of define the urban area. Besides this, above functional criteria are more important on the basis of functions. Urban areas may be historical, religious, administrative, tourist and industrial etc.

A numbers of indicators are used in identifying urban areas of different countries. For example in Philippines, urban areas are defined by the national census. All settlements with a population density of at least 500 persons per square Kilometer are defined as urban centres. In addition to this the other indicators are the pattern pressure of a town hall church or chapel, a public plaza, public building like school hospital or a library. The administration building and units with a population of 1000 are also designated as urban centres if their functions are non agricultural.

In Africa, the concept of urban area is slightly different from that of the Philippines. In this country, town with a population of 10000 or more is defined as an urban area if it has at least

four of the following characteristic like post office, fax office and public treasury bank running, water supply, electricity health centre and secondary school. Population density and non-agricultural activities are not considered. In most Latin American and European countries, the areas with 2000 to 2500, or even just a few hundred inhabitants of population are defined as urban areas.

Nepal is one of the least urbanized countries in the world. The urban population of Nepal refers to the inhabitants residing in the recognized municipal areas. Nepalese municipal town is defined primarily in terms of population size. In 1952/54, settlements with a population of over 5000 were generally recognized as towns although there was no formal definition. The 1961 census formally defined an urban area or a town (sahar) as an areas with a population cluster or 5000 and over with an urban environment such as high school, college judicial and administrative offices, bazaar, communication facilities, mills factories and so on. According to Nagar Panchayat Act of 1962 the settlements with minimum population of 10,000 and social services are Nagar Panchayat. However, in 1976 the minimum population size of Nagar Panchayat was fixed at 9000. According to the Municipality Act of 1991 and its amendment in 1997 any place in the Terai with a minimum population of 20000 with infrastructure facilities, such as electricity roads, drinking water and communications can be declared an urban centre. To define municipal town, it requires a status of an independent administrative unit and manages all its functions and development activities. Therefore on the basis of the above definition urban centres consider all functional units located within its locality, which act as complementary to each other and altogether act as the total strength of market force.

The urban population of Nepal refers to the inhabitants residing in the designated municipal area. The population census of Nepal defines urban localities or municipal town primarily in terms of population size. The Municipality act 1992 and the local self government act of 1999 redefined and classified municipal towns. This is the first time that municipal areas have been classified into three categories in Nepal such as metropolitan, sub metropolitan and Municipality The classification is based on population, annual revenue and so on. But the minimum population size for the Municipality remains to be 10000. Thus, in this country called Nepal the term urban area is used to denote areas officially defined as municipal.

A number of theories/models have been developed to describe and explain the pattern process and direction of urbanization. Theories and models give the clear cut picture of the theoretical concept of the study of urbanization. Following models are relevant in the present study.

The concentric zone model also known Burgers model is one of the earliest theoretical models to explain urban structures. It was created by sociologist E.W. Burgers, there is a tendency of the growth of any town through a essential expansion from the centre so as to form a series of concentric zone or circles. The concentric zone model depicts urban land use in concentric rings: the Central Business District (or CBD) was in the middle of the model, and the city expanded in rings with different land uses. The zones/rings identified are :

1. The centre was the CBD.
2. The transition zones of mixed residential or commercial user or the zone of transition.
3. Working class residential homes.
4. Better quality middle class home or zone of better housing.
5. Commuters' zones.

Sector Model (Theory) was conceptualized by the economist Hummer Hoyt (1939) with the same division in the form of sectors rather than concentric circles. This pattern of city growth can be explained in part by a sifting process. According to him, this theory was intended as a modification of Burgress's theory (Concentric Zone Model) of town development. Hoyt has suggested that zones expand outward from the town centre along rail roads, highways and other transportation routes.

According to Multiple Nuclei Model, town tend to grow around not one but several district nuclei,it was developed by CD Harris and Ullman in 1945, with ten distinguishable types of areas: central business, wholesale and light manufacturing, low income residential, medium income residential, high income residential, heavy industry, outlying business, residential suburb, industrial suburb and commuters area. The number of district nuclei occurring within a town is likely to be a function of town size and regency of development.

Though von Thunen (1826) postulated his land use model based on the empirical observation of the relationship between urban area and its surrounding rural land use of the 18265, the model still appears importantly concerning the factors of agricultural land use around the market town of the emerging region. The model explains that there is an cooperating relationship between urban place and its hinterland with the farmer offering household goods and services to its

hinterland areas and with the latter supplying marketable farm products to the town. While urban area is one of the factor of agricultural development where producer adjusts accordingly land rent or value which is a major factor to determine the intensity of agricultural activities around the urban centre. Land rent decrease proportionately to the distance from market and so does the intensity of agricultural activities in which carrying cost plays a vital role. The model is based on the fact that distance from the town plays a major role in the development of various agricultural zones of surrounding area of urban. Von Thunen's Model is very important in analyzing the location of agricultural activities around urban centres. The fact that crop intensity decreases as the distance increases from the city is mostly applicable.

The central place concept is the main basis of understanding the urban centres and neighborhoods and their inter linkage. The central place theory was put forwarded by Christaller in 1933. His work concerns basically with the finding of the general laws which govern the size, numbers and distributions of urban centres. In the similar area with equal contact in all directions under perfect competition, the central place provides goods and services to the surrounding areas that are located in a three-sided pattern. The ideal form of the hinter land region is a hexagon. The basic unit in the central place system is a settlement. Each central place provides goods and services to its surrounding areas which is called central function of urban of city.

Besides above mentioned theories some of the other theories and models are developed in the contemporary urban study. Therefore all models are useful to study the urban growth and urbanization situation in the present day.

1.3 Review of Literature:

The study is on the trends of urban growth and urbanization is not a new phenomenon in the present day. A number of scholars have conducted studies on the different aspects of urban growth and urbanization. Mostly geographers, sociologists, economists and demographers focus on the various dimensions of urban growth. They have emphasized on the trends and characteristics of urban growth from various views. Among them some of the studies are related with this study. Most of relevant studies are foreign and some few relevant studies in this aspect exist in Nepal.

The review of literature has been divided into two sections. The first section has covered few relevant works on this study in the global context (the context of foreign literature). The second

section has covered the national context of Nepal. In this section has covered few relevant works on the urban growth and urbanization in Nepal.

Here an attempt is made to review the literatures on the topic concerning urbanization and related issues.

1.3.1 Review of Literature in Global Context:

A number of scholars have studied in the different aspects of urban growth and urbanization in the global context. Among the different foreign literatures which are related to and important for this study have been reviewed follows:

Banerjee (2009), has analyzed the topic of urbanization and its impact on environment in India. In this study, he pointed that the level of urbanization in terms of the proportion of urban population to the total population is low in India, but the urban population in absolute terms is very high and most of the urban population is concentrated in the big cities. Due to uncontrolled urbanization, the quality of life is under warning, particularly in the most of the great cities in India. His study also shows that the environmental degradation has been blaming very rapidly and causing unnecessary air and water pollution, water lack, problems of disposal of solid waste and hazard of wastes, sound pollution, lacks of housing and rapidly increasing of slums in the most of great cities of India. Banerjee, Kumar and Naskar (2013) have contributed an enlightening article entitled "Contemporary Urbanization in India: Characteristics, Trends and Pattern". The article provides an overview of urbanization in India since historical times to the present Census (2011). Though the history of urbanization can be traced back to the advent of early civilization in India, rapid urbanization is a feature of recent decades only. India is at transitional level of urbanization with large scale variations in the trend and pattern of urbanization over the decades and across the states. According to this study urbanization in India is mainly a product of demographic explosion and poverty driven rural to urban migration dominated by distress. This leads to higher concentration of population in a few cities and command of a large proportion of population over limited resources thus resulting in a decline in the standards of city life and giving rise to urban poverty, deprivation, unemployment. Datta (2006), conducted a study on the topic of Urbanization in India. He endeavors to illuminate on the process of urbanization in India with emphasis on level, tempo, pattern, morphology and problem of urbanization using census data. In his study, he point out that India shares most

characteristic features of urbanization in developing countries. Indian urbanization is a gradually increasing trend and it is at the acceleration stage.

According to him urbanization process in India is not mainly migration lead but a product of demographic explosion due to natural increase. Lopsided urbanization includes growth of class one cities. Rapid urbanization leads to massive growth of slum followed by misery, poverty, unemployment, exploitation, inequalities, degradation in quality of urban life.

Harris and Ullman (1945), known as two patterns of urbanization which are primary and secondary. In the first pattern pre-civilized traditional society is converted by urbanization into a peasantry entirely within the framework of a core culture that develops in an indigenous civilization. Secondary pattern urbanization follows primary urbanization when a folk society, pre-civilized, peasant or partly urbanized, is further urbanized by contact with people of widely different cultures from that of its own members. Hoselitz (1955) has mentioned that a city being generative of its continued existence and growth is one of the factors accountable for the economic development of the area. It is considered as parasitic if it exerts negative impact. On the basis of their role in the economic development of an area determines the process of urbanization. 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 stage of secondary urbanization may exert an unfavorable effect upon economic growth of the wider geographical unit of which they form a part. Jones (1983), has studied the structural change and prospects for urban growth and urbanization in Asian countries. He classified Asian countries into two groups i.e., rapidly developing countries and poorer countries (less developed countries). The rapidly developing countries such as Korea, Taiwan and Malaysia, where agriculture no longer plays a dominant role in the national economy and where the employment transition is being effected in two ways-by the migration of workers from villages to cities (rural to urban areas, normally from agricultural to non agricultural employment), and by change of occupational structure in rural areas increasing the share of non agricultural employment. The poorer countries of Asia, mainly South Asian countries, where the employment transition are continued rapid population growth is adding vast numbers to both the rural and urban workers. His study gives more emphasis in the change of employment structure in process of urbanization in Asian countries. Kopardekar (1976) examined whether the pattern of urbanization that was emerging in developing countries particularly India, was the result of socio-economic and

political conditions and policies followed. He disclosed that urbanization process was a suggestion of the basic outline in a society because the problems struggles were clearly reproduced in urban growth and urbanization patterns.

Mohan (1984) describes various theories of urban growth and 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 properly the regional pattern of urbanization in India. Ramchandran (1995) has contributed to the study of urbanization in India He critically analyses the strengths and weakness of the Indian urban system and provides new insights into contemporary urban problems. He describes how the urban development in India inter-relates the geographical dimension with historical and socio economic aspects. His analysis is focused on the process of urbanization and the nature of interdependence among urban centres and between urban centres and their hinterlands. Roy (2013) has contributed the topic of Spatial-Temporal Characteristics of Urbanization in Jharkhand, where her long standing research experience in the field of urbanization and population geography, brings out processes, patterns and trends of urbanization in the recently formed state of Jharkhand. The article focuses primarily on urban growth to be an important indicator of development of a region.

Siddhartha and Mukherjee (2002), simply describe the introductory text on cities, urban system and urbanization. In this book various approaches which geographers have applied to the study of urban and urbanism; the physical, socio economic and behavioral aspects of urban and settlement geography are discussed. O.P. Singh (1974) has studied on the topic of Unnao: A study in Town evolution and functional Morphology. In this study he has examined four historic phase of urban evolution and its diversified functional set up in accordance with the total influence of town. Seven generalized functional zone are identified. He has given more emphasis on functions and its morphological pattern associated with urban function. Sant B. Singh (1977), has studied the functional morphology of Sultanpur town. In this study internal structure of town is expressed in terms of different users of the urban land. Different morphological zones are identified on the basis of segregation of functions into separate zone within the urban area. Eight functional zones e.g. Business, Educational, Recreational and other service centre are identified. Also Monika Singh (2009), has studied the topic of urban environment in Lucknow city. In this paper, he has attempted to evaluate the level of pollution (especially air, noise and water) in

different areas of the city. According to his study the rapid growth of the city, the infrastructure of the city is under heavy pressure and highly insufficient for its population, the higher growth of vehiculars, the city is faced with the problems of congestion traffic jams, air noise and water pollution, encroachment of roads and public places in adequate water supply, spread of slums and problems of waste disposal.

United Nations (1994) focused that the process of urbanization is the result of population shifting from predominantly rural to urban societies. Urban growth has led to deteriorating and less sustainable conditions of human settlement in many countries. A large number of factories have been built in urban spheres without safe disposal in developing countries. Yadav and Sharma (2004), studied the impact of urbanization on rural development in Uttar Pradesh with special reference to Meerut district of India. According to them, urbanization is both a consequence and a causal factor in economic as well as socio-cultural development. The rate of urban growth is an important index of the progress of the economy. They point that the dreadful urbanization has occurred due to migration of people from rural areas to urban areas in exploration of employment, good economic prospects, development in the network of civic amenities, better educational facilities; industrial development promotes urbanization because this leads to development of large urban area or expansion of urban areas. They emphasized that the urbanization process has been continued to be unabated. Therefore, the pace of urbanization has been very rapid in the study area. They have examined that the study concentration some of the important problems caused by over population growth and rapid urbanization process in the cities of India. Total urban population in India has increased more than ten times surpassing India's total population growth, which has increased less than five times during 1901-2001. Sivaramakrishna, Kundu and Singh (2005), studied the urbanization; their trends and process. They studied urban settlement by comparative method. In this book, for the first time comprehensive analysis of urbanization trends in India was done using 2001 census data. They studied 17 major states across India: the study into account regional dimensions both at state and district level as well as urban population growth across states. The study analysis shows:

- The extent patterns and trends as well as socio economic and spatial characteristics of urbanization.
- Interdependencies between urbanization and available infrastructural facilities.
- Trends of rural-urban migration.

Bhagatand Mohauty(2011) in his article Emerging Pattern of Urbanization in India, examined that the declining trend in the urban population growth rate observed during the national level, and the level of urbanization increased faster during 2001-2011. The urban population grew from 286 million in 2001 to 377 million in 2011. A huge number of new towns emerged during the last decade, contributing significantly to the speeding up of urbanization.

1.3.2 Review of Literature of National (Nepal) Context:

There are some studies made in context of the country about urbanization and urban growth by different scholars. Some major studies of urban growth and urbanization in Nepal conducted by geographers, economists, sociologist and other scholars focusing mainly urbanization and its trends of growth. Some of them are mentioned here in relation to this study.

Adhikari (1998) simply described the urban and environmental planning in Nepal. He has contained essays to identify, review, analyze and propose some solutions to the problems related to housing and urban and environmental planning in Nepal. He mentioned urban planning has not been practised in a comprehensive manner in Nepal. According to him, Nepal's urban centres suffer from lack of proper land use planning, road layouts are inefficient, open spaces are almost nonexistent, housing and services are not well located and infrastructure is poorly planned and deficiently maintained. The study concluded that in the past three decades, environmental pollution and degradation has been accelerating in Nepal's urban areas. Pollution of land, water and air has seriously threatened the quality of life of urban residents. He tried to analyze various aspects related to environmental planning in the urban areas of Nepal. Bastola (1995), studied on urbanization in Nepal. The study focuses on comparison of 1991 census with 1981 census data. He studied different aspect of demography (level of urbanization, trends of urbanization and tempo of urbanization) and of the major implications of the growing urbanization in Nepal and also outlined the future of urbanization in the country. According to his study the average annual growth rate of urban population during the last twenty years, have been rapidly increased and these rates indicate that the country is at an accelerating phase of urbanization process.

Basyal and Khanal (2001) have described the process and characteristics of urbanization in Nepal. This study focused on the period of 1952 to 1991 census data of Nepal. During this period, Nepal has been experiencing rapid urban growth but the level of urbanization was very low. They pointed that, there are regional differences of urbanization in Nepal. Kathmandu valley and Terai region have always continued higher level of urbanization. Also small towns

are generally characterizing in Hill/Mountain region where as large towns dominate Valley, Inner Terai and Terai region of Nepal. Damoder Bhandari (1996) has conducted a study on the trends of urbanization and distribution of urban population with respect to its population and urban areas based on 1991 census data of 33 Municipalities. The documents: nearly 40 years period between 1952/1954 to 1991, the urban population increased by rapidly, whereas the total population nearly slowly. This study indicates that the country is at an quickening stage of urbanization process. Also S.Bhandari (2010) has analyzed the land use and land cover classification, change analysis and urban growth model for 2019 of Kathmandu valley using GIS and RS tools. That study also reviewed population growth and urbanization trends in connection with increasing built up area leading to the environmental degradation. The population growth and urbanization trends of Kathmandu valley is the highest among other cities in Nepal.

Conway & Shrestha (1985) studied urban growth and urbanization in Nepal. They examined the character and difference between urban population growth rates and urbanization rates in two successive periods 1952 – 1961 and the regional trends in urbanization levels. Gurung (1985)) has studied the urban geography of Pokhara town. In this study he has identified different functional zones of Pokhara town on the basis of dominant functional establishment. Similarly he has also analyzed urbanization in Pokhara and its implication in environment (2001). He has pointed out that most of the the towns in Nepal are growing fast, uncontrolled and unplanned inviting a number of complexities causing urban environmental degradation. Dahal (1997) has analyzed the urban growth and sanitation condition of Damak Municipality. In his study he finds out more and more people are moving into Municipality as a result of many kinds of facilities provided by the town. The sanitation condition of Damak Municipality has not improved in the proportion to the rate of urban growth. Kansakar (1990) made a study covering the Hill area of Nepal from 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 construction of highways and roads mainly in Terai.

Muzzic and Aparicio(2012) has pointed that Nepal is the least urbanized country in South Asia, with 17 percent of its population living in urban areas, and the fastest urbanizing country, with an average urban population growth rate of about 6 percent per year since the 1970s. Nepal is

undergoing a significant spatial transition. The rapid spatial transformation has led to a population shift from rural to urban areas through rural-to-urban migration, conversion of rural areas into urban areas and the natural growth of urban areas. Parajuli (1990) has calculated selected aspects of urbanization in his study entitled: "A Sociological study of Pokhara Town". This study involves analysis of the process and aspects of urbanization in Pokhara town. He also analyses the urban setting, changing demographic texture, urban occupational structure and mobility and changing environmental conditions of the town.

Paudyal (1988) has conducted a study on the topic "Damauli- A Case Study in Urban Morphology". This study is focused on the morphological pattern (shape of town, geographical mean centre of town, origin and evolution of town functional morphology and the correlation between commercial and non commercial functions) of urban area.

Sharma (1989) has analyzed urbanization in Nepal. His studies focused on the urbanization and urban growth of Nepal. In his study, he pointed out the distribution and growth of urban places, rank hierarchy of urban places, geographical pattern of urbanization and development and the future trends in urbanization in Nepal. According to him urban growth in Nepal was relatively rapid; the level of urbanization remained very low. The study shows that in the recent decades urbanization has mainly characterized in the Terai region in Nepal.

Shrestha (1975) has analyzed the urbanization trends and emerging pattern in Nepal. He points out that the Terai region experienced rapid urban growth during the period 1961-1971, increase of share of urban population being 133% in the Eastern Terai and 120% in the Far Western Terai. His study also shows that the most of the urban places are located along major highways. A report prepared by Rajesh B Thapa and Yuji Murayama –Spatial Structure of Land Use Dynamics in Kathmandu Valley –states that the agricultural landscape transformed dramatically following the rapid urbanization of the 1970s and 1980s, severely deteriorating agricultural and natural vegetation. Statistics show that the rate of urbanization was recorded at three percent in 1967 while it increased to 13 percent in 2000. Similarly, forest cover decreased from 23 to 17 percent in the same period.

The present research work is concerned with the trends of urban growth and urbanization in Far-Western Terai of Nepal. This region is the most important trading, food production and educational centre of the Far-Western Development Region. Eradication of malaria from the region was followed by rapid change in the size of population, socio-economic development,

political and administrative activities in Far-Western Terai. With the construction of East-West highway (Mahindra Highway), Terai area developed rapidly. Due to the development of different activities, the Terai has become a common destination for migration from the hills and mountains in Nepal. So, Terai region has thus experienced rapid urban expansion during the recent decades. Therefore, the study area is this newly emerging region of urbanization. No study has been conducted so far on the urbanization situation of Far-Western Terai of Nepal. Thus, there is a need to study urbanization situation in this area. This study will attempt to fill the research gap. In addition to this, the present study will contribute to understanding of an urban situation of Far-Western Terai in urban facilities, urban trends, urban –rural differences, urban morphology and urban environmental aspect particularly.

1.4. Objectives of the Study

The principle objectives of the study are "Trends of urban growth and urbanization in Far-Western Terai of Nepal. The specific objectives are as follows:

- To describe the urban facilities in the study area.
- To analysis the trends and patterns of urban growth and urbanization.
- To examine the urban-rural differences of the study area.
- To determine the present urban land use pattern and its morphological structure of the study area.
- To analyse the environmental status and change.

1.5 Hypotheses

On the basis of observation and related literature, following hypotheses can be formulated for the study, which are follows:

- Population growth determines the urban growth in the region.
- The urban population growth is higher than the rural population growth, because of the fact that population is migrating towards urban foci for job opportunities and also for availing the facilities of urban environment.

1.6 Limitations of the Study:

Social research can merely be done without limitation so that each and every study has its own limitations. One of the important aspects of this study is concentrated identification of urban centres, urban growth and urbanization situation in the Far-Western Terai.

The study has been concentrated only on the Far-Western Terai of Nepal. There are two districts which are Kailali & Kanchanpur, three Municipalities (Dhangadi, Bhimdatt and Tikapur) and 61 VDCs.

The study has covered the existing urban facilities like education, drinking water, road, electricity, health, administrative, financial, sewerage and communicational facilities especially Bhimdatt, Dhangadi and Tikapur Municipalities. The information has been collected from different Municipalities office records.

The present study has covered the pattern and trends of urban growth and urbanization based on available secondary information which are mainly published by CBS (Census of Nepal 2011 & previous census). This study has shown the urbanization situation of Nepal, Far-Western Development Region and Far-Western Terai in different levels.

The study covered rural-urban difference like demographic, socio-cultural and economic aspects. This study has shown demographic differences (population growth, family size, sex ratio, population density, dependency ratio), socio-cultural differences (religion, caste, family type, literacy, drinking water facilities, sources of lighting, cooking fuel, toilet facilities and other facilities) and economic difference (source of income, family income and economic active population). For the study of urban land use and its morphology of urban area to analyze existing land use pattern of Municipalities.

The study has also focused the present environmental situation in the study area. In this study included some environmental problems like forest degradation, land fragmentation, solid waste generation, and air pollution. Also perception of environmental pollution and types of pollution in Far-Western Terai are included in this study.

1.7. Research Techniques and Methodology

Research is a systematic and organized effort to investigate a specific problem that needs a solution (Wolf and Pant, 2002). Research methodology is the systematic and logical study of guiding scientific investigation. In the social science research it deals with human relationship and their interpretation. Research is an academic activity and the term should be used in a technical sense (Kothari, 1990). Thus, research can be defined as systematic organized, academic and scientific investigation of the research problem.

This chapter describes the procedures followed to achieve the objectives of this study. Here explains the methodology which are applied/ used in study of topic "Urbanization Situation in Far-Western Terai of Nepal".

Section 1.7.1., 1.7.2, and 1.7.3 describe research process, research design and sources of data used in the study methods and tools of data collection are described in sections 1.7.4 and 1.7.5 universe and sample size, house hold sampling procedure and sample size allocation procedure are discussed in sections 1.7.6., 1.7.7 and 1.7.8 respectively. Method of analysis is discussed in section 1.7.9.

1.7.1. Research Process

The research process was designed to meet out the objectives of study. The research process has the following steps:

Step I : Selection of the research problem and developing the research proposal and survey questionnaires.

Step II : Selection of the universe of study, sample size and sample selection procedures.

Step III : Selection of respondents and conducting survey for collection of data.

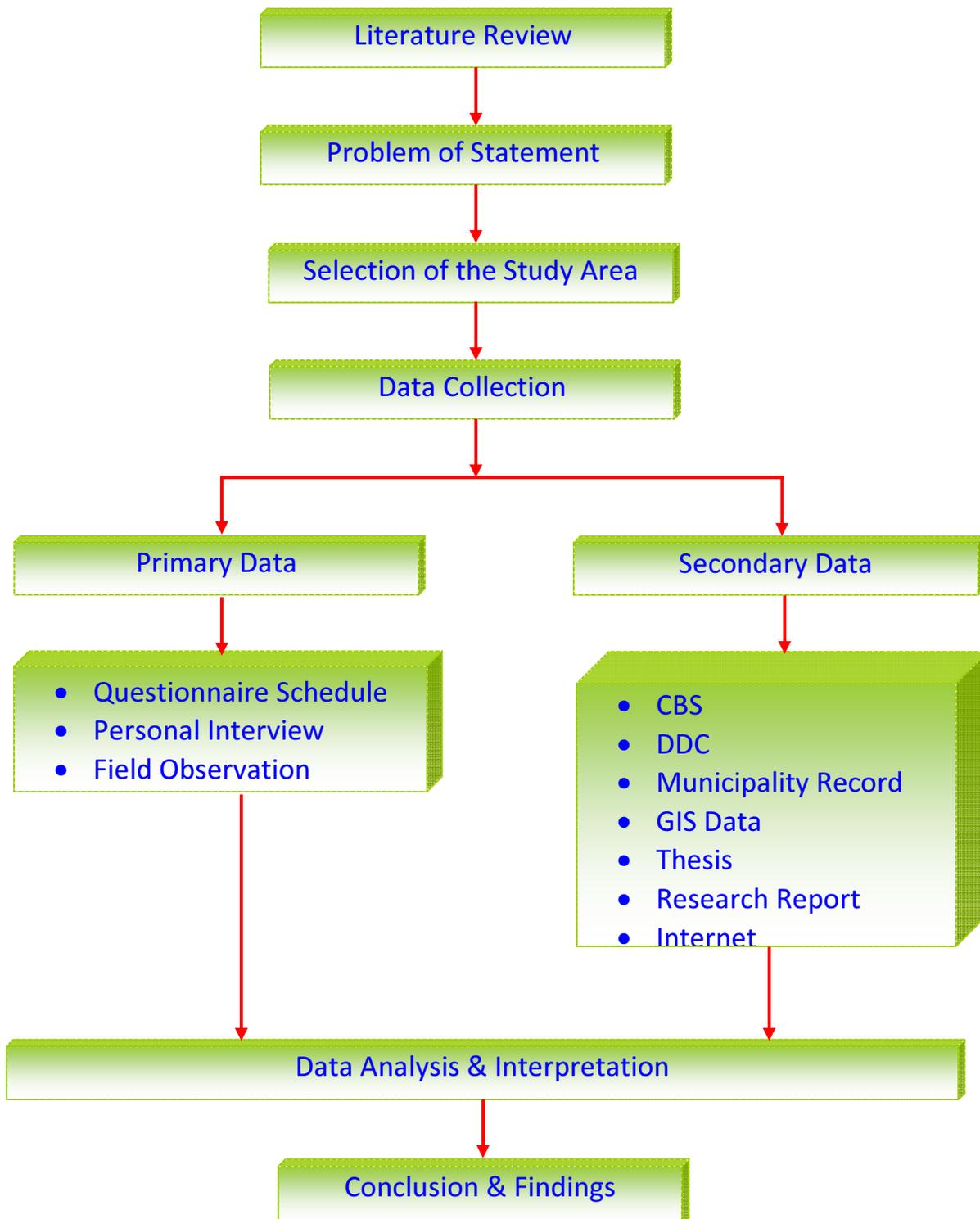
Step IV : Selecting appropriate methods of data analysis, interpretation and manipulation.

Step V : Draw the findings and conclusions.

1.7.2. Research Design

In this study, multi-method approach is employed with a particular focus on both quantitative and qualitative research methods. The study is also both descriptive and analytical approaches have been used to attain the objectives of the study.

Flow Chart of Research Design



1.7.3. Sources of Data

Generally two types of data were found to be used in research purposes primary and secondary sources. Data used in this study are based on primary sources collected directly from the field study. Primary data have been collected by personal interviews from the sample of the study area.

In addition to primary data secondary data collected from various sources were also used in the study. The major source of secondary data was the Central Bureau of Statistics (CBS) that conducts the census. The recent secondary data have been used from census of Nepal 2011 which is collected by CBS, Government Nepal. Also some of the other secondary data were obtained from the VDCs, DDC, Municipalities and other government and non-government organization related to urbanization.

1.7.4. Method of Data Collection

For the collection of data, different methods and techniques are adopted during this research work. Generally there are three major methods used in data collection procedure. They are personal interview (questionnaire), observation and mapping.

1.7.4.1. Tools of Data Collection

An important method used for data collection is questionnaire and schedules. For this, a list of questions relating to the problem under investigation was prepared and it is pre-tested among a few samples. According to the reactions from pre-testing some questions are inducted and some were deducted. Likewise, it is drafted again and printed. Efforts have been made to make questionnaire effective and inclusive or required variable. It has been tried to make questions more polite short, clear and adequate as far as practicable.

1.7.4.2. Universe and Sample/Selection of Study Area:

The study will be based on the Far-Western Terai of Nepal. The Far- Western Development Region (FWDR) covers 19539sq.km and comprised two zones Mahakali and Seti and nine districts Kanchanpur, Kailali, Dadeldhura, Doti, Achham, Bajura, Baitadi, Bajhang and Darchula.

The study is for the present investigation in Far-Western Terai located in the southern part of FWDR. In this area includes two districts Kailali and Kanchanpur. FWT is extended from Mahakali River in the west to Karnali River in the east. The Indo-Nepal border shares the southern boundary and Dadeldhura and Doti districts boundary in the Northern boundary of this terai. This region covers an area 488469 sq.km. Its 68.9% plains (Terai), 30.6% Siwalik (Churia) and 0.3% Mid-mountain (Hill) with altitude at 109 meters to 1950 meters. Its geographical coordinators are, 28° 22' North to 29° 08' north latitudinal of 80° 3' East to 81° 18' east longitudinally. It comprised of 61 VDC and 3 Municipalities. According to 2001 census, the total population of this region is 994596. Out of total population, there are about 18.8% urban and 81.2% rural. The urban households and urban population are 31763 and 187008 respectively.

Nepal is a mountainous country where about 75% of the total land is occupied by mountains and hills and remaining 25% of land is covered by Terai region. Nepal is a small country in between two big countries China and India and has its location in the northern margin of the south Asia. Its location is like sandwiched between two countries. It has its elongated rectangular shape roughly with north-west to south-east orientation.

The country has 147181 square Kilometers area, which accounts for 0.03 percent of land area of the earth and 0.3 percent of land area of Asia. The country has nearly 800 Kilometers length and 160 Kilometers breadth. Nepal is 22 times smaller than India and 75 times smaller than China. The spatial location of Nepal lies between the longitudes 80° 4' to 88° 12' east and latitudes 26° 22' to 30° 27' north. Nepal is a mountainous country and its spatial extension mainly along the south slope of the Himalaya. The physical personality of Nepal is full of amazing altitude variations from the low land plains to perpetual snowy ranges above 8000 meters.

The landscape pattern is highly diversified where the altitude of the land varies from 60 meters at the southern border of Jhapa district at Kechana to 8848 meters above sea level of the top of Mt. Everest, the highest peak of the world. For as small country, Nepal has tremendous geographic diversity. It rises from as low 59 metres elevation in terai earth's highest 8848 metres Mt. Everest. On the basis of altitude and topographic features, Nepal can be divided into three major

geographical regions: Mountain, Hill and Terai. In general, the altitude of land features increased from the south towards the north.

The Far western Terai of urban area is the targeted site of this study. Hence, all the Far-Western Terai is taken as a universe. There are 2 districts, three Municipalities and 61 VDCs. First, Municipalities and VDCs are selected as a primary sample unit. Secondary 3 Municipalities and 3 VDCs are selected for the stratified sampling basis. For the study purpose, twelve wards are selected from the above 3 Municipalities and 3 VDC. Hence, all the households are taken as a universe. The universe size compared 7153 (Census - 2001). Out of the universe 600 samples particularly 435 sample from urban areas and 165 samples from rural areas are selected on the basis of purposive sampling.

1.7.4.3. Household Sampling Procedure

The Far- Western Terai comprises of two districts (Kailali and Kanchanpur). There are three Municipalities and 61 VDCs. Two Municipalities and 42 VDCs in Kailali and one Municipality and 19 VDCs are in Kanchanpur districts. The most urban and most rural wards are selected on the basis of field observation in this study. Two wards are selected from each Municipalities and VDCs. (see table)

Table 1.1: Selected Wards of the Study Area

District	Locality	Municipality/VDCs	Name of Selected Wards
Kailali	Urban area	Tikapur Municipality	Ward no.2 and 8
	Urban area	Dhangadi Municipality	Ward no. 14 and 3
	Rural area	Baliya VDC	Ward no. 2 and 6
	Rural area	Geta VDC	Ward no. 1 and 3
Kanchanpur	Urban area	Bhimdatt Municipality	Ward no. 18 and 1
	Rural area	Daijee VDC	Ward no. 1 and 7

1.7.4.4. Sample Size Allocation

For the determination of sample size for each ward of VDCs and Municipalities, first, total household size for each ward is specified and then sample size of each ward is determined

utilizing proportional allocation technique. After determining sample size for each ward, each sample is drawn through cluster sampling method and multi-stage sampling method. The sampling frame and sample size allocation are as follows:

Table 1.2: Sample Size Allocation of the Study Area, 2001

Districts	VDCs/Municipality	Name of Wards	Total HHS	No. of HHS Selected as Sample	Percent
Kanchanpur	Daijee VDC	1	353	30	8.4
	Daijee	7	229	20	8.7
Kailali	Geta	1	80	7	8.7
Kailai	Geta	3	547	46	8.4
Kailai	Baliya	2	176	15	8.5
Kailai	Baliya	6	559	47	8.4
Rural area		6	1944	165	8.4
Kanchanpur	Bhimdattnagar	18	2075	173	8.3
"	"	01	394	33	8.3
Kailali	Tikapur	2	245	20	8.5
"	"	8	902	75	8.3
"	Dhangadi	14	190	17	8.9
"	"	3	1403	117	8.3
Urban area		6	5209	435	8.3
Total		12	7153	600	8.3

Source: Kanchanpur District profile - 2065 and Kailali district profile 2064.

1.7.5. Data Analysis and Interpretation

Data analysis and interpretation means categorizing, manipulating and summarizing of data to obtain answer to the research questions. The purpose of data analysis is to reduce data intelligible and interpretable form. The present study is both qualitative and quantitative in nature. Hence the data are at first organized and presented in clear tables. Some statistical and cartographical tools are used to show the relationship between different variables. GIS also used for the analysis and interpretation of geographical data and making maps. In this study the data analysis is based on descriptive.

1.8. Organization of the Study

This study is divided into nine chapters. The first chapter is the conceptual framework and methodology. This chapter includes general background, statement of problems, conceptual framework, literature review, objectives, hypothesis, limitations and signification of the study. The second chapter gives general physiographical and socio cultural setting of the study area. The third chapter explains Municipality wise existing status of urban facilities and function in Far-Western Terai. The fourth chapter is the main chapter of this research. It shows the pattern and trends of urbanization in the Far-Western Terai, Far-Western Development Region and Nepal. The fifth chapter explains the urban and rural differences in the study area and new emerging urban centres in this area. In the sixth chapter, there is presented urban land use pattern and its morphology of Bhimdatt, Dhangadi and Tikapur Municipality. The seventh chapter explains the general environmental status and changes in Far-Western Terai. The eight and last chapter of the study is concluded with the presentation of summary of the study, basic findings and conclusion of research.

1.9. Significance of the Study

Urbanization is relatively new phenomena in Nepal. The level of urbanization is low but it is increasing condition both in terms of number of urban places and urban population. The number of urban places has grown from 10 in 1952/54 to 130 in 2014. And urban population has increased from 238275 to 7199514 in the same period. This increasing pattern is indicative of the future trend of urbanization in the country.

Due to rapid growth of urban population and urbanization, the country has facing many problems in city areas. Today, most of the municipality's areas have a range of problems of housing, water supply, drainage, roads, health, traffic congestion, air pollution, noise pollution and other due to increasing pressure of population in urban area of Nepal.

The number of urban centers and urban population has also rapidly increased in Far-western Terai. Thus, the study of size, functions, amenities' land use and environmental aspect of the urban places of this region are essential for the study. The researcher has felt to study the urban growth and urbanization in the case of Far-western Terai of Nepal.

This study explains about present situation of urban facilities in different municipalities, which are Bhimdatt, Dhangadi and Tikapur of this region. Similarly, this study attempts to describe about level of urbanization, degree of urbanization, pace of urbanization, spatial distribution of urban population and urban places and hierarchy of urban places of the study area. Also this study tries to attempts to socio-cultural, demographic and economic differences between rural area and urban area of Far-western Terai. As well as this research also describes about the urban land use pattern and its morphological situation and environmental issues of urban area.

The information and analysis of these aspects is fruitful for government for formation of planned city and reduced the different problems of urban areas. And this study also provide valuable insight to all concerning bodies including geographers, urban planners, urban engineers, politician and settlement planner. Similarly, this research also provides valuable knowledge about urbanization situation of Far-western Terai.

On the other hand, a number of previous studies conducted about the urbanization of out of Far-western Region area. It is probably the first research work that deals with the urban growth and urbanization of Far-western Terai. So, it is hoped that this research may throw some light on the future course of action.