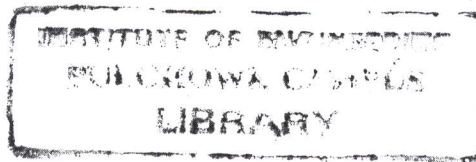


# Physical and Social Transformation of the urban fringe of the Kathmandu Valley

(A Case study of the original farmers and the landowners of  
-*Saibu* Land Pooling project and *Sunakothi* VDC)



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Not for Issue



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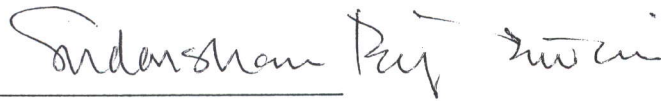
Department of Architecture and Urban Planning

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December 2003

## CERTIFICATE

This is to certify that this dissertation entitled "**Physical and Social Transformation of the Urban Fringe of the Kathmandu Valley - A case study of the original farmers and the landowners of Saibu Land Pooling Project and Sunakothi Village Development Committee**" submitted by Mr. Anir Kumar Upadhyay has been examined and it has been declared successful for the fulfilment of the academic requirement towards the completion of the Master of Science Course in Urban Planning.




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Thesis Supervisor

Date

26 Dec 2003

  
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## DECLARATION

I declare that this dissertation has not been previously accepted in substance for any degree and is not being concurrently submitted in candidature for any degree. I state that this dissertation is the result of my own independent work / investigation, except where otherwise stated. I hereby give consent for my dissertation, if accepted, to be available for photocopying and understand that my reference to or quotation from my thesis will receive an acknowledgement.



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Anir Kumar Upadhyay

Date: 24<sup>th</sup> December 2003

## ABSTRACT

Urban areas are continuously gaining population and urban activities overspill from central cities to peripheries rapidly. Urban fringe areas are the localities where the cities are expanding. These areas reflect urban dynamics and the non agricultural land uses which are trying to adjust in an urban complex. In the wake of urbanization, fringe areas have both threats and opportunities due to the expansion of urban areas. On one hand, when agricultural land converts into urban land use, it certainly provides economic opportunities and on the other hand decrease in agricultural land causes serious problems to the farmers who do not have other skills than agriculture.

Kathmandu Valley is experiencing rapid land use conversion. Twenty two percent of the agricultural land was converted for non-agricultural purposes in the last two decades. Conversion rate was more than 950 hectares per year in the last decade only. Agricultural land is gradually converting into other land uses. The study aims to know how the farmers and the landowners of urban fringe are affected by the ongoing rapid urbanization. This study concentrates on physical, social and economic transformation of the local farmers and the landowners.

Two case study areas are selected along two major arterial roads of the Kathmandu Valley. These two areas represent both planned intervention and unorganised development. *Saibu* Land pooling area is planned by the government to accommodate growing housing demand of Kathmandu. *Sunakothi* VDC is an unorganised development led by informal market.

The literature review and information gathered during the field survey, consists of information on physical, social and economic aspects of the farmers and landowners of both the case study areas. Considering the physical aspect, findings from the

study suggest that people are deprived of proper access due to haphazard and incoherent land fragmentation in an unorganised development. In both the cases, land holding capacity of landowners has reduced significantly. Physical displacement of the local residents is also observed and some more households are at the verge of displacement in near future.

Socially the relationship that has been developed through agricultural activity has reduced significantly and people are facing difficulties to continue with agriculture. Mutual help among friends and relatives is found to have been maintained in the unorganised development while the similar relationship has decreased in the planned area.

Considering the economic aspects, it was observed that the people are changing their professions from primary (agriculture) to secondary (business) and tertiary (services) sectors but the transformation process is rather slow and most of the households are still dependent on agriculture. Those who are practicing multiple professions are earning better than those who are practicing agriculture only. Due to the lower income, people are forced to sell their property whenever they get attractive price. They spend the money thus received for the needs of the family.

Comparative study of both the planned intervention and unorganised development divulge some strengths and weaknesses of these two different developments. Strengths of both the cases should be incorporated and weaknesses should be mitigated while planning in the urban fringe areas. Strengths of unorganised developments are good social relationship in the community, incremental land use change etc. Good social relationships could be maintained through infrastructure sharing among local residents and the migrants in the community. Staged and pocket wise development of infrastructures would help in preserving agricultural land while supplying the building parcels at the same time. This would help farmers to continue with their profession for a longer period of time.

## ACKNOWLEDGEMENT

I would like to take this opportunity to express my deepest gratitude to my thesis supervisor Prof. Dr. Sudarshan Raj Tiwari and co-supervisor Dr. Saurav Dev Bhatta for their valuable guidance, support and encouragement to make this dissertation possible. I am indebted for their invaluable suggestions and continuous support to complete this dissertation.

I am obliged to Dr. Mahendra Subba (Department of Urban Development and Building Construction) whose support, useful comments and criticisms helped me a lot while doing this research.

I would like to thank all those people whom I interviewed, for allotting time to answer my queries. I am immensely thankful to Mr. Suman Nanda Vaidya, Head of Department, Department of Architecture and Urban Planning; Mr. Batuk Krishna Parajuli, Coordinator, M.Sc. Urban Planning Program and Mr. Ajay Chandra Lal for their kind support and useful discussions.

I would also like to take this opportunity to extend my sincere thanks to Mr. Biswo Nath Khanal, Mrs. Shanta Sharma and Mrs. Bimala Tuladhar for their help and cooperation during my two years of study. I am also thankful to all my classmates, especially Ramesh dai, Aashish dai and Amir for their invaluable suggestions and encouragement whenever I needed.

Last, but not the least, I would like to thank Vibha for her continuous encouragement and painstaking editing of my writings. My deepest gratitude goes to my Daddy, Mummy and all the family members, without whose love, encouragement and support, I would never have obtained this degree.

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## LIST OF ABBREVIATIONS

CBS	Centre Bureau of Statistics
DUDBC	Department of Urban Development and Building Construction
KVTDC	Kathmandu Valley Town Development Committee
KVTDIC	Kathmandu Valley Town development Implementation Committee
MP	Member of Parliament
ppha	person per hectare
UNCHS	United Nations Centre of Human Settlements
VDC	Village Development Committee

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# Chapter One

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# CHAPTER ONE

## Introduction

### 1.1 Introduction

Urbanization at present is very rapid in the world, especially in the third world rate of urbanization is very high. Nepal also is no exception. According to population census 1991, urban population was just over nine percent of total population but by 2001 population census, the figure jumps to 14.2 percent. Kathmandu valley alone shares 30 percent of total urban population of Nepal (CBS, 2002).

Urbanization is defined as a process of transformation of agricultural based activities into non-agricultural or industrial or commercial activities. This unprecedented urbanization process will require a large amount of prime agricultural land to be converted to urban land. Such conversion of land from agricultural to urban residential and industrial uses is more visible in the belt called urban fringe, a strip between established urban areas and rural hinterland. The United Nations Centre for Human Settlements (UNCHS) reports that about 0.48 million hectares of arable land are being transformed annually to urban uses in the developing countries (UNCHS 1996, cf. Subba, 2003). Urban sprawl is largely responsible for unorganized development in the process of urbanization. Urban sprawl refers to a low density haphazard development pattern arising due to the scattering and leapfrogging of residential as well as non-residential development into the agricultural land at the urban fringe and beyond (Subba, 2003).

Urban fringe area is highly fluid area considering that it reflects the urban dynamics, land uses, functions and population which are trying to adjust in an urban complex. Urban fringe possesses both threats and opportunities for the expansion of urban areas. In one hand, fringe area supplements the required land for urban use and other hand gradual decrease in agricultural field causes serious problems to the

farmers and the landowners. Groups of people who are engaged in agriculture activity have no choice other than to get displaced from the area in search of agricultural land or switch to other occupations.

## 1.2 Problem Identification

Urban sprawl is complex phenomenon. The phenomenon remains neglected, despite continued decline of agricultural land resource, growing external dependency on food, and environmental implications (Subba, 2003). The effect of urban sprawl as well as development on fringe area has direct impact on the original farmers and the landowners.

Subba (2003) has pointed out the possibility of marginalization of small farmers due to sprawled growth and has recommended further studies in the social implications of unplanned urban sprawl.

Some problems associated with the farmers and landowners are identified as the negative changes,

- Decline in "social capital" i.e. mutual help among friends and relatives.
- Decline in social status
- Deprived condition of physical facilities and amenities
- Declined association with original place or land

The policy maker and planner associated with *land pooling scheme*<sup>1</sup> claim that it is the best tool for urban land readjustment and beneficial for both local farmers and landowners. It is becoming very popular and approximately 360 hectares of land is converted into serviced plot since 1988 in the Kathmandu Valley (KVTDC, 1999).

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<sup>1</sup> Land pooling refers to planning intervention which is widely undertaken by public agency in Kathmandu Valley.

Although it is true that the value of land is appreciated after the area is planned. Other after effects of this scheme to the farmers and landowners such as social, economical and physical implications are yet to be evaluated.

### **1.3 Rationale of the Study**

In the wake of rapid urbanization and industrialization, urban settlements are experiencing rapid and wide spread expansion, linkage of the cities are strengthening and increasing to wider areas. Urban activities also overspill from central cities to peripheries more rapidly. Undoubtedly, urbanization is one of the most important processes that has accompanied economic development, far reaching effects upon agriculture (Bryant et. al., 1982).

The trend of land use in the Kathmandu Valley reveals rapid decline of the agricultural land, which was 64 percent of total land in 1984, 52 percent in 1994, and less than 42 percent in 2000. Conversely, non-agricultural land increased rapidly during the period, which grew from 5.6 percent in 1984 to 15.2 percent in 1994 to 27.6 percent in 2000. Between 1984 and 1994, total 7642 hectares of agricultural land was converted for urban use, with average annual conversion of more than 750 hectares, while from 1994 to 2000, total 5738 hectares of agricultural land was converted, with annual conversion rate slightly above 950 hectares. The population density declined from 800 persons per hectare (pph) in the central core to less than 100 pph at new residential area in the periphery. The rapid loss of agriculture land poses a serious concern, given the limited land resource of the valley and its role in maintaining natural life support system. If the current trend prevails, it is likely that all remaining agricultural land will be converted to urban use by 2025 (KVTDC, 2000).

Due to the rapid urbanization and decrease in the amount of available agricultural land, farmers and land owners of the development area are facing changes in their

living standards. New residential developments exert pressure on farmers, forcing some to abandon agricultural activity, others to enter the ranks of part time farmers and still others to increase the size of the farm business (Bryant et. al., 1982). In case of the Kathmandu Valley, status of the farmers and land owners of the fringe after the urbanization in the area is still unknown.

This scenario provides me with an interest in the subject as it is a pertinent issue to be addressed in the government's development policy.

#### **1.4 Research Question**

The discussion above reveals that urbanization is inevitable phenomenon and urban fringe area is the transitional zone which is at the verge of urbanization. Both rural and urban character can be seen in the urban fringe area. Urbanization possesses various problems and prospects to the local inheritance of the urban fringe area. Various physical issues are associated with the urbanization like increased demand of land parcels for housing, which further accelerates the rate land fragmentation process. The land fragmentation ultimately reduces the size of land parcels and small plots are unsuitable for agricultural practice so gradually agriculturally predominant land is converted into purely urban use. In this process, there is possibility to displace the local inhabitants from their original place. The physical aspects are dealt in several literatures but there is information gap in social aspect so this study aims to do further research in this regard interconnecting the physical, social and economic factors.

Thus the research question posed here:

- How are the farmers and the landowners affected by the ongoing rapid urbanization in the fringe areas of the Kathmandu Valley?

### 1.5 Goals and Objectives

The study aims to understand the changing socio economic conditions of the farmers and land owners with the ongoing development in the fringe areas of Kathmandu Valley and to suggest policy guidelines for the planned urbanization in the fringe areas.

To fulfill the given goal, the objectives will be:

- To develop theoretical framework
  - Studying the urbanization process in developing countries
  - Considering the urbanization pressure in the fringe its effect on farmers and land owners
  - Understanding the government's policies and guidelines related in urban growth management
- To identify the problems and opportunities due to rapid urbanization in the fringe area.
- To study the physical, social and economical condition of the farmers and the land owners of the fringe area of *Sunakothi* VDC and *Saibu* Land Pooling Area as case studies.

## 1.6 Structure of the Study

The study is basically divided into four major stages. The first stage involved the problem identification and goals and objectives formation. Second stage included doing the literature review and making the theoretical framework for the study incorporating concept of urbanization in developing countries and especially in the fringe areas. The cases of abroad give concepts of urbanization in developed countries. Urban scenario of Kathmandu gives an additional insight on government's approach in urban and agricultural land management in Kathmandu valley.

Third stage involved data collection of the case studies of the original farmers and the landowners of Saibu Land Pooling project and Sunakothi VDC. The fourth and the last stage involved analysis and evaluation of the existing conditions in the case study areas, making conclusions based on the study, revisiting the theories gone through at the beginning and formulating recommendations for it.

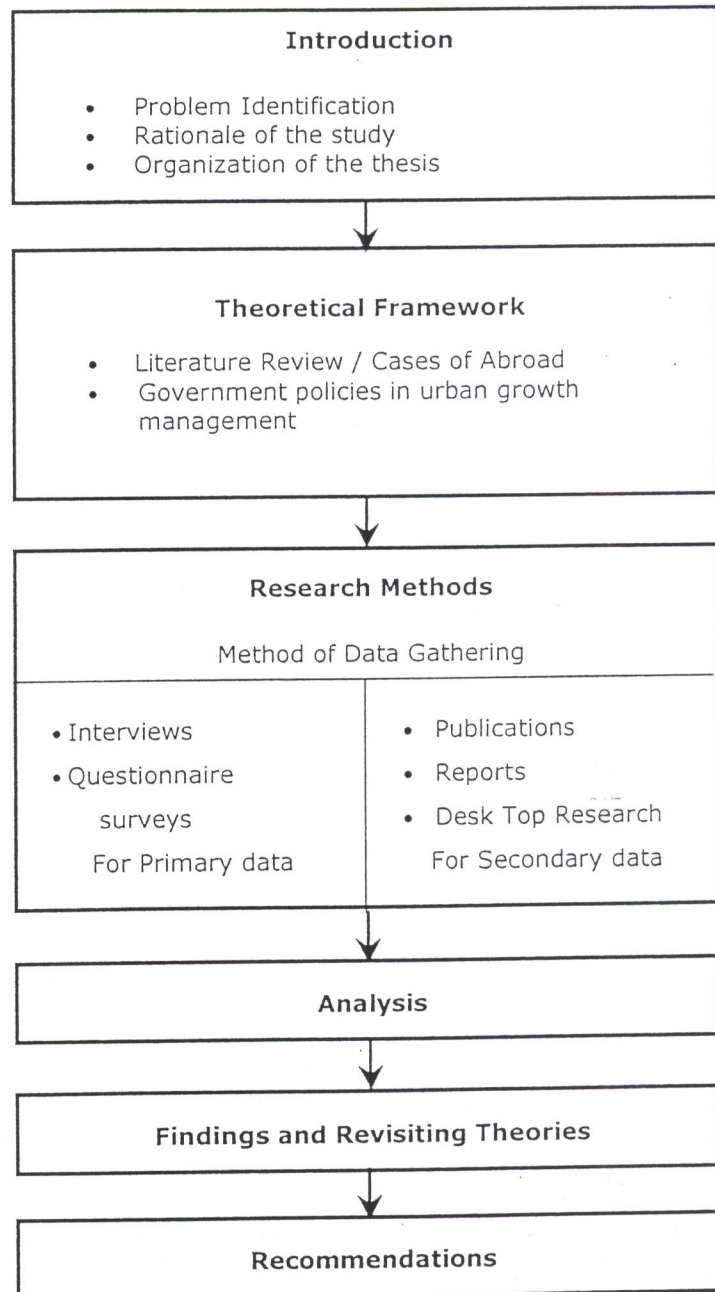


Figure 1.1 Structure of the study

## 1.7 Organization of thesis

The study is divided into six chapters which are Introduction, Literature Review and Theoretical framework, Research Design, Evidences and Analysis of Case Study Areas, Findings and Conclusions, and Recommendations.

Second chapter, literature review and Theoretical framework, is divided into seven different headings. First describes the urbanization process in developing countries, second gives a concept of urban fringe areas, third illustrates urbanization process in urban fringe areas, fourth shows relationship between the fringe area, the city and urbanization, fifth portray impacts of urbanization on the agriculture, sixth exposes urban scenario of Kathmandu Valley and governments policy in growth management, seventh provides an insight about land tenureship. This chapter gives an understanding of theoretical aspect of the study and further it will serve as the base for analysis.

Third chapter is research design where I discuss different research methods adopted for the study. The two case study areas are selected to understand how the local peoples are affected in two differently developed areas. Sunakothi represents unorganized development and Saibu land pooling area represents planned intervention. These two locations are almost equal distance from the city. Qualitative and quantitative both methods are used to understand the implication of urbanization to the farmers and landowners of case study areas.

Fourth chapter is the evidences and analysis of Sunakothi and Saibu land pooling case study areas. This chapter contains comparative analysis of both case study areas. This chapter illustrates similarities and differences between these two case study areas.

Fifth chapter is findings from the case study areas and conclusions based on those findings made from the case studies at both the sites, and with respect to the

literature review. This chapter identifies how the people of fringes are affected by planned and unorganized development.

Chapter six is recommendations for new planning approaches based on analysis of two case studies. Good aspects of both planned and unorganized developments are taken into account so that the farmers and landowners of the fringes should get maximum benefit from urbanization.

### **1.8 Scope and Limitations**

The study concentrates on two case study areas located in adjacent Villages of Lalitpur Sub metropolitan area. One is planned development area, Saibu Land pooling project area and the other is urban sprawl of Sunakothi VDC. The study is limited to understand the physical, social and economic condition of the farmers and land owners of the study area.

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# Chapter Two

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## CHAPTER TWO

### Theoretical Framework

#### 2.1 Urbanization Process in Developing Countries

Developing countries still have a large rural population. Urban growth in them continues at an accelerating rate of up to 8 percent annually (Mc Gee, 1971). This means area of the cities doubling their populations every ten to fifteen years. This growth suggests that the developing countries are passing through an 'urban revolution'. According to Reissman, the same kind of growth rate was observed in the developed countries in the nineteenth century and the same phenomenon is repeated here in the underdeveloped and developing countries today (Mc Gee, 1971). If the urbanization process in the underdeveloped world is the same as that which occurred in the west then it is possible to suggest that some kind of theoretical model focusing on western and experience can be utilized in the interpretation of the urbanization process of the developing countries. Mc Gee identified three main facets of the urbanization process. The first is demographic; the second, economic; and the third, social.

Demography is the most determining factor of urban growth. Growth can be observed from the increase in proportion of total population residing in the cities compared to that residing in rural areas. According to Davis, S., cities grow in three ways: (i) because of population growth, settlements previously classified as rural are re-classified as urban, (ii) through an excess of births over deaths (natural increase) in existing urban areas, and (iii) because people have moved from the non urban to urban areas (Mc Gee, 1971). David indicates that the first component of urban growth was of little significance to the history of the growth of cities in the industrialized nations. In the case of developing countries, the shift of population

from rural to urban areas becomes the principal component of urban growth. To analyze the process of urbanization, one must also evaluate the economic facet of the urbanization process. The principle economic feature of the process was the shift from agricultural to non -agricultural occupations. This occurred in every industrialized western country, the only difference was the varying rates of economic development. Davis has explained the reasons for this structural shift in employment as follows:

*"The reason was that the rise in technological enhancement of human productivity, together with certain constant factors, rewarded urban concentration. One of the constant factors was that agriculture uses land as its prime instrument of production and hence spread out people who are engaged in it, whereas manufacturing, commerce and services use land as a site. Moreover, the demand for agricultural products is less elastic than the demand for services and manufactures. As productivity grows, services and manufactures can absorb more manpower by paying higher wages. Since non agricultural activities can use land simply as a site, they can locate near one another and thus minimize the friction of space inevitable involved in the division of labour. At the same time, as agricultural technology is improved, capital costs in farming rise and manpower becomes not only less needed but also economically more burdensome. A substantial portion of the agricultural population is therefore sufficiently disadvantaged, in relative terms, to be attracted by higher wages in other sectors."* (As quoted by Mc Gee, 1971).

This gives us an insight that urbanization has been understood in the Western world in connection with economic growth. The urbanization process in the developed

industrial countries was responsible for radical social change. Reissman argued the impact of urbanization on social change as:

*"Urbanization is social change on a vast scale. It means deep and irrevocable changes that alter all sectors of a society...Apparently the process is irreversible once begun. The impetus of urbanization upon society is such that society gives way to urban institutions, urban value, and urban demands"* (as quoted by Mc Gee, 1971).

There is no area of human existence which is not influenced by urbanization. Family becomes smaller, religion loses its important position, new social structures emerge, new power and class patterns characterize the social structure and behaviour patterns are changed. Urban society as a distinct entity emerges. Western urbanization process play positive role in inducing social change of the city. The above explained theories can be grouped in three sections. (i) Some consider the city to be the centre of social change, introducing new social patterns and breaking down the old, traditional pattern; (ii) some argued that new social pattern in the city had begun to spread outwards to the rural areas. Hence, in a social sense, urbanization was not limited purely to the boundaries of a city or to any area defined as 'urban'; and (iii) some argued that the cities, as significant social subsystems, caused specific features of personal behaviour in a person residing therein. Basic to all these theories was the assumption that there were distinct rural -urban differences which were measurable and quantifiable. These ideas of rural -urban distinctions have been built into a broad model of social theory which has come to dominate a large amount of thinking in western sociology. As the city is characterized by large size of population, high densities of population and heterogeneous populations could induce changes in the personality and social life of the town dweller which would not occur in the country dweller (Mc Gee, 1971).

## 2.2 Urban Fringe: Concepts

There is little agreement between academics and planners over definitions or the appropriate terminology to describe the variety of environments that have evolved within the countryside. 'Fringe' is used sometimes interchangeably to describe 'countryside'. A consensus exists to use the different terms such as "fringe", "inner fringe", "rural - urban fringe", "urban shadow", "exurban zone", "rurban fringe" over the broad conceptual notion underlying the immediate countryside of the city (Bryant et. al., 1982). Many scholars from different disciplines have discussed fringe, but there is no precise definition for it. Subjective definitions based on individual areas of study are not adequate as these definitions are not always universally applicable and do satisfy only a particular region.

The term urban fringe was first used by T.S. Smith (1937, cf. Sinha, 1980) to describe the built up area just outside the corporation limits of the city. Wehrwein (1942, cf. Sinha, 1980) defined fringe as the area of transition between well organized urban land uses and the area devoted to agriculture carried out in more or less modified form. Andreus (1942, cf. Sinha, 1980) defines urban fringe as the adjacent peripheral zone of the urban fringe... as the intermingling zone of characteristically agricultural and characteristically urban landuse structures obtained in the area. Granier and Chabot (1967, cf. Sinha, 1980) consider it suburbs, which begin where the continuous builtup towns end. "First there is the builtup area of houses with small gardens, forming dormitory, communities from which more than the half of the active population works in the town". Dickinson (1967, cf. Sinha, 1980) takes it to mean a "rural area into which residential development is intruding and new industrial site and other urban uses are in process of development along its main lines of communication, after being clustered around existing villages and small towns. Pryor (1968, cf. Sinha, 1980) opines that fringe is a zone of transition in land use, social and demographic characteristics, lying between (a) the continuously built

up urban and suburban areas of central city and (b) the rural hinterland, characterized by the almost complete absence of non farm agriculture dwellings, occupations and land use, and of urban and rural social orientations; and incomplete range and penetration of urban utility services; uncoordinated zoning or planning regulations, area extension beyond although contiguous with political boundary of the central city and an actual and potential increase in population density, with the current density above that of surrounding rural districts, but lower than the central city. The urban fringe is really an extension of the city itself. The urban fringe is a narrow zone with varying width outside the political boundaries of an urban unit which is neither urban nor rural in character. It actually acts as a bridge which connects the two. It is the continuation of the declining tendency of urban characteristics towards the rural area or the declining tendency of rural land towards the urban unit. The roles and position of the fringe and the city have varied from time to time and place to place.

Russwurm and Bryant portray the variety of fringe situations schematically as shown in figure 2.1. It is particularly helpful to understand the continuum between urban area and rural hinterland. The **inner fringe** is characterized by land in the advanced

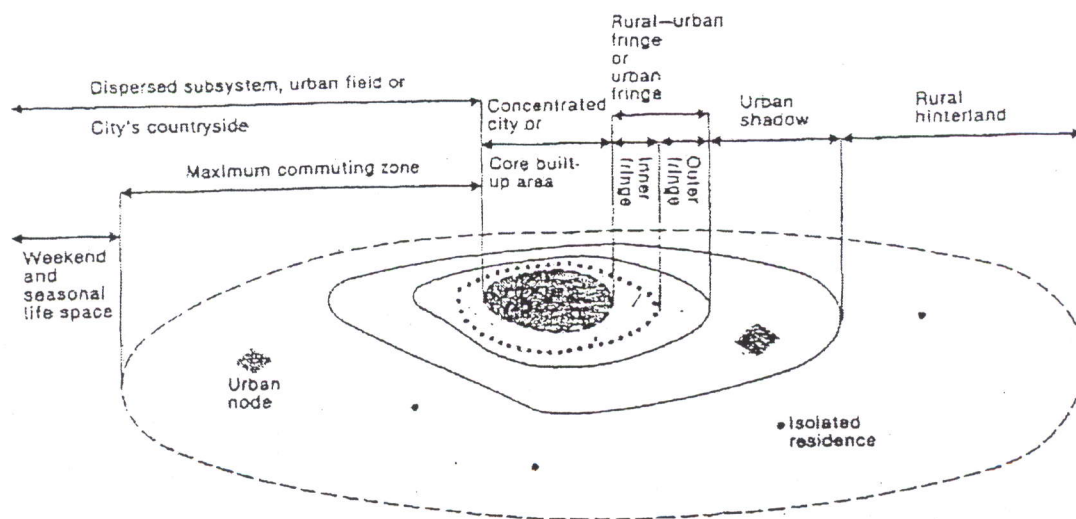


Figure 2.1. The form of the city. (Source: Russwurm, 1957 cf. Bryant et al. 1982)

stages of transition from rural to urban uses – land under construction, land where there is little doubt over much of its area about its urban orientated functions and ultimate conversion to urban uses. The **outer fringe**, together with inner fringe, form urban fringe. It is an area where although rural land uses dominate the landscape, the infiltration of urban oriented elements is clear. Both inner and outer fringes are point of attraction to the urban dwellers because of its cheaper land costs. **Urban shadow** is an area where physical evidence of urban influences on the landscape is minimal. Finally, it merges into the rural hinterland.

In addition to clearly visible land uses, the urban fringe is characterized by many other changes. In urban fringe, most of the land parcels are held by the non farmers in an expectation of possible future urban development. We are basically dealing with a very dynamic situation. What is today rural and within urban fringe, may tomorrow be entering into the urban development process. It affects both the people holding small lots as well as farmers holding large chunks of land. Farmers who are anticipating some future development opportunity, may decide not to maintain the same level of investment in the agricultural activities in their land while the people holding small lots hope to build their home some day. The illustration of this phenomenon is in the form of idle land.

### **2.3 Urbanization Process in Urban Fringe Area**

The fringe area is always thought of as a green belt that differentiates rural area from urban area. The concept of Garden city developed by Ebenezer Howard advised a town of 100 acres would be surrounded by 5000 acres of agricultural land. In his opinion, the agricultural land not only support agricultural produce but also acts as a green belt, preventing the town from spilling into adjacent rural areas (Breheny 1996 cf. Subba, 2003). The rapid urbanization in developing countries has always

remained haphazard because urbanization occurred there without sufficient economic growth (Subba, 2003). This is the main reason for causing sprawl in the urban fringe. Sprawl may occur to varying degrees in cities of both the developed and developing world. Sprawling causes specific land use problem and in turn causes social and economic implications. The urban sprawl broadly categorized as planned sprawl and unplanned sprawl depending upon whether development carried out coordinated land development or individual land owners carried out random land development process. Planned sprawl area has necessary community infrastructure services before the residential construction takes place. Unplanned sprawl is directed by market led spontaneous growth of urban area. The sprawl tends to affect natural resources such as agricultural land in various manners. The rapid depletion of agricultural land is one of the prime externalities of sprawl. Besides direct conversion, the urban spill over also reduce the productivity of agricultural land by setting the "speculative tendency" in which farmers see a limited or no future of their agriculture land in the face of urbanization. As a result, the disinvestment on the land sets in to cause underutilize or idling of agricultural land near or between urban areas causing fall in agricultural income (Nelson, 1992 cf. Subba, 2003). The sprawl also transform the rural community into bedroom suburbs in a long run. In some cases, there may be the possibility of displacement of the original inhabitants of the location due to the urbanizing pressure. Although the relocation provides economic benefits, it causes the loss in social capital. Households loose their prior social networks. The formation of new networks found difficult due to different interest needs and social background (Subba, 2003).

## 2.4 The Fringe Area, the City and Urbanization

Fringe area has had special relationship with urban area. In Canadian Prairies, agricultural development fostered the development of many small service centres whose prime function was to provide goods and services to a dispersed agricultural population (Zimmerman and Moneo 1972 cf. Bryant et al 1982). In medieval Europe under the feudal system, the fringe area played a more subservient role to the town and city (Bryant et al 1982). The roles and positions of the fringe and city vis -à -vis each other have varied from time to time and place to place.

Despite having varying relationship, one point is clear that the city and fringe are integral parts of the same social and economic system. Thus changes in city and countryside are interdependent. After Second World War, pace of change in the fringe in western society quickened enormously. Economic development in agricultural sector experienced a far reaching revolution in terms of technological development and forms of economic production. Farming is still a major land use around most of the cities, impact of the changes in the landscape has been considerable. Since the fringe area is connected with the process of economic development, growth has been another major force that has brought marked change to the area i.e. due to rapid urbanization. It is probably no longer appropriate to measure level of urbanization simply by the proportion of the population in urban areas. According to Lewis and Maund (1976, cf. Bryant et al. 1982), several factors have contributed to the spread of essentially urban oriented populations in to the urban fringe area. An appropriate measure of urbanization might be the proportion of the population living in urban peripheral areas i.e. urban fringe area. Bryant et al. (1982) explain that urbanization is the process of infiltration of the countryside by non farm elements and it is more than simply a demand for additional land in urban use. Thus, urbanization can be understood to be creating a range of pressure that can effect change in the countryside.

## **2.5 Impact of Urbanization on Agriculture**

### **2.5.1 Physical perspective**

Agricultural development affects urbanization, but urban growth is equally basic to agricultural development. Bryant et al (1982) identify the effects of urban development on agriculture to be categorized as direct and indirect. By direct impact, it refers to the actual removal of land from its agricultural production functions and it is a negative impact. Indirect impact refers to interactions between urban development and the continuing agricultural structure which may result in modifications to the agricultural systems. These indirect impacts may be either positive or negative for agriculture. One of the most important factors affecting agriculture is the locational structure of urban areas in relation to the agricultural land resource. The relation between urban population and high quality agricultural land resources depend upon the configuration of land resources and the city distribution. High land values in the urban field arise naturally from market forces and that may push agricultural land beyond the search of many farmers while increasing cost of land for other urban uses such as housing. Demand of land for different uses and function needs to be clearly spelled out and set in a framework of land as a resource, not just as a commodity (Bryant et al. 1982).

The expansion of Paris, France was into some of the most fertile agricultural lands of Western Europe. The same thing happened in Canada, where the climate places severe restrictions on the potential of the agricultural land resource (Bryant et al., 1982). The fact that the agricultural land around the cities are of higher quality should not be a great surprise since many cities developed in the richest agricultural areas. The history of agriculture and urban growth is considerably longer and urbanization always requires a large amount of prime agricultural land for urban use.

It has always been an issue of debate that the prime quality of land is lost to urban development. Agricultural land is a renewable resource, i.e. with appropriate management, the productivity of the resource can be maintained in long term. On the other hand, when land is built over, it is regarded as an irreversible change in terms of normal planning horizon (Bryant et al., 1982). Here the writers want to establish relationship between land quality and agricultural productivity. Agricultural land is a productive resource and it is incorporated into the socioeconomic system of production.

### **2.5.2 Physical transformation in urban fringe**

Due to the ongoing urbanization in the urban fringe, its effect on physical form i.e. in the land can be easily visible. Greater number of different land uses occurs in the urban fringe than anywhere else. Cities spread out into the countryside like an advancing wave on a beach, land in the inner fringe, be it farmland, grassland or forest, is converted to urban use (Bryant et al. 1982). In some locations, irregular patches of urban and urban associated ribbon development. Ribbon development usually takes place in a linear manner mostly along transportation link. This phenomenon can be seen in the early stages of development of the city form towards the fringe areas. Settlements are advancing along the highways and roads leading out from the cities. The ribbon and scattered development labelled "urban sprawl" by Bryant et al (1982).

Dominant agricultural land starts to convert into other land uses. In North America after Second World War, haphazard ribbon development and sprawling effect was observed (Bryant et al. 1982). This type of development reflected a situation where land owners possessed the maximum freedom to do with their property as they wished, such developments are greatest in those metropolis which are unprepared for the rapid urban growth emanating from the nearby city.

Land use conflict may arise in the community due to the effect of urbanization and land use activity on the property affects other people on neighbourhood or nearby property. The various land use conflicts categorized by Bryant et al (1982) as individual versus societal, present versus future uses and economic versus non economic. Some land use conflicts are not immutable and notions of sequential land use and multiple land use are of significance for the urban fringe as a means of reducing conflict and making better use of land.

### 2.5.3 Social transformation in urban fringe

Urban fringe area is the region where rural -urban convergence takes place. In such place, rural and urban demarcation is not clear. With the diffusion of urban culture to the rural areas, the extreme differences between rural and urban cultures diminished. The availability of urban infrastructures such as transportation, communication networks, education accessibility, commercial facilities in the rural areas have changed the attitude and outlook of the rural people.

Rural area is attributed with social homogeneity, dominance of primary relations<sup>1</sup>, informal social control, predominantly agricultural occupation, strong neighborhood while urban area is attributed with social heterogeneity, secondary relations<sup>2</sup>, secondary control, large scale division of labour and specialization, social mobility, individuation, spatial segregation, unstable family.

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<sup>1</sup> Rural community is often characterized by primary relations. There exist face to face relations among people. Every person knows every other and hence everyone is interested in welfare of all.

<sup>2</sup> Urban community is characterized by secondary relations. People are different towards one another. Face to face relation, friendly or intimate relations may not be observed among people. People rarely take personal interest in others' concerns.

#### 2.5.4 Economical perspective

The process of urbanization can affect both positive and negative impacts on farm structure. "Urbanization has created a market of non farm job opportunities which has attracted agricultural labour to move from farm employment into urban employment. This has often released land and made it available for remaining farmers to expand their land base, known as 'farm consolidation' in North America and 'farm amalgamation' in Western Europe" (Bryant et al. 1982).

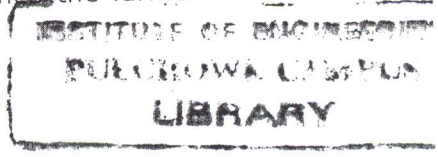
The rapid growth of cities has several effects on agriculture especially in the developing countries. First of all, the growth of the cities provides a market for the agricultural products while earlier farmers produced primarily for their own consumption. In many countries, as much as 7 percent or more of total agricultural output does not leave the village where it is produced (Clawson, M., Weitz, R., 1971 cf. Bryant et al 1983). As the cities grow, the increased populations require food and other agricultural commodities, which must be supplied either from the country's hinterland or from abroad. A cash market for agricultural commodities grows up, expanding at least as fast as city population grows. This development of a large market, as cities grow, has numerous impacts on the nature of agriculture. It begins a process of commercialization of agriculture. The farmers now produce more for cash sale instead of primarily for family consumption. They are now more concerned with prices of saleable commodities and with costs of needed inputs than they were previously. The whole nature of agriculture changes under the impact of a growing urban market for farm output. In the areas where farmers consider urban development likely, there will be a disincentive to maintain investment in agriculture. "As the urbanized area is approached from a distance, the degree of anticipation of urbanization increases. As this happens, the relation of urban to rural land values increases. Hence, although the absolute value of land increases, the relative value for agricultural utilization decreases" (Sinclair 1967, as quoted by Bryant et al. 1982).

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### 2.5.5 Land fragmentation and its impact on urban fringe

Underlying many changes in economic and cultural activities in the urban fringe are changes in land ownership patterns (Bryant et al 1982). Changes in land ownership usually take place in advance of land use change and the spread of the city. Land ownership is a complex concept with economic, legal, political and cultural dimensions. A study carried out by Subba (2003) in urban fringe of Kathmandu and he identifies two factors that promote land fragmentation. One is internal force, that comes from within a family that owns land and another is external force -associated with land demand and market activities. Generally, the internal force acts as a principle factor in land fragmentation. It tends to cause a property division including division of land among the family members. The internal force induces change on land regardless of the presence or absence of external force. The incidence of internal force and pressure on land appears to be more intense among low income farmers. The early marriage of boys in the family and generally a large family size means pressure on land from the internal force tends to come relatively quicker and in a greater intensity. The pressure on land also increases in these low income households because these households have relatively few alternative sources of income apart from acquiring labour jobs due to their poor education and skill (Subba, 2003). Property inheritance recurs in a long period of time and its incidence is gradual. The fragmentation thus initiated by the entitlement pushes the farmers to phase out the newly fragmented land parcel into sale. Inheritance



Due to urbanization pressure, increased demand and value of land have implications for behaviour of farmers and landowners on the supply side. The increased value of land hastens forces of disintegration on agricultural land. The land fragmentation process starts right from the separation of dual ownership among landowner and tenant and inheritance property distribution among lawful heirs in a family. There are different reasons which act as impetus to both a landowner and a farmer for land

fragmentation. Landowners have decreased relationship with their agricultural land due to changing family values resulting from children's improved access to education, profession and differing interests. Landowners have relationship with land in outlying areas mainly maintained through tenant farmers (Subba, 2003). In other side, a tenant farmer also gets affected due to increased economic vulnerability in farmer's household caused by growing family size and lack of education or other occupational skill to supplement agricultural income. In this situation tenant farmers have tendency to separate from landowners so that they have full right on their land even to sale to meet their economic requirements. Separation of landownership between landowner and tenant farmer results in initial fragmentation of agricultural land.

Subba (2003) identifies chain effect on land after this initial separation. First, it may hasten partition of families and property inheritance to cause further fragmentation of land. Greater number of property inheritors in a family tends to induce greater number of land subdivisions. Second, land subdivision set negative implication on development pattern. The manner of fragmentation also hinders the prospect of continued cultivation in subdivided land parcels. Third, fragmentation causes agricultural land to lose agricultural status due to decreased profitability in agricultural cultivation and decreased produce to fulfill farmer's food need. The effect of reduced land stock puts pressure to the tenant farmers and landowners as food supply decreased further from the previous minimum which already at best meets family's food demand only for a few months in a year.

The loss of agricultural value of land pushes tenant farmers and landowners to phase out their agricultural land out to land market. The push to phase out land is created by domestic needs as well as desire to move up in income and living condition.

## 2.6 Urban Scene in the Kathmandu Valley

Massive migration and centralization of modern facilities have made Kathmandu very crowded with all possible sort of urban problems. The migration is making the entire valley looking very unplanned and ill-natured in terms of the living environment. The demand for residential sites is increasing with an unexpected and surprising rate. Due to this ever-growing demand for habitats, Kathmandu City core has been expanding radially towards its periphery in all haphazard fashion possible. The areas in close vicinity of the core are bound to undergo this expansion regardless of the present land use of these. Hence, it is crucial to make a comprehensive plan for the sequential development of these fringe areas before it became impossible to control the problems.

Different studies or projects have been providing various recommendations for checking of the urban expansion since last couple of decades or more. The urban density in the expanded settlements is very low because of lack of planning for urban settlement. The existing settlement areas have densities as little as five persons per hectare (ppha) in some flood-plain expansions, in comparison to the density of around 850 ppha of the core areas. According to Kathmandu Valley Urban Land Policy Study (1985), unless appropriate control major is taken, this low-density sprawl will cover the most of the valley by 2020. As per this study around 60 percent of the entire valley will be urbanized by that time. This will destroy the environment of urban fringe areas and make the effective development of infrastructure very difficult and highly expensive.

If urban development continues at the prevailing densities, considerably more land than would otherwise be necessary will be required to accommodate future needs. Therefore, development must be consolidated by accelerating the rate at which existing urban areas can absorb additional population. This will preserve the

environment of urban fringe areas and increase the efficiency of infrastructure servicing. The Kathmandu Valley Urban Development Plans and Programs, Strategy Plan for Kathmandu Valley (1991), recommended an 'accelerated development concept' for the urban sprawl problem. It suggested accelerating the rate of density increase in different urban areas by different rates.

## **2.7 The Process of Landuse Change in Urban Fringe of Kathmandu**

Agricultural land parcels are mostly accessed through a foot trail, located at the edge of a land parcel. The raised edge of the land parcel serve two purposes, one it facilitates the accessibility to the land parcel and other it acts as demarcation line for the property with the neighbouring land parcel. The foot trail would be wide enough to walk a single person with his *kharpān*. But with the passage of time the mode of transportation changed to some mechanical means such as bicycle. The existing foot trail is not enough wide to allow bicycle to ply in the surface, it needs to be made wide for the purpose. Both the neighbours agree to make the foot trail wide for the purpose to serve bicycle movement. Thus land owners and farmers are contributing their land to make the access wider as per their requirement. This is the process how the access is created in the agricultural field. Once the access is established in the agricultural field, it is now ready to use for other purposes too. Access open up new avenues for the development. It also facilitates land fragmentation which provides option for residential use from agricultural activity.

The quality of access and its scale of improvement tend to influence the development in future. The pedestrian access tends to set only a limited development context. In agricultural society, it is not much considered to improve the access due to greater concern of agricultural issues, values to preserve agricultural land. As a result development potential limited to agricultural use only. But with the growing family size pose an internal force for physical change. It initiates land fragmentation and

new housing requirement. It also initiates land transactions and opens up the plots in the market. Gradually different land uses start to practice as per demand of the location. Non residential land uses also start proliferating and it is again act as the cause for different development potentials.

## **2.8 Government Policy in the Urban Growth Management**

Development plan of Kathmandu valley 2020 spell out some aspect in growth management of Kathmandu Valley through,

### **a. Orderly rural / Urban transition**

The orderly rural urban transition facilitates a desirable urban form unlike haphazard development pattern of the Valley now. The separation of urban and rural land and preservation of agricultural land are key to orderly transition of rural space into urban use.

### **b. Rural urban land delineation**

The currently proliferating haphazard development growth pattern has far reaching physical, social and economic consequences. The rapid depletion of agricultural land, deteriorating environmental quality or infrastructure services are the obvious examples of many growth externalities of the Kathmandu Valley. Urban infrastructure services in rural area are discouraged to protect the agricultural resources. Government has delineated the administrative boundaries of the municipalities and VDCs which give the basis of distinguishing the urban and rural land. But due to the rapid urbanization of the VDCs adjacent to the municipalities, the distinction has becoming increasingly blur. Residential development proliferates far beyond to edge VDCs of the Valley. This poses a serious problem as the administrative boundary of

the municipalities in the Valley doesn't form a rational basis to separate the urban and rural land.

### **c. Agricultural land preservation**

Development plan of Kathmandu Valley 2020 identifies some points which is necessary to preserve the agricultural land of the Valley. Plan suggest to maintain the agricultural land as open space that is necessary to for life support system primarily for filtering polluted air and heat emanating from the built area, recharging the underground aquifers. It also recommends maintaining some level of agriculture production of green vegetables so that certain degree of nutrition is constantly maintained. From planning perspective, the important aim is to hold the sprawl by disallowing the urban proliferation in agricultural land.

## **2.9 Land Tenureship**

Kivell defined land tenure as "A complicated collection of rights to own, occupy, use or improve space and to lease, sell or pass it on to one's heirs. It consists in part of physical attributes such as size, topography, location and accessibility, and, for the other parts, a set of institutional and legal rights and obligations. These latter are essentially social constructs which vary from country to country, and from time to time" (as quoted by Subba, 2003).

Rights in the land tenureship are an arrangement which transfer ownership of land on to heirs to create entitlement on land. The concept of entitlements on land tends to embody principles of equity whereby lawful heirs are secured with access to social and economic opportunities through land. Heirs may include members of a family or peasants who invest blood and sweat on land. Land tenureship is also as a public

policy option to influence equity and empowerment of deprived groups especially in the developing countries (Subba, 2003).

Doebler identified equity and efficiency of land as contentious issue due to contrary pulls of social justice and productivity. He argues that in theory private ownership is expected to lead to highly productive use of land but he identifies the following problems associated with private land intensify the adverse effect of market imperfections.

- *The effective supply of urban land is very inelastic, since at any time only a small proportion has services. In other words, services land is scarce. This is a result of the public agency's financial inability to provide new services at a rate demanded by rapid growth.*
- *Landowners holding large lots at the edge of the city enjoy semi monopolistic locational advantages as the periphery remain a unique and desirable site for next phase of development.*
- *Due to the absence of alternative investment avenues, households invest on land as a hedge against inflation. With the flow of new capital unabated on urban land, prices rise, making land more attractive for further investment. This tends to set in the speculative boom in land market and bubbles have often burst. Despite this, in most developing countries, the flow of migrants has been rapid enough to keep the pressure up (as quoted by Subba, 2003: 48)*

### 2.9.1 Land tenureship in Nepal

There were many forms of land tenure prevalent until 1951, such as *raikar*<sup>3</sup>, *birta*<sup>4</sup>, *jagir*<sup>5</sup>, *guthi* and *kipat*. Then series of land reform acts were put forward retaining only the two forms of land they were the *guthi* and *raikar*, objective was to secure the right of land holders and tillers so that land productivity could be enhanced. Progressive land reform program was introduced in 1964 which fixed the ceiling of land holdings, protected tenancy rights etc. and the main objective of this reform was to redistribute land to the landless and small holders however this scheme was a failure as Government could not acquire much land (Lumsalee, 2002).

Land Fragmentation is one of the biggest land related issues in Nepal. The right of succession to parental properties causes land fragmentation. Land fragmentation and small size of land parcels pose a difficult problem for agricultural modernization in the agricultural lands. There should be some measures to consolidate the land, such that the benefits from the property are shared rather than land itself.

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<sup>3</sup> State ownership of land is known as raikar. "Under the early Shah kings as well as under the Ranas, the most important forms of land ownership were raikar. Raikar denoted both the idea of ultimate state ownership and also those lands which were owned by the state, but which were actually cultivated by individuals as direct tenants of the state. One of the first major legislative changes dealing with land following the 1951 revolution included abolition of the fiction that raikar land holders were mere tenants of the state" (<http://www.panasia.org.sg/nepalnet/policy/prop.html>). For further details refer (<http://www.panasia.org.sg/nepalnet/policy/prop.html>).

<sup>4</sup> "Birta lands were lands that had been assigned to members of the Royal or Rana families and to their key supporters. Birta owners usually had full rights to possess, occupy, sell, lease, subdivide and bequeath their lands, such land could be (but seldom was, at least by the late Rana period) taken back by the state. birta lands were taxable at nominal rates" (<http://www.panasia.org.sg/nepalnet/policy/prop.html>).

<sup>5</sup> "Jagir land holding was of a more tenuous and conditional nature than birta grants. Those who held land in this form were usually of lesser stature than birta grantees, often government servants rather than elite members of the ruling class. A jagir assignment was usually an assignment of the income from raikar lands to such persons in lieu of a salary".

**THEORETICAL FRAMEWORK**

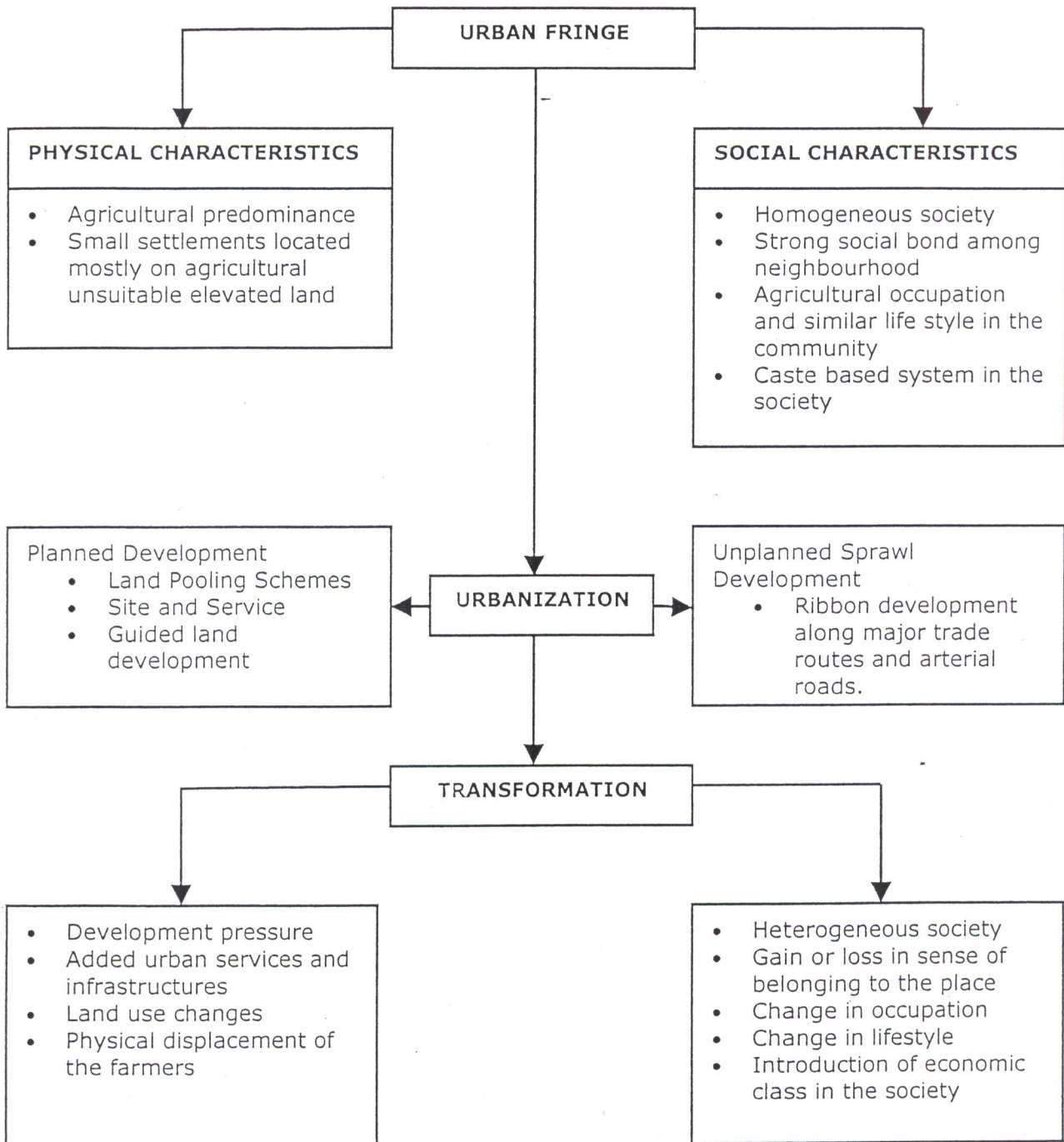


Figure 2.2 Theoretical Framework



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# Chapter Three

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## CHAPTER THREE

### Research Design

#### 3.1 Research Methods

This study is carried out to understand the implication of urbanization in the urban fringe area of Kathmandu Valley. The study concentrates on physical, social and economic transformation of the farmers and landowners of the two case study areas – Sunakothi Village Development Committee (VDC) and *Saibu Land Pooling area*.

Urbanization is often considered as the change in land use. This definition highlights only physical parameter. But it is revealed that it also affects social, cultural and economical aspects of human life. The effect of physical phenomenon can be understood more meaningful if it is observed in its contextual reality of social, economic and cultural factors. The research seeks to explore social reality. In such conditions, quantitative research alone could not generate sufficient information and sometimes may be far from the reality. Thus, open ended questionnaire is designed to get diverse view from the respondents.

The primary research question of this thesis is to understand the effect of urbanization to the local farmers and landowners in the fringe area. The physical and socio economic transformation process involves understanding of human actions and factors affecting land over a period of time and it continues to evolve differently with different land owners. The human actions of the past become necessary to understand the present state of land and his present social status. This complexity of situation makes the use of purely quantitative research method inadequate. This situation makes qualitative research method a suitable approach, and it is employed in this study.

The study of land holding, economic level, physical condition of the houses can be studied quantitatively, which helps in qualitative research too. The qualitative research in this case helps in identify the human reaction against the on going urbanization in their area. This enables qualitative research to become objectively focused on specific human actions.

It is also thought that the research method results in a useful and a new knowledge on the phenomenon based on empirical observation and can be replicable to other areas where similar kind of situation prevails.

But human circumstances, perceptions and behaviours may change with time and may be seen differently. The information gathered from the field depends on the personality of researcher and his relationships with the respondents (Subba, 2003).

The research methods used in the thesis are,

- Questionnaire
- Interview
- Physical observation
- Photographs, maps and documents

### **3.2 Selection of Case Study Area**

The two case study areas are selected in a major arterial road of the Kathmandu Valley. The different locations are selected with a goal to obtain information of different fringe locations and simultaneously it is aimed to see the effect of urbanization in planned development, Saibu land pooling area, and unorganised development, Sunakothi area. The Sunakothi case study area lies along the *Chapagaon* arterial road and situated at two kilometer away from ring road. The

Saibu land pooling area lies along the *Bungamati- Karyabinayak* arterial road and situated 1.5 kilometer away from ring road. These both locations are lie at the outer fringe.

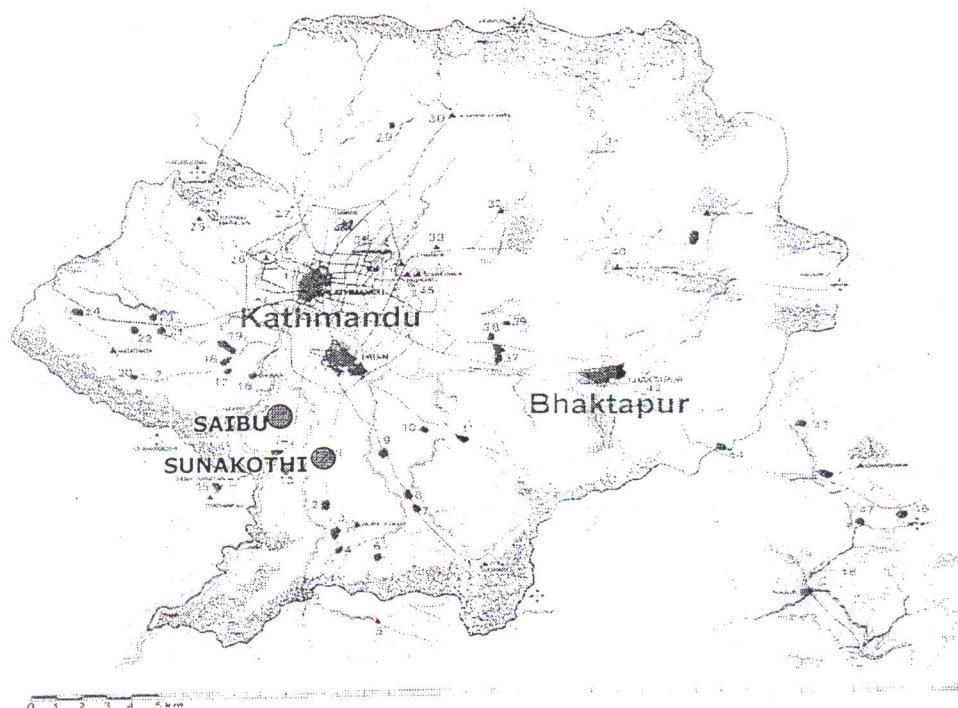


Figure 3.1 . Map of Kathmandu Valley showing case study areas.

### 3.3 Methods for Gathering Primary Data

I spent about two weeks in the fields in order to gather data. Several techniques were used to get the data

- Questionnaire survey
- Interviews
- Physical observation and map study

### **3.3.1 Questionnaire survey**

I surveyed eighty house owners from the two case study areas, fifty-three from Sunakothi case study area and thirty-five from Saibu area. All the respondents were personally approached to get the response. The respondents were exclusively the original landowners and farmers from the case study area. The sample population was selectively chosen. The questionnaire survey was carried out mostly in local tea stall and shops where most of the people interact in the morning. They were convenience sample who were willing to answer my queries.

Before the questionnaire survey was administered, it was pre tested in the case study area itself. Then face to face questionnaire survey was done. In most cases, I tried to approach head of family to response the questions because my questions are related to the land stock and its transaction which is mostly in the control of the family head.

I took help from my junior colleagues to administer the questionnaire survey in the Sunakothi case study area.

During the field work, some house owners were sceptical and some declined to talk. This situation may be the result of current poor law and order situation in the country. In both case study areas, help from the local representatives was beneficial to get acquainted with the people in the area. Their information about the place is really beneficial for me.

### **3.3.2 Interviews**

I interviewed ten house owners from the two case study areas. I approached male head in the family for an interview. This is because male heads are often the main decision makers in the family matters.

The interview is focus on family history of the respondent and mainly concentrated on physical, social and economic aspects mostly associated with land. A tentative framework of questions was prepared but the interview was open ended. The interview was carried out face to face. The interview was carried out with an individual respondent.

### **3.3.3 Physical observation and mapping**

The maps and aerial photographs of the case study areas are collected from department of survey and it is verified in the field. Some physical changes are identified such as number of house added. Photographs of new construction are taken to understand the changing trend in house construction. This also helps to understand the changing land use pattern in the case study areas.

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# Chapter Four

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## CHAPTER FOUR

### Evidence and Analysis of Case Study areas

#### 4.1 Sunakothi Case Study Area

##### 4.1.1 Introduction

Sunakothi case study area is situated on the slopes of a hill at the southern outer fringe of Lalitpur sub metropolis. The study area lies in ward number eight and nine of the Sunakothi Village Development Committee (VDC). The area is located along the Chapagaon arterial road at a distance two kilometer from the ring road. The area shares a common boundary with Lalitpur sub metropolis.

The settlement in this area might have started after the rise of *Rana* regime. Original land owners of the area are *Chhetris*, few *Thapa Magars* and *Maharjans*. But the core area of Sunakothi is predominantly Newar, especially community of *Maharjans*. The area was prime agricultural land with only a few traditional residential buildings scattered in the fields. The principle crops grown were rice and wheat. Irrigation was good and soil was fertile. The study area was a typically rural area ten years ago.

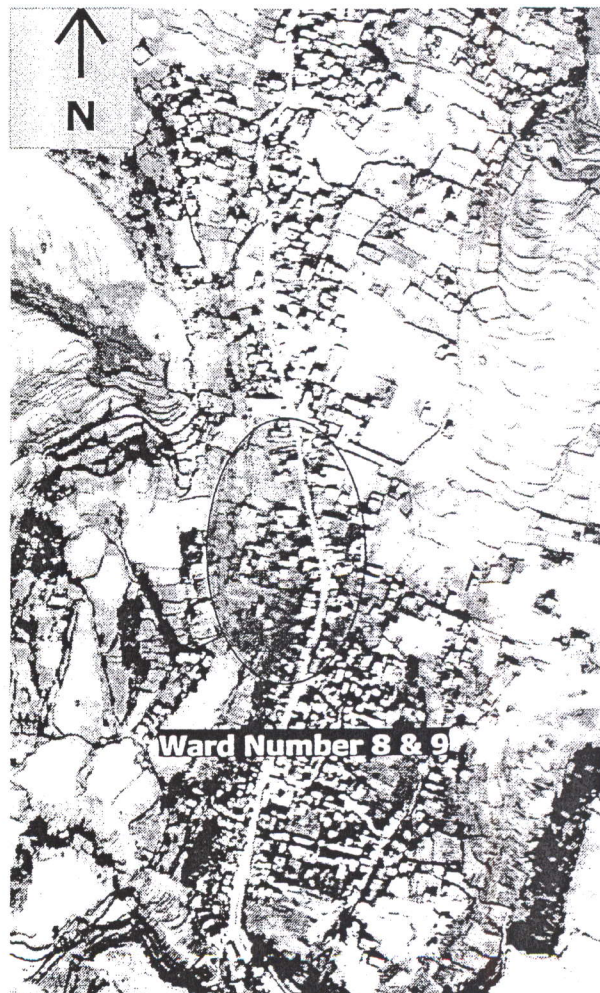


Figure 4.1. Aerial photograph (1998) showing Sunakothi case study area

#### 4.1.2 Recent Developments

With growing urbanization of the valley, this area is also showing signs of changes. Roads are opening up through collaborative efforts of the community rather than with government interventions. The resulting spatial development appears haphazard than original. Photographs and information



Fig. 4.2 Buildings are mushrooming in Sunakothi Case study area.

from local residents reveal that the development pressure started to show its sign about ten years ago. The increased demand of land is also showing potential for possible development in the case study area. A comparative study of land price over a period of twenty years reveals rapid increase in land price. In the last twenty years, land price have gone up as much as eighty times.

For example, Ram Hari Mahat bought 15 anna of land in 1983. The plot was approached by the major arterial road. The prevalent market rate was Rs. 1000 per anna. He paid Rs. 15000 for the plot. Land market was not thriving at that time. He practiced agriculture for almost ten years. In 1993, he decided to sell the plot when he was offered Rs. 20,000 per anna. Now the current market price is Rs. 80,000 per anna.<sup>1</sup>

Building construction activity has become very rapid in the area due to the efficient public transportation system, and the area's closeness and link with the major trunk road of the valley i.e. ring road. Some commercial and non residential land uses are also visible in the area, although most of the coming up development is residential.

<sup>1</sup> This statement is based on interview I have taken during my field work.

Land transaction rate is high and my field survey showed that seventy four percent of the respondents had sold at least some of their land in the last twenty years time.

#### **4.1.3 Determinants of changes**

Changes are the signs of development, and in the course of time, many things change in their own way. But sometimes we can accelerate the changes through some kind of interventions. For example, once a road is introduced, its influence can be seen in the land market. Land transaction takes place rapidly and building activity start. Gradually some commercial activities also start up as per the need of the residents which is a common scenario of development pattern in our part of world.

There could be many factors behind this kind of changes and one of those is urbanization. This research focused on the changes on the farmers and landowners due to the on going urbanization in the case study area.

From table 4.1 (shown below) it can be referred that farmers and landowners of the case study area have taken urbanization very positively. Ninety –two percent (49/ 53) of the respondents believe that the urbanization is the prime reason because of which all kinds of physical infrastructures in their area have been possible. The area has electricity, water supply, telecommunication service and a good road network that connects the village with the city and with other villages.

Mr. Ramesh Maharjan remembered his old days when the village did not have public transportation system and they had to walk for almost an hour to reach Lagankhel to buy daily consumer items. Now, he can take a bus or taxi from his door step. Public vehicles are very efficient. These vehicles hardly take twenty minutes to reach Lagankhel.

**Table 4.1 People's perception about urban development**

Changes during last twenty years	Number of Respondents	Percentage
Improved environment	1	2
Social interaction has increased	1	2
Haphazard construction	3	6
Increased employment	4	8
Increased land transaction	6	11
Social problems has increased	6	11
Cleanliness environment of the village	7	13
Shift from agriculture	9	17
Vehicular pressure has increased	9	17
Increased land value	10	19
Environmental Problem	11	21
Increased public transportation	14	26
Population pressure	17	32
New house construction	22	42
Access in education	24	45
Infrastructure added	49	92

People at Sunakothi are quite serious about education. Forty-five percent (24/53) of the respondents feel that they are getting better education facilities now. Private schools have been established in the locality. However, for higher education, students have to go to city.

As compared to the land price within municipal area, it is cheaper in Sunakothi. Building regulations in VDCs are not as strict as in municipalities so people are much attracted to buy land parcels in the fringe areas. This factor has created increased land demand in the area and thus the land value has increased. Local landowners are getting direct economic benefits from the appreciated land value. Overall land holding in Sunakothi case study area has reduced by 42 percent in the last twenty years. Farmers are gradually shifting their profession from agricultural to others and

are working in the fields only as part time farmers. Apart from direct economic benefit, the local residents have witnessed some negative aspects of urbanization too. Pressures due to population and environmental degradation, and haphazard building constructions are some of the negative consequences of urbanization.

#### **4.1.4 Society and social characteristics**

Land also acts as a basis for social interactions in the rural community. The exchange of labour, where labour help is again repaid in labour is called "*perma*". It is a kind of informal community cooperation system practiced in agricultural community. This is a strong relationship that existed in the past and is still continuing in most of the villages.

This kind of mutual help has been decreasing in the recent years as people are selling their land and slowly phasing out from agricultural practice and are more inclined towards other occupations in cities or in the village. It a serious repercussion faced by the farmers because they have to hire labours in the field which is quite unaffordable for them. This kind of declining mutual cooperation forced the farmers to shift to other economic activities, than agriculture. Thus farming has become a burden to the farmers.

In our country agricultural land preservation regulation is not conceived yet so there are no restrictions on building activities on the agricultural land. When an area is serviced with basic infrastructures such as roads, electricity, water supply; in-migration starts to pick up as people from different culture and places start settling there. The society becomes heterogeneous both in caste and economy and has different effects on the locals. Within the case study area, respondents had different opinions about the mutual help among friends and relatives. About 57 percent (30 out of 53) feel mutual help has increased because local inhabitants are closely linked

with each other and the migrants have adjusted easily too. While rest 43 percent feel it has decreased and people now are more individualistic than they were before. Local people who are working outside do not have sufficient time to attend the communal activities so they are moving away from the traditional social ties. These two diverse opinions suggest that these feelings are too subjective and it is difficult to draw a general conclusion about it.

**Table 4.2 Perception about traditional values**

<b>Opinion in traditional values</b>	<b>Number of Respondents</b>	<b>Percentage</b>
Not changed	23	43
Cultural Degradation	11	21
Traditional values have been decreasing	14	26
Sense of belongingness has increased	9	17
Sense of belongingness has decreased	9	17

Locals think that traditional values have not changed much but some traditional cultural practices have been degrading.

Mr. Durga Bahadur Maharjan (43 years), a teacher in local secondary school, is not happy with the way people show off in wedding and other ceremonies. He does not like the idea of taking loans and increasing family debt for such activities. He thinks people are more concerned about gifts and invite more and more people in weddings and other ceremonies, which was previously limited to the family members only. Sometimes, it becomes a big burden to the economically weaker families as they too have to perform those ceremonies even though they are not in the position to spend on those things. In many cases, they end up with selling their land to pay the debts.

Traditional social bonding is slowly dispersing and levels of interaction have been continuously decreasing in every society. People have become busier in career and new social networks with new members have been developing.

Mr. Sanat Thapa (29 year) remembers Mr. Bikash Rana. Mr. Rana came to the village in 1995. He was retired army officer and proprietor of private airlines company. He helped villagers to find jobs in different organizations, to support in kind and cash when they desperately needed it. Villagers are still remembering him as a gentle person.

- **Changing life style**

Life style has been changing with time. Impacts of urbanization accelerate only the rate of change. Influence of new members in the community is clearly seen in the changed life style of the local people. Life style has been changing with the changes in household compositions and careers and the changes in the

**Table 4.3. Family Composition**

Number of children	Number of Respondents	Percentage
8	1	2
5	1	2
4	7	13
3	13	25
2	9	17
1	16	30
0	6	11

needs. Average number of children in the respondents' family is 2.15. In most of the cases, the family type was nuclear. Thirty percent (16/53) of the respondents have single child and 17 percent (9/53) have two children. The respondents seem well aware about the concept of a small family. They are learning to use modern amenities and keep their environment clean. Almost all houses have water supply connection. Respondents feel that their way of living has improved considerably. Now they are eating better than in the past.

- **Social mobility**

In a traditional rural society, occupation is also based on caste system. Upper class and nobles do businesses and other administrative jobs. Opportunity for social mobility was very limited in rural society in the past. Such opportunities increase with urbanization and are found in an urban society. Living in urban area is costlier than in rural community. People have to earn more to maintain their living standard, and it is obvious that traditional agricultural practice do not give economic surplus, moreover in some cases it may also result in loss. So in urban area, people are into multiple professions.

Mr. Bijay Maharjan (35 year), the past chairman of Sunakothi VDC, has completed intermediate level in Arts. His family held seven ropanis of agricultural land twenty years ago and major source of income was agriculture. Their economic condition was not so strong in those days and social status was also not prominent. After completing intermediate level, he engaged himself on various training courses and started his own business in the village. Now he is operating a garment factory, a sweetshop, a TV radio repair and maintenance centre. He has three brothers and all are engaged in business. They haven't yet divided the land among brothers. They sold three ropanis of land which was situated at the road side and bought agricultural land farther away at a cheaper price. Now he feels his economic condition and social status both are uplifted.

Field data revealed that those who have changed their profession are earning better than those who are engaged in agricultural practice. Most of the respondents who had changed their occupation said that they sold the land to invest in business. Eleven respondents out of 53 have changed their occupation to business. Out of eleven households engaged in business, eight are earning Rs.5000 -10000 per month and three households are earning Rs.10000- 20000 per month. All the respondents

feel they are living better and hold better position in the society than earlier which illustrates the upward mobility in society. Downward mobility is also visible in those families who have sold the land to meet the family problems, to construct a new house etc. As a result of which their stock of land is decreasing continuously and they have difficulty in maintaining their social status.

Julum Bista (42 year) has a son and a daughter. They are five members in their family. Twenty years ago his family had 18 ropanis of land. He got four ropanis of land when he separated from his joint family 15 years back. Four ropanis of land was just enough to support his family. He sold two ropanis of land in 1990 at Rs. 10000 to pay his debt. In 1996, a neighbourhood development action brought 10 feet wide access to his land and then he sold one ropani of land in Rs. 10,00,000. He spent that money on his family and to construct a new house. Now he has only one ropani of land left. He is now working in a private office and earning Rs. 5000 per month. He feels his living condition has improved but his social status has decreased than it was before.

- **Land Transactions**

**Table 4.4 Reasons for selling land**

Land is an invaluable asset for farmers as their life is associated with their land. But increased family size, increased household expenses and decreasing agricultural productivity force farmers to sell their property. Inflation rate in

Reason for selling land	Number of Respondents	Percentage
Familial problem	29	55
To construct new house	16	30
Children's Marriage	6	11
To start business	11	21
For children's education	2	4
Due to surrounding pressure	2	4
Landowner tenant conflict	2	4
To buy cheap agricultural land	2	4

consumer items is much higher than inflation rate in agricultural produce. Subba (2003) investigated that farmers make only Rs. 550 profit from rice cultivation in one ropani of land and they have to bear Rs.1635 loss from wheat in one ropani of land. This figure is verified in the case study area.

Land holding capacity of an individual is reducing gradually as our land tenureship allows entitlement driven land fragmentation to family members and tenants. In some cases, the land parcels after fragmentation are too small to cultivate and farmers have no choice other than to sell the plot. Most of the time farmers or landowners sell the plot to meet familial expenses. In the case study area also it is the most common reason for selling land, which accounts to be 55 percent (29/53).

In a newly urbanized area, land with access fetch high price so the landowners and farmers start selling their property to support their big investment decisions such as constructing a new house, starting a business and for their children's marriage.

Two respondents took the opportunity of the appreciated land value. They sold the land which was unsuitable for agriculture and bought fertile land at a cheaper price farther away so that the stock of land is maintained without reducing agricultural productivity and income.

- **Education**

Education is related with the economy of the household. Education level of current household heads is not encouraging. Sixty-six percent (35/ 53) of the total respondents have school level education. Very

**Table 4.5 Education Level**

<b>Education status</b>	<b>Number of Respondents</b>	<b>Percentage</b>
Illiterate	1	5
Read and write	9	17
Below SLC	14	26
SLC	12	23
Intermediate	10	19
Bachelor	7	13

few got opportunity to go to college because most of the parents were not able to afford higher education for their children. Now people are more conscious about sending their children to school. Girls have equal opportunities to go to school. There is a secondary school in the village which most of the students attend. For higher education, one has to go to city and it was difficult to get there in the past because of unavailability of public transportation.

Mr Bhairab Bahadur Bista (50 years) can read and write. He provided opportunity for his son, Ram Bahadur, to go to college. Now Ram Bahadur is working in an office as an officer and earning Rs. 9000 monthly. He still feels happy to remember his wise decision to send his son to college rather than at the fields.

I did not find any respondent who was unwilling to send his children to school. There are two governmental schools in the Sunakothi VDC - One high school and one primary school. There are three private schools in the VDC.

#### **4.1.5 Economical Characteristics**

Economic development of a family is related to the occupation of that household. In the past, all households were engaged in agriculture as a main source of income. Generally, larger land holders were richer and smaller land holders were poorer. Very few had secondary or tertiary occupations because of the limited opportunities in those days. But now with the growing population and specialization in work force, lots of opportunities are available in service sectors. Now the economic level is not only associated with land holding and people in single household are in multiple occupations.

- **Occupation shift**

One of the most striking features of economic change is occupational shift. Occupation shifts from primary activity i.e. agriculture to other secondary and tertiary activities i.e. business, employment, industry sector etc and it is also an indicator of smooth transformation of rural economy to urban economy. It is believed that primary activity does not contribute much on economic development.

Mr. Ram Hari Mahat (52 year) was the past ward chairman of Sunakothi VDC, ward number eight. His family was dependent on agriculture twenty years ago. After completing intermediate level education, he worked for almost twenty years in water supply projects in different parts of the country. Later, he worked as a contractor in various water supply projects too. Now he is active in social work in the village. Three years ago, he sold eight anna land in Rs. 10,00,000. With the money, he built a new house and invested Rs. 5,00,000 in a hardware shop which is run by his elder son. His younger son is also working in another shop. He is also planning to start a wholesale shop in the village. Now he feels they are in better financial position than ever.

From the survey it was found that most of the landowners are still practicing agriculture as a primary occupation. Business and waged labour in different institutions is the secondary occupation. In twenty years, some changes in business and waged labour sector can be observed in the study area. Business sector has seen quite positive transformation as it is increased by two to thirteen i.e. 550 percent increment in twenty years time. People are engaged in service sector, businesses, such as daily consumer item shops, tea shops etc. In waged labour sector, it is increased by 20 to 34 i.e. seventy percent increment achieved in twenty years time.

Table 4.6. Occupational Status

Occupation	Agriculture	Business	Waged labour	Industry
Number of Respondents (20 years back)	50	2	20	1
Number of Respondents (Present)	45	13	34	1
Change in 20 Years time (in Percent)	-10	550	70	0

The above table gives an impression that people are still practicing agriculture. They are not able to change their occupation significantly. The reasons could be lack of education, lack of skill, lack of information, lack of capital etc.

Table 4.7 Occupation shift and educational status of family head.

Level of Education	Bachelor	Below SLC	Illiterate	Intermediate	Read & Write	SLC
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## Income sources (20 Years ago)

Agriculture	7	13	1	10	8	11
Business	0	1	0	0	1	0
Waged labour	1	7	1	4	3	4
Industry	0	0	0	0	1	0

## Current income sources

Agriculture	7	10	1	9	8	10
Business	1	2		3	3	4
Waged labour	6	8	1	5	6	8
Industry	0	0	0	1	0	0

## Change in occupation shift (in Percentage)

Agriculture	0	-23	0	-10	0	-9
Business		100			200	
Waged labour	500	14	0	25	100	100
Industry					-100	

The table 4.7 gives an impression that people with good education level can change their occupation easily. Educated people are engaged in waged labour sector. Household engaged in agriculture are either decreasing or are constant and showing increasing interest in other sectors. But occupation transformation process is rather slow.

- **Economic levels**

**Table 4.8. Monthly income and Family size.**

Family size	Monthly income (in Rs.)				Total
	Up to 5000	5000 -10000	10000 - 20000	More than 20000	
Up to 4	6	2	2		10
5-10	14	14	8	3	39
11-15	1	1	2		4
<b>Total</b>	21 (40%)	17 (32%)	12 (23%)	3 (6%)	

The data shows that the economic condition of local people is not strong. Forty percent (21/ 53) respondents are earning less than 5000 and out of 21 respondents 14 are having family size five to ten. It gives a clear picture of low standard of living. This is one of the reasons that larger families of farmers and landowners are selling their land rapidly than smaller families. People are selling their land to make big investment decisions such as to build a house, to solve the familial problem and to arrange marriage of family members. In this way, farmers and landowners of the case study area are reducing their land stock and are getting driven towards deeper poverty level.

- **Living conditions**

Most of the respondents (44/ 53), 83 percent state that living standard has improved considerably than twenty years ago. Modern consumer items and physical facilities make their life easy. An increased public transportation facility in the major arterial road is considered a crucial factor to save time to get to the city for work and for other purposes. Electricity, water supply, telecommunication facilities are equally responsible to enhance living condition of the people. Some respondents, (4/ 53) eight percent feel their living standard has not improved much. These respondents are those who are earning less than before and they could not access the modern facilities and amenities. Their land holding is reduced to a great extent and it is very difficult for them to maintain daily expenses.

#### **4.1.6 Physical changes**

Major physical change observed in the farmers and landowners of fringe is the reduced land holding. Field observation showed that not a single person has added to his land stock.

- **Reduced land holdings of the original farmers and the landowners**

Land holding capacity of farmers and landowners are decreasing rapidly in Sunakothi. Percentile land holding reduction in 20 years time period is given in the Table 4.9. It shows 17 percent (9/53) respondents hold less than 25 percent land, 28 percent (15/53) hold 25 -50 percent land. These figures indicate that land holding capacity in the case study area has reduced very sharply.

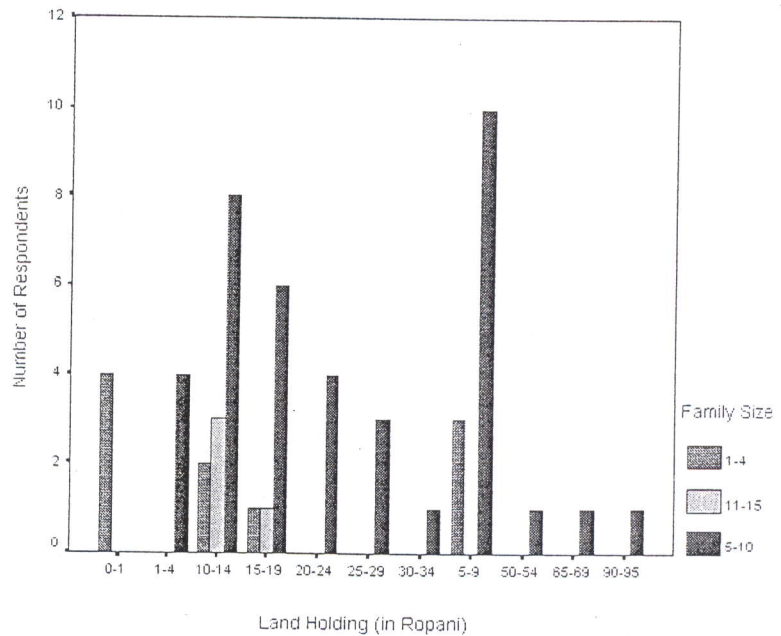
**Table 4.9. Land holding reduction**

Reduction in land stock (in Percentage)	No Reduction	Up to 25	25-50	50-75	More than 75
Number of respondent	14	5	10	15	9
Percentage	26	9	19	28	17

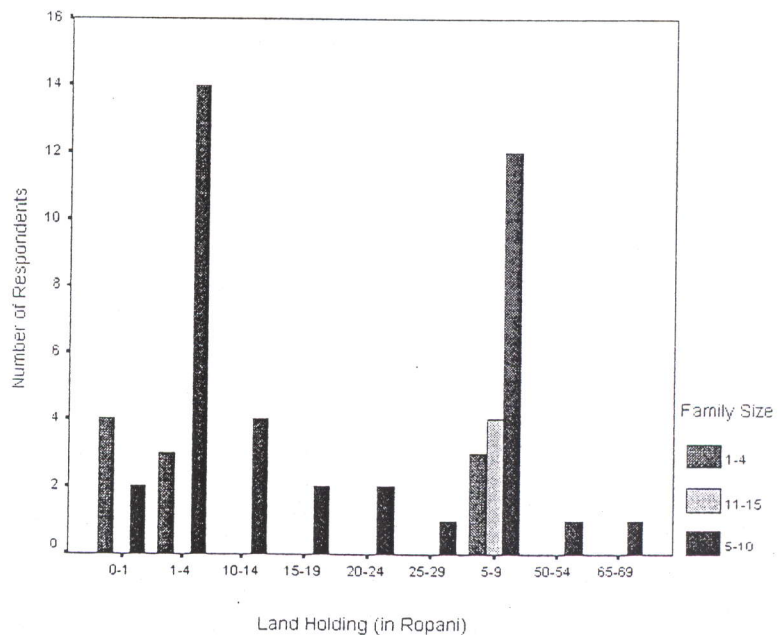
The graphs (Figure 4.3 and 4.4) give information about family size and land holding capacity in two different time periods. A comparative study of family size and land holding provides some interesting insights.

It reveals that number of households having

- Up to 1 ropani land is increased by 4 to 6 i.e. 50 percent.
- 1-4 ropani of land is increased by 4 to 17 i.e. 325 percent.



**Figure 4.3. Land holding – Family size relationship (20Years back)**



**Fig. 4.4 Land holding – Family size relationship (Current)**

- 5-9 ropani land is increased by 13 to 19 i.e. 46 percent.
- 10-14 ropani land is decreased by 13 to 4 i.e. 69 percent.
- 15-19 ropani land is decreased by 8 to 2 i.e. 75 percent.
- 20-24 ropani land is decreased by 4 to 2 i.e., 50 percent.
- 25-29 ropani land is decreased by 3 to 1 i.e. 67 percent.

This data gives a clear indication that land holding capacity is gradually decreasing in the case study area.

- **Possible displacement of the original farmers and landowners**

Gradual reduction in land holding is observed in the case study area but there was no evidence of displacement of original landowners. Informal development pattern has slowly reduced land holding capacity. This may ultimately phase out people from agricultural activity and then displace people from the original location. In Sunakothi case study area, there are some indications of possible displacement of farmers. There are four families whose land holding capacity is less than one ropani, family size is more than five and income level is less than Rs. 5000. These households are really at the verge of displacement.

- **Land use change**

Land use change is the most striking physical change in the case study area. About ten years ago, the case study area was basically pristine agricultural field. It is revealed from the field study that the stock of land holding of the local people is reduced by 42 percent in twenty years time.

Most of the time, when land parcels are fragmented and made smaller, they are not economical to use for agriculture. These plots are usually used for building construction. We can estimate that more than 50 percent of the agricultural field is transformed into built up area. The remaining agricultural land parcels are also unsuitable for agricultural purpose because of small parcel size which is uneconomical to cultivate. Moreover, traditional water channelling system (*rajkulo*) for irrigation has also been disturbed by the haphazard building construction practice.

Almost all the land parcels adjacent to the main arterial road are filled up with buildings. Ribbon development is proliferating very rapidly in this arterial axis. In some places, plots in the inner sides are deprived of accessibility which makes them unsuitable for future development. At present, more than 20 buildings are in construction stage in the case study area. Some commercial land use can be seen in ground floor of the residential buildings.

- **Building types**

Traditional buildings are built with locally available building materials such as sun dried bricks, mud mortar, timber frames, timber truss etc. and roof with thatch. Jhingati or tiles were not used in the Sunakothi area<sup>2</sup>. A typical building style was developed in the fringe area of Kathmandu and these buildings are characteristically different from the traditional Newari building.

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<sup>2</sup> As told to the researcher by Mr. Ram Hari Mahat, former ward chairman of Sunakothi VDC

Now the building construction activity is very rapid and most of the residential constructions in the area are modern. The new buildings are made of durable, modern building materials such as burnt brick, cement and steel giving them a modern outlook and modern facilities. These new buildings are standing discordant with the traditional vernacular architecture. The modern building style influenced the local residents and they have started to build their houses in the same modern fashion. The architectural sense of the place is almost destroyed by the new developments.



**Fig. 4.5. Traditional and modern building standing side by side at Sunakothi.**

- **Physical infrastructures**

Basic facilities such as efficient transportation, electricity, water supply and telecommunication are available in the case study area. While main arterial road is bituminous, most of the internal roads are earthen and are developed by community themselves.

During my field observation, informal development pattern was observed. As the inner roads are built with the mutual understanding between the neighbours, some stretches of roads have dead ends.

#### 4.1.7 Conclusion

Sunakothi case study area, located two kilometers away from major trunk road i.e. ring road, is connected by good road network and efficient public transportation system. Agricultural land is rapidly being converted into land parcels for building activity. Land price has increased eighty times in twenty years time period (Field survey, 2003). Original farmers and landowners are getting direct economic benefits from the increased land price. The increased land price encourages farmers to sell their land when they need money. Very few people have invested the money thus obtained in profit making sector.

Entitlement led land fragmentation among family members, and tenants and market led land fragmentation, both help in rapid subdivision of agricultural land. This kind of subdivision makes agricultural practice unprofitable. Social relationships associated with land has decreased day by day as people are phasing out of agricultural practice and practicing multiple professions in a single household. Both upward and downward social mobility is observed in the field. People with good educational background are found to have other professions and have become economically stronger while people with low education level are still relying in agricultural activity which is proved economically unprofitable.

Land holding capacity of farmers and landowners has decreased rapidly. People are gradually shifting towards lower parcel size. No households were displaced from their original location as per my notice. But possibility of displacement is observed in the case study area.

## 4.2 Saibu Land Pooling Area

### 4.2.1 Introduction

Saibu case study area is located on elevated flat land at the southern outer fringe of Lalitpur sub metropolis. The study area lies in ward number four and nine of the Saibu VDC and is approached by *Karyabinayak- Bungamati* arterial road, 1.5 kilometer outside the ring road. The area shares common boundary with Lalitpur sub metropolis.

Kathmandu Valley Town Development Implementation Committee (KVTDIC), Lalitpur had planned the area in 1990 to develop serviced plots for housing purpose. Initially, His Majesty's Government had acquired the area in 1974 to construct central jail, but due to continuous protest from the local people, the idea of jail was abandoned and a new idea of Member of Parliaments (MP's) housing was introduced. 65 percent of the landowners received compensation for acquisition in 1977 at the rate of Rs. 3600 per ropani (in average). Remaining 35 percent of the landowners were given back 44 percent of their original land parcel as a developed serviced plot. The remaining 56 percent land was used to meet the development cost of the project.

Original land owners of the area are *Chhetris, Magars, Newars* and *Sarkis*. There were only twenty two houses located inside the planning area and rest of the land was agricultural field. Low quality rice (*Ghaiya*) and maize were grown in the field. The area lies at height and irrigation channel was not developed so the farmers had to rely on monsoon rain for cultivation. Saibu Housing Project, under Department of Urban Development and Building Construction (DUDBC), is responsible to manage the project. The project delineated unbuilt land parcel to the original farmers to cultivate. Thus, agricultural practice can still be seen in unbuilt land parcels. I surveyed and interviewed the original farmers and the landowners of the surrounding locations of the planned area.

### 4.2.2 Recent Developments

Saibu Housing Project is a land development project initiated by public sector. The objective of the project was to develop a model housing program, and at the same time improve the economy and the overall life quality of the surrounding hinterlands (Uprety, S. 2002). The project was also expected to serve as an example of the potential development of less productive land into housing by the initiative of government and private sectors.

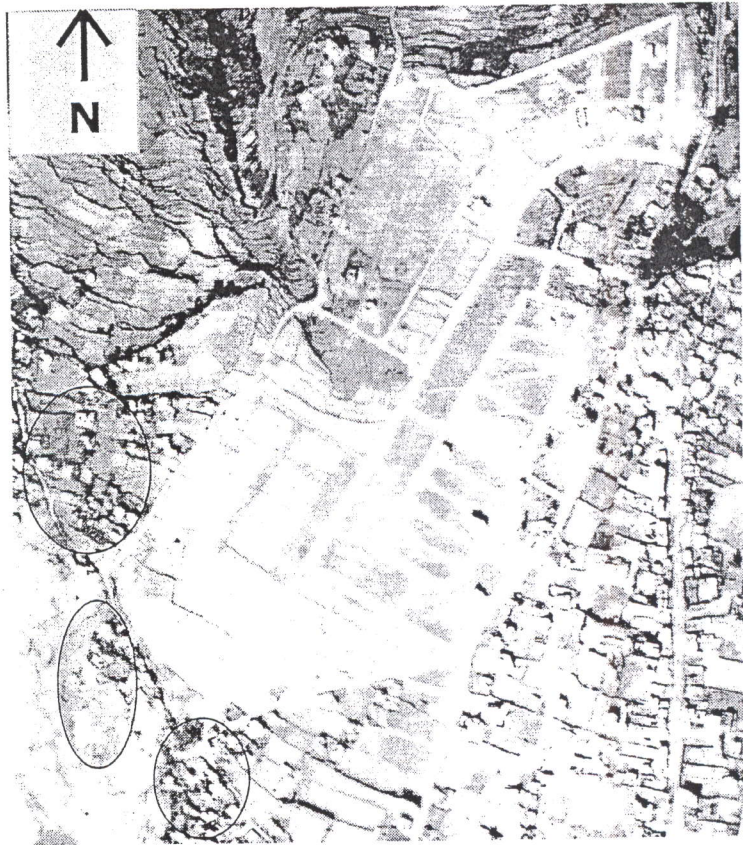


Figure 4.6. Aerial photograph (1998) of Saibu Land pooling Area showing surveyed area

Altogether seven different types of activity zones are within the project area viz. housing zone, market zone, school zone, MP's housing zone, community hall, line agencies office zone, open space. The purpose behind putting all the activities within 491 ropanis of land is to develop the area as a small self-sufficient residential community.

The housing plots were offered to general public by auction. In 1996, price fixed by auction was Rs. 22,21,000 per ropani



Figure 4.7. Site plan of Saibu Land pooling Area showing different activity zones

and in 2000, it was reduced to Rs. 18,32,000 per ropani. The current informal market price is around Rs. 50,00,000 per ropani. Individual building construction activity is very rapid in the area whereas commercial and other non residential activities are yet to start. Government has not



**Figure 4.8. Member of Parliaments housing area in Saibu Land pooling Area**

started the MP's housing yet, so the area still looks like an open field. These new developments have both positive and negative impacts on the local farmers and landowners.

#### **4.2.3 Determinants of changes**

Local people have noticed lots of changes in their village. They think that the development has become rapid in their community. The pre dominantly agriculture field is converted into housing plots. One of the major interventions carried out by Saibu Housing Project is road construction. It helped to change the whole scenario of the village as the land price is increased by 1250 times in 30 years time.

Mr. Gadul Dhwoj Kunwar (84 Year) is surprised with the recent developments in his village. He never thought that his village could be developed as much as it is today. Moreover, he is surprised with the increased land price. However, he expressed his anger towards the government for paying low rates while acquiring the land in 1977. He had taken the compensation in 1977 when government paid Rs. 3600 per ropani. Those who did not accept compensation got serviced plot later. Now

they are enjoying appreciated land value. He thinks government discriminated them.

The farmers and landowners of the case study area have taken new developments with mixed feelings. While they are happy with added physical infrastructures in the project area, they are also afraid of possible displacement from the planned area. The increased land price creates a situation in which they can not afford to build a house for themselves. In such a case, it is most likely that local farmers and landowners sell the land and invest in other sectors. The increased land value gives economic opportunity but they are losing their ancestral property which bears emotional values and sense of identity to the original place.

**Table 4.10. People's perception about urban development**

Changes during last twenty years	Number of Respondents	Percentage
Vehicular pressure has increased	1	4
Access in education	1	4
Population pressure	3	11
Social problems has increased	4	15
Environmental Problem	4	15
Increased land transaction	6	22
Shift from agriculture	6	22
Increased land value	8	30
Increased public transportation	9	33
New house construction	9	33
Displacement possibility	12	44
Infrastructure added	26	96

Initially, the area was acquired and cash compensation was distributed to the farmers and landowners. In this phase, around 65 percent lost their agriculture land. Later, land pooling concept was introduced to develop a residential neighbourhood

and land contribution ratio was fixed to 56 percent. It seriously affected the farmers because their land stock was reduced by 56 percent which meant their earning also got reduced by the same proportion. Most of the farmers sold their land and the money thus received was used for other purposes. As a result, the land was phased out from agricultural activity. Some farmers bought agricultural land somewhere farther to continue their living.

#### **4.2.4 Society and social characteristics**

When the area was developed as a planned residential area, people from all over the places started taking up land here. A new residential area is developing far away from the local settlement so the interaction between migrants and local community is limited. Local farmers are still cultivating land in a traditional way. They still employ human labour to a large extent and very few mechanical gadgets are used for agricultural purposes. Main reason that, small and scattered land parcels make it uneconomical to use modern equipments. So the only option left is to use human labour.

In the past, exchange of labour made it easier to practice agriculture. But now mutual help has been decreasing due to various reasons. Firstly, all households in the village do not depend upon agriculture. People are slowly leaving agricultural practice because it has been proved uneconomical. Second, educated people are uninterested to work in the fields. All these factors create a situation in which actual farmers who completely rely on agriculture have to hire labour to cultivate the field.

Four percent (1/27) of the respondents feel that the mutual help among friends and relatives has increased while 63 percent (17/27) feel that it has decreased and people have become more individualistic than before. Level of interaction among

family members and community has reduced significantly. Rest 33 percent (9/27) feel the level of mutual help has not changed.

**Table 4.11 Perception about traditional values**

Opinion in traditional values	Number of Respondent	Percentage
Not changed	4	15
Cultural Degradation	9	33
Traditional values have been decreasing	2	7
Sense of belongingness has increased	8	30
Sense of belongingness has decreased	12	44

Local people think that the traditional values and traditional cultural practices have been degrading. The way the festivals are celebrated has changed a lot and communal participation in local development has also reduced significantly. Sense of belonging to the ancestral place is also decreasing because the locals are gradually selling their land away and the migrants are replacing them. While the increased land price gives economical opportunity to the landowners, the developed land becomes unaffordable to build their house. Most of them have made up their mind that they would sell the plot whenever they get attractive price. Most of the respondents have already sold the plot. Thirty-three percent of the (9/27) respondents feel traditional cultural practices have been decreasing and many festivals are not celebrated these days.

Mr. Krishna Bahadur Mijar (65 Year) is illiterate. He has two ropanis of land just outside the planning area. He is still working as a waged labour in the field. He remembers his old days when all the family members were together and they all used to work in field by exchanging labour. Now the scenario has changed completely, one can not cultivate his field without hiring labours,

which becomes uneconomical. Labour exchange was a part of cultural activities in the past.

Thirty percent (8/27) respondents, however, think that the sense of belonging to the place has increased now, as they feel proud that their village has developed much and they are enjoying various urban services.

Mr. Tulshi Thapa, the immediate past ward chairman of Saibu VDC, is optimistic that government will soon declare Saibu VDC a municipality.

- **Changing life style**

The influence of urbanization has started to show signs in the changed life style of the local people. The respondents, especially females, feel their living standard improved much when the village was served with piped water supply. Before that, they had to go to Nakhhu dole or other peripheral locations to fetch water.

**Table 4.12 Family Composition**

Number of children	Number of Respondents	Percentage
5	3	11
4	6	22
3	12	44
2	6	22

Mrs. Subhadra KC (40 Year) is illiterate. Now she is very happy because modern physical facilities have made her life comfortable. Piped water supply was the best that happened to the females. When they did not have piped water supply, females had to leave house early in the morning to get water from Nakhhu dole. They had to stand in queue for more than an hour which used to take two to three hours to get 15 litres water.

Other changes can be traced in household compositions, careers and their day to day needs. Average number of children in the respondents' family is 1.92. In most of the

cases, the family type was nuclear. Twenty-two percent respondents have two children, 44 percent have three children. The respondents seem well aware about the concept of small family.

People are now more health conscious. Every house now has water supply connection and toilets. They are learning to use modern amenities. Seventy percent respondents feel that their way of living has improved very much from the past.

- **Social mobility**

Urban life is obviously costlier than the rural. People have to earn more to maintain their living standard. The medium of transaction in urban areas is money while in rural areas people barter things and even labour is repaid in labour. In urban areas, people are involved in various economic activities. Previously economic



Fig. 4.9. Ladies in their way to the field.  
(Saibu Land Pooling Area)

opportunities were limited and most of the households depended only on agriculture but now the situation has changed. In my field observation, I found that females were working in the fields while the males were working in other professions such as business, waged labour. Though they know agricultural practice do not give economic surplus, they are still practicing to respect the land which bears some cultural values in society.

Field data revealed that people are performing multiple professions in a single household and those who are engaged in other professions than agriculture are earning better. There are some examples of upward mobility in society.

Mr. Rajendra Kunwar (36 years) is the only son of Mr. Nar Bahadur. Nar Bahadur had 15 ropanis of land 30 years ago. "Life was very comfortable in those days" Rajendra remembers. Nar Bahadur's family got affected worse when his 12 ropanis of land was acquired in 1974. Their economic base was disturbed, regular earning was also reduced proportionately with the stock of land. They received Rs. 47,000 compensation in 1977. The money thus received was spent in marriage of his three sisters and to construct a new house.

He worked in a restaurant until 2000. In 2000, he received a parcel of four annas land as an incentive from the project. He sold it in Rs. 3,47,000 and built a two room house just outside the planned area and started a small general household items shop. He invested Rs. 50,000 to start poultry farming and now he is earning more than Rs. 20,000 per month. His economic condition is stronger and his social reputation is also better now. He sets himself as an exemplary person in society.

There are also some examples of negative impacts of urbanization. Those who could not invest the money received as compensation in other sector are deprived economically. Most of the respondents used that money to meet the regular family needs, to construct a new house and to pay for children's marriage.

Mr. Sanu Kaji Thapa (43 Years) can read and write. He has three brothers. His family had 2.5 ropanis of land 30 years ago. Now they have only half ropani of land outside the planning area. They received Rs. 10,000 as compensation which was used for the family and to construct a new house to accommodate all brothers. Now their economic condition is very poor and

Sanu kaji is not even able to send his children to school. They are working as waged labours in the fields along with their parents. His social status has degraded.

- **Land Transactions**

Most of the landowners of *Saibu land pooling area* accepted compensation in 1977 when the government acquired their land. The landowners used that money to pay for family's daily needs (20/27), to

**Table 4.13 Reasons for selling land**

Reason for selling land	Number of Respondents	Percentage
Land acquisition	26	96
Familial problem	20	74
To construct new house	14	52
Children's Marriage	12	44
To buy cheap agricultural land	4	15
To start business	1	4
For children's education	1	4
Landowner tenant conflict	1	4

construct a new house (14/27) and for their children's marriage (12/27). Very few used that money to buy agricultural land (4/27), to start a business (1/27) and for children's education (1/27). Those who did not accept compensation got serviced land parcels later. And there is continuous tendency of the original landowners to sell the serviced plot. I did not find anyone who had built house inside the planning area.

- **Education**

Majority of the household heads (10/27) can only read and write. The education level of the current household heads is not encouraging, 59 percent (16/27) of the household heads can only read and write. Nineteen percent (5/27) respondents are illiterate. Some (2/7) of the

household heads are post graduates. All respondents are willing to send their children to school. Most of the children go to a high school about one kilometer away from the village near *Chhyasikot*.

**Table 4.14 Education Level**

Education status	Number of Respondents	Percentage
Illiterate	5	19
Read and write	10	37
Below SLC	6	22
SLC	1	4
Intermediate	2	7
Bachelor	1	4
Masters	2	7

Mr. Mahendra Kumar Thapa (43 Years) has a Masters Degree. He is working as an officer in Government office. He believes education is the most important asset that a man could hold forever. Land and other material assets are for short period of time. Parents should provide educational opportunities to their children. A better educated person can carve his / her life in own way. He is against those parents who do not invest in education and hold large land parcels.

#### 4.2.5 Economical Characteristics

- **Occupation shift**

One of the most striking features of economic change is visible from the shift in occupation. It could be a yard stick to measure how the society is transforming to an urban society from rural. An urban area demands more secondary and tertiary activities, considering agriculture as the primary activity which does not contribute much on economic development. From the survey, it was found that most of the households (22/27) were still involved in agriculture. In the past, male members were actively involved in agriculture but now the situation has changed as they are

attracted to other kinds of occupation than agriculture and the responsibility of agriculture has gone to the female members. Some people (12/27) have started their own small scale businesses such as daily consumer item shops, tea shops etc. Twenty years ago, not a single respondent was in business, now many people have moved to business. Number of household engaged in waged labour has been constant.

Mr. Shyam Maharjan (36 Year) is a class eight graduate. His family had ten ropanis of land 30 years ago among which five ropanis of land was inside the planned area. They received Rs. 18000 as compensation when government acquired land in 1974. The money thus received was used to construct a house and to start a small retail shop. He thinks that his father decided wisely at that time to start a business. They are earning better from business than agriculture."

**Table 4.15 Occupational Status**

Occupation	Agriculture	Business	Waged Labour	Industry
<b>Number of Respondents (20 years back)</b>	27	0	12	0
<b>Number of Respondents (Present)</b>	22	12	12	1
<b>Change in 20 Years time (in Percent)</b>	-19		0	

Table 4.15 gives us an impression that the original farmers are changing their occupation. It is an encouraging figure that twelve households have started business out of 27 households. They have not decided to phase out completely from the agriculture yet, but they have started some kind of businesses.

Table 4.16 Occupation shift and educational status of family head.

Level of Education	Bachelor	Below SLC	Illiterate	Intermediate	Masters	Read & Write	SLC
<b>Income sources (20 Years ago)</b>							
Agriculture	2	6	5	1	2	10	1
Business	0	0	0	0	0	0	0
Waged labour	2	3	1	0	1	4	1
Industry	0	0	0	0	0	0	0
<b>Current income sources</b>							
Agriculture	2	3	4	1	2	9	1
Business	1	3	3	1	1	3	1
Waged labour	1	2	3	0	1	5	0
Industry	0	1	0	0	0	0	0
<b>Change in occupation shift (in Percentage)</b>							
Agriculture	0	-50	-20	0	0	-10	0
Business							
Waged labour	-50	-33	200		0	25	-100
Industry							

Table 4.16 gives us a picture of occupational shift. Occupation change has not linked much with education in the study area. Irrespective to the educational background, involvement in business sector is growing very fast. Household engaged in agricultural sector is either decreasing or constant and occupation transformation in here is satisfactory than in Sunakothi case study area.

- **Economic levels**

**Table 4.17 Monthly income and Family size.**

Family size	Monthly income (in Rs.)				Total
	Up to 5000	5000 -10000	10000 - 20000	More than 20000	
Up to 4	2	3	1		6
5-10	11	6	2	1	20
11-15	0	1	0		1
<b>Total</b>	13 (38%)	10 (37%)	3 (11%)	1 (4%)	

Over all economic strength of a family can be judged through their family income. It also gives an impression of living standard of a family. This data shows that the majority of local people are still earning very less. Thirty-eight percent (13/ 27) of the respondents are earning less than 5000 and out of 13 respondents 11 are having family size of five to ten. Large family size with low economic level is affected negatively. It is difficult to maintain day to day expenses by meagre income from agriculture. Thirty -seven percent (10/27) are within income level of Rs. 5000 - 10000 per month. Only 15 percent (4/27) of the respondents have monthly income level more than Rs. 10000. This group of people are mostly engaged in business. Mr. Rajendra Kunwar is earning more than Rs. 20000 per month. He has a retail shop and poultry.

- **Living conditions**

Most of the respondents, 70 percent (19/27), feel that their living condition has improved considerably only the last two decades. They think modern services like electricity, water supply, road network, and telecommunication make their life easy.

Mrs. Thuli Kunwar (72 Year) remembered difficult days of the past. Females had to walk more than an hour to get water. Now almost all the houses have water supply connection, and she is very happy because she is enjoying various facilities.

Some respondents, 22 percent (6/27), feel their living condition has not improved much. They are economically weaker and could not access to the modern services. They basically belong to a group who is still primarily engaged in agriculture and do not have good education, skill and capital to shift to other professions.

#### 4.2.6 Physical changes

Reduced land holdings of farmers and land owners, possibility of displacement from original location, land use changes and additional infrastructures are major determinants of physical changes.

- Reduced land holdings of the original farmers and the landowners

Table 4.18 Land holding reduction

Reduction in land stock (in Percentage)	No Reduction	Up to 25	25-50	50-75	More than 75
Number of respondent	1	5	5	7	9
Percentage	4	19	19	26	33

Land holding capacity of farmers and landowners has been decreasing rapidly. The above table gives us an indication about the trend of land holding reduction in 20 years time. Thirty -three percent (9/27) respondents are holding less than 25

percent of their original land stock. Similarly, 26 percent (7/27) of respondents have less than 50 percent of their original land stock. Only four percent (1/27) of the landowners are able to balance their land holdings. It indicates that people are selling their land rapidly and holding small parcels of land.

The graphs (Figure 4.10 and 4.11) give information about how land parcel and family size has changed over a period of time. A comparative analysis of land holding and current family size reveals that

- Two landowners out of 27 are holding land less than one ropani. Such a small land parcel holding did not exist 20 years ago.
- People holding 1-4 ropanis of land is increased by 3 to 13 i.e. 550 percent.
- People holding 5-9 ropanis land is increased by 6 to 7 i.e. 46 percent.

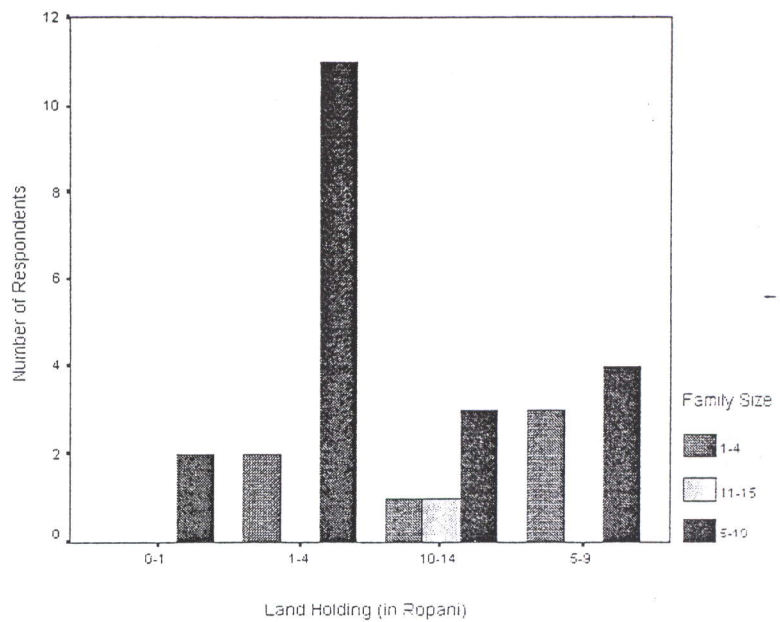


Figure 4.10 Land holding – Family size relationship (Current)

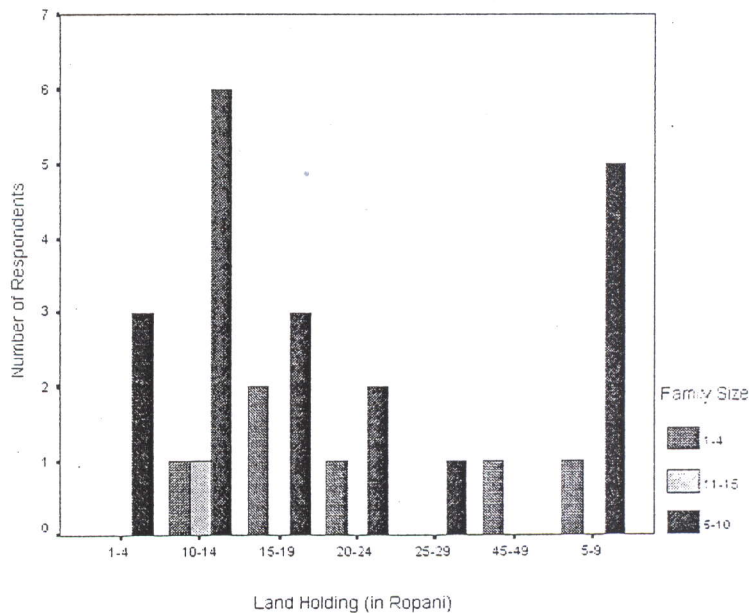


Figure 4.11 Land holding – Family size relationship (20 Years back)

- People holding 10-14 ropanis land is decreased by 8 to 5 i.e. 29 percent.
- No respondents have land holding more than 14 ropanis.

This data gives a clear indication that land holding capacity has reduced rapidly over the time in the study area. Possible displacement of farmers can also be observed from these graphs. There are two families whose land holding is about a ropani and family size is five to ten and they are at the verge of getting displaced.

- **Displaced farmers and landowners**

In my field study, I found out few displaced landowners from the planned area. There were ten landowners who did not have land outside the planned area and were displaced from their original location. Some bought land just outside the planning area and built their house while some left the village and got settled in peripheral villages. These displacements took place when government acquired land in 1974. Later government decided to distribute small parcels comprising of four annas of land inside the planning area to resettle the displaced landowners. But it was not helpful to settle them in their original location. Their economic condition was not strong enough to build a house so they sold the land and used that money for other activities.

- **Land use change**

Before the land was acquired in 1974, the planning area was basically an agriculture field. Major settlement area was in the periphery of the agricultural field. There were only twenty houses inside the planned area, all of which were demolished and road network and other infrastructures were provided. Unbuilt land

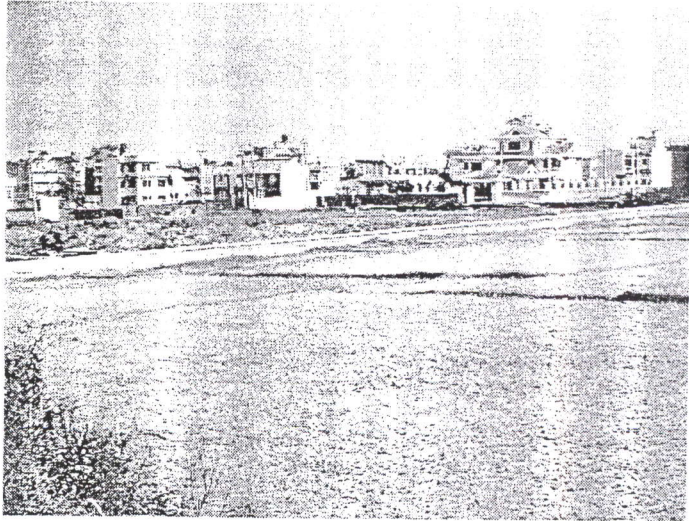


Figure 4.12. Agricultural field is being converted into building parcels. (Saibu Land Pooling Area)

parcels are still cultivated by the original farmers. Influence of development can be seen in the peripheral settlement area. It is gaining population and becoming denser and the agriculture fields are decreasing. It is revealed from the field study that the stock of land holding of the local people is reduced by 55 percent in 20 years time.

- **Building types**

Traditional buildings are built with locally available building materials such as sun dried bricks, mud mortar, timber frames, timber truss etc. Roofs are of thatch or jhingati or tiles. A typical building style was developed in the fringe area of Kathmandu and these buildings



Figure 4.13. Traditional building standing at roadside. (Saibu Land Pooling Area)

are characteristically different from the traditional Newari building. Now the local farmers and landowners are also replacing their older buildings with new ones. Ninety –six percent (24/ 27) of respondents have *pukka* buildings which were built ten to fifteen years ago. These new buildings are made of durable, modern building materials such as burnt brick, cement and steel giving them a modern outlook and modern facilities. These new buildings are standing discordant with the traditional vernacular architecture. Though the new buildings look good, some respondents are not happy with it. They find it thermally less insulated. The architectural identity of fringe area is gradually destroyed by the new developments.

- **Physical infrastructures**

Basic facilities such as efficient transportation, electricity, water supply and telecommunication are available in the case study area. Well planned road network is the most eye catching and visible development indicator of the planned area. The internal roads in surrounding settlement area are earthen and developed by community themselves. Fifty –nine percent (16/27) households have motorable access and rest 41 percent (11/27) have pedestrian access. This kind of informal development pattern is still practiced in the community. People have not realised the benefits of good road network yet. The inner roads are built with the mutual understanding between the neighbours.

#### **4.2.7 Conclusion**

*Saibu land pooling area*, located 1.5 kilometer away from major trunk road i.e. ring road, is connected by good road network and efficient public transportation system. Agricultural land is converted into land parcels for building activity. Land price has increased 1250 times in 30 years time (Field survey, 2003). Original landowners who

received compensation in 1977 did not get much economic benefits. Those who received serviced plot in 1990 got much economic benefit because land price suddenly went up at that time. The increased land price encourages landowners to sell their land and invest in other sectors. I did not find a single person (original landowner) who built a house in the planning area. Most of the landowners have already sold the plots and some have left the land for speculative purpose. No one has considered building a house in the planned area. They reasoned when they are enjoying all the facilities that are available in the planned area then what is the point to build a house in an expensive plot.

When government acquired land in 1974, it accelerated entitlement led land fragmentation among family members, tenants. Most of the family got divided at that time. The money thus received as compensation was spent on building separate houses. The land holding is reduced by 55 percent. Those who did not receive compensation got reduced serviced land. Agriculture practice in this land parcel is simply unprofitable. Social relationships associated with land has decreased day by day as people are phasing out of agricultural practice and practicing multiple professions.

Both upward and downward social mobility is observed in the study area. Those who are engaged in business and service sector are doing well while those relying on agriculture are driven in to deeper poverty level. Land holding capacity of farmers and landowners has decreased significantly. People are gradually shifting towards lower parcel sizes. Ten households were displaced from their original location when government acquired land in 1974 and there is again a possibility of displacement of some more households.

### **4.3 Comparative Analysis of *Sunakothi* Case Study Area and *Saibu Land***

#### ***Pooling Area***

A comparative study of the two case study areas revealed some important facts which are,

- Development in the Sunakothi case study area is unorganised, informal market led intervention. Agricultural land is being converted into building parcels on incremental basis. Small scale developments are being carried out by the neighbours such as access to interior plots. This type of development does not take into consideration of a planning procedure which could serve for a larger area. Thus the pattern of development is haphazard.

Saibu area consists of some planned development. Initially, it was acquired to construct the central jail but later the concept was abandoned and land pooling scheme was adopted. Serviced land parcels are developed with bituminous road in and around the project area.

- In Sunakothi area, the local inhabitants and migrants tend to have close relationship. It helps to create a good environment among the migrants and the locals which is reflected through cultural assimilation. A new social network such as friendly relationship with neighbours with new members in the society appears to be increasing. People's sense of belonging to the place seem be increasing because they feel proud that their *to/e* is improving and developing.

In Saibu, migrants and locals have limited interactions. Older settlement area and new housing area are isolated by Member of parliaments' housing area. MP's housing is not developed yet, therefore a buffer space that separates older settlement from new housing area. Moreover there is no common place where locals and migrants could interact. Sense of belonging to the place is

on decrease because the original landowners' economy could not support building a house in the planned area. The landowners who have land and house in other locations are holding land for speculation.

- In both the case study areas, people feel that their life style have changed a lot as they are living better than in the past. Improved infrastructural services and modern amenities have made their life easier. A very few people, however, feel that they are deprived of economic opportunities, and their living condition have not changed or have even become worse than in the past.
- In both the case study areas, both upward and downward social mobility can be observed. Those who are engaged in business or professions other than agriculture are earning better and their mobility is upward in society. Those who sold land and used that income for the family are in further worse condition than in the past. Their regular source of income from agriculture has reduced and economic condition has become weaker.
- In both the case study areas, only a few landowners have sold the land, which fetched high value, in order to buy cheap and fertile agricultural land at distant locations. They have a tendency to maintain agricultural land stock. Most of the people have sold land when they desperately needed money in house to support the family.
- In both the case study areas, education level is low and this may be the reason for majority of population did not shift their occupation from agriculture. Those who have changed the occupation are mostly found to be associated with small business activities such as tea shops, daily consumer item shops etc.

- In both case study areas, majority of the population are earning less than Rs. 5000 per month. Majority of population having family size five to ten are low income families. This gives an indication that farmers and landowners have lower income at the urban fringe areas of the Kathmandu Valley.
- A comparison of land holding shows that people are holding less land than they were holding in the past. One of the main reasons behind this reduction is entitlement based land fragmentation. That is, lawful heir should get parental property when they separate, so the rate of land fragmentation is high.

In Sunakothi, people are selling land in incremental basis to support big investments in family e.g. to build a new house etc.

In Saibu area, several people are forced to sell their land parcels when government decided to acquire the area for the central jail and later their land holding was reduced when government returned 46 percent of their original land parcel as a serviced land.

- No physical displacement of landowner is observed to this date (2003) in Sunakothi case study area. People are selling land in incremental basis so its effect may appear some years later. Two households who hold less than 0.5 ropani of land, have family size more than five and earn less than Rs. 5000 per month, appear to be at the verge of displacement.

In Saibu area, ten families were displaced from their original location when government acquired land in 1974. They all received compensation in the form of money and left their original location voluntarily. Those who got serviced plots are also selling their land as soon as they get an attractive price.

- In Sunakothi case study area, change in land use is gradual and haphazard. People are fragmenting their land parcels haphazardly so different forms of land parcels are created at inner locations which sometimes can not be used for either building purpose or for agricultural purpose.

In Saibu area, planned intervention has created a good environment and value appreciation of land is approximately 1250 times in 30 years time<sup>1</sup>.

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<sup>1</sup> Thirty years back land price was Rs. 4000 per ropani and now it is Rs. 50,00,000 per ropani.

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# Chapter Five

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## CHAPTER FIVE

### Findings and Conclusion

#### 5.1 Main Findings

The main findings of the study are presented below. This section answers the research question of the thesis. The findings are based in similarities and differences between the case study areas and synthesis of the findings from the case studies.

The study revealed that farmers and landowners of the urban fringe of Kathmandu Valley got affected both positively and negatively due to the urbanization pressure. Various changes could be observed in the study area. Basically these changes are categorised in terms of physical, social and economical aspects.

A comparison between theories reviewed earlier and findings from the two different study areas gives additional insights on how the farmers and landowners of fringe areas of Kathmandu are getting affected by the urbanization pressure. A comparative analysis of the planned development and unorganised development points out some aspects to be considered while intervening in urban fringes in future.

##### 5.1.1 Physical aspects

- In unorganised development, the study revealed that some people are deprived of proper access to their plots especially the plots in the inner areas. The process of conversion of agricultural land into building parcels in piecemeal approach has resulted in haphazard and unorganised development. In planned development, road width is carefully fixed at the beginning to accommodate all kinds of infrastructures that to fulfil future requirements.

- It was found out that the land holding capacity of farmers and landowners has reduced significantly and various reasons to which are explained in earlier chapters. One of the reasons in land reduction is to contribute for road and other infrastructures. The level of contribution is very less in unorganised development than in planned. In planned development, road has standard width so the contribution for infrastructures goes higher. From a farmer's perspective, contribution for road doesn't have significant benefits for them. So they are unwilling to contribute for roads and uninterested in planning interventions.
- People are gradually coming down to lower land holding category which creates a possibility of displacement of a household from the original location. In an unorganised development, land transaction takes place in incremental basis so it takes a longer time period for the signs of displacement to be visible. In planned intervention, land price of serviced plots goes higher which has direct economic benefits for the landowners and they can sell it to invest in other sectors. Land transaction takes place rapidly which helps the landowners to sell the plots quickly. The original landowners have very less land holding capacity so the displacement effect is more obvious in planned interventions than in unorganised development.
- One can not change the occupation overnight, it takes some time to adopt to a new occupation. The study reveals that people are gradually phasing out from primary agricultural occupation to other secondary and tertiary occupations. In unorganised development, people sell land on incremental basis so they are still holding agricultural land to continue agricultural practice which is because the older generation do not have other skills other than working in fields. In planned development, agricultural field is at once converted into building plots and the original farmers are deprived of

practicing agriculture. This study has shown that some farmers bought land at farther locations to continue with agriculture.

### 5.1.2 Social aspects

- In rural society, villagers help each other when one needs help and this help provided in labour is paid back in labour. With, land holding capacity of people is decreasing and they are gradually moving towards other professions than agriculture. Lack of interest in agriculture has decreased the intimacy between the villagers while practicing agriculture. The mode of agricultural practice has changed from mutual help to hiring labours for farming. Labours are becoming expensive which makes an agricultural practice unaffordable and uneconomical.
- A society with a predominant cast when opened up for outsiders, a heterogeneous society came into being. People from different backgrounds, ethnic groups, and diverse professions come to live in the neighbourhood. They bring in a strong influence to the local neighbourhood. Cultural assimilation takes place in the neighbourhood. In any unorganised development, people have choice to select their neighbours. Usually, the buyer and the seller interact with each other before they transact. So, there is a greater possibility of having good relationships between the migrants and the local people. In planned development, community has limited control over who their neighbour is as an intermediate agency operates the land market. Thus the local people are unaware of their neighbours. In such situation, traditional values are altering, social norms are changing, social bonding has been dispersing and levels of interaction have been decreasing continuously. People have become more career oriented and individualistic.

- Effects of urbanization can be observed in the lifestyle of the locals which has been changing a lot. People are inclined towards nuclear family. They are well aware of small family so the family size has been decreasing. At the same time, people are more concerned about children's education. Now, the children have better opportunities to go to school and college.
- In case of social mobility, it was observed that people with good educational background, large stock of land, small family size and those practicing multiple professions are found to be having upward mobility while the people with low educational background, low stock of land, larger family size and continuing farming are found to be having downward mobility.

### **5.1.3 Economic aspects**

- Urbanization brings economic opportunity with it. Major determinant of economic change is shift in occupation. Greater the occupation shift from primary (agriculture) to secondary (business) and tertiary (services) more economically sustained society will be developed. Urban fringes of Kathmandu do not show larger occupation shift. Majority of population are still dependent on agriculture which is unprofitable. They are still practice agriculture because cultural values force them to continue cultivation despite lowered profits. The informal social codes induce fears of social disrespect if the land is left idle.
- Those who are involved in multiple occupations e.g. business, waged labour etc. are earning better than those who are engaged in agriculture only. Mostly males are into secondary and tertiary occupations and while the responsibility of agriculture has gone to the females.
- The landowners of the planned area are still unable to build their houses in the serviced plots. It is because they can not afford to build a house there.

Land price has increased very much and it is not economically viable for them to use that plot. There is always a tendency of the original landowners to sell the plot when they get attractive price. In case of unorganised development, people sell a portion of land and build a house in the remaining land parcel. Here the land price increased slowly and they do not find it so unrealistic to use for their own purpose.

## **5.2 Revisiting the Theories**

Urban fringe areas are constantly facing urbanization pressure. Due to the changes in land use and associated activities, original farmers and landowners are both have both the opportunities and problems. A comparison between theories reviewed earlier and findings from the two different study areas gives additional insights on how the farmers and landowners of fringe areas of Kathmandu are getting affected by the urbanization pressure. A comparative analysis of the planned development and unorganised development points out some aspects to be considered while intervening in urban fringes in future.

### **5.2.1 Physical aspects**

The theories basically discuss only the pattern of planned development but in our part of world, informal development pattern is more prominent than planned interventions.

Bryant et al. (1982) identifies two types of impact of urbanization on the farmers. One is direct i.e. removal of agricultural land from agricultural use and another is indirect impact i.e. the locational aspect of land. The study also reveals similar kind of impact to the farmers and landowners of urban fringe of Kathmandu. The land

holding capacity of farmers and landowners has reduced significantly. People are gradually phasing out from previously primary agricultural occupation to other secondary and tertiary occupations, however, the occupation shift is rather slow. Those who do not have skills other than agriculture are buying fertile agricultural land at farther locations for a cheaper price to continue farming.

Physical development in unorganised development is carried out in piecemeal by communal effort so it results in haphazard development pattern which is corrected in planned intervention at the cost of social benefits. In this study, the planned area under consideration is relatively larger than the unplanned area so the level of interaction between the migrants and the locals was found to have reduced considerably as compared to the unorganised development. Community's participation in planning activities is limited so the sense of belonging has also reduced.

There are various reasons behind the reduction of land holding capacity of the farmers and the landowners of the urban fringe. As Subba (2003) describes, internal (i.e. family led land fragmentation) and external (i.e. land demand due to market) forces are behind land fragmentation which in turn reduces the land holdings. The study confirms the involvement of these forces in land holding reduction. More than these factors, contribution of land for the road development has also reduced considerable amount of land in the planned area where as this contribution is relatively smaller in unorganised development.

Subba (2003) identifies marginalization of small farmers and landowners due to urban pressure in the fringe areas of Kathmandu. This study reveals the physical displacement of households from their original locations. The effect is more prominent in the planned area because they received monetary compensation and left the land voluntarily. However, in unorganised development, people sell their land

gradually so the displacement is not noticed, but there are some households whose land holding has reduced to very small land parcels.

Occupation is related with the land holding capacity. Those who have large stock of land usually has agriculture the major occupation. Those who have relatively small stock of land can shift their profession if they have skills in other profession than agriculture. Mc Gee (1971) remarks, the principle economic feature of urbanization process is the shift from agricultural to non -agricultural economy. This study reveals occupation shift of farmers and landowners of the fringe area. Most of the population are engaged in multiple professions. Very few people are completely phased out from agricultural activity. Small business activity is the most admired profession by the fringe people.

### **5.2.2 Social aspects**

Urbanization brings some social changes with it. It introduces new social activities breaking down the old, traditional pattern. Reissman (as quoted by Mc Gee, 1971) states, "Urbanization brings social change which is irreversible. It gives way to urban institutions, urban value, and urban demands".

This study reveals changes in social aspects. Traditional agricultural practice depends on human labour and in the past, it was possible with the help of the community. Almost all the households were dependent on agriculture so it was quite common to provide help in the form of labour and get repaid in labour. Now more and more people are attracted towards other professions and the degree of cooperation in farming has reduced considerably. One has to hire labour for farming, making an agricultural practice unaffordable and uneconomical.

When an area is gaining population, high density of population and heterogeneous populations could induce changes in the personality and social life of the people. (Mc

Gee, 1971). The study discovered that in planned intervention, degree of socialization has been continuously decreasing. In unorganised development, though the society is heterogeneous and migrants are mostly from higher economic level than the locals, they have good relationship with other migrants and locals. Mutual help is still there in communal interest.

The findings illustrate that the way of living of fringe people has improved. People now have access to the modern physical facilities. In the past, People were not much interested in education but now it gets higher priority and children are getting opportunity to go to school and college. The study also reveals some indication of social mobility in urban fringe area. Education level, land stock, family size and profession are the determining factors of social mobility.

### **5.2.3 Economic aspects**

According to Davis, S. (cf. Mc Gee, 1971), urbanization in the Western world had a strong connection with economic growth. The principle economic feature of the process was the shift from agricultural to non-agricultural occupations. Similarly, Bryant et al. (1982) states that urbanization has created a market of non-farming job opportunities, which have attracted agricultural labour to move from farm employment into urban employment. On the other hand, growth of the cities provides a market for the agricultural products. It begins a process of commercialization of agriculture in urban fringe area.

The study reveals that the occupation shift is taking place in the urban fringe but the rate of occupation shift is rather slow. People are practicing multiple professions in a single household. In general, males are working outside in other secondary and tertiary professions and females are working in agriculture.

In the American and European context, urbanization gives opportunity for farmers to shift their occupation to other sectors than agriculture. It also provides opportunity to expand their land through land consolidation. The thesis reveals that haphazard urban development in fringe area of Kathmandu hinders the possibility of commercialisation of agriculture. The plot size becomes so small that agricultural practice is not economically beneficial so people are selling land whenever they need money to invest for the family. It affects the farmers very seriously because they are losing land stock continuously and thus the level of income from agriculture.

The thesis reveals majority of people are having low level of monthly income and they are living in subsistence economy or less than subsistence level.

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# Chapter Six

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## CHAPTER SIX

### Recommendations

Comparative analysis of both unorganised development and planned development reveals strengths and weaknesses those interventions. The recommendations of the study suggest the strategies for future planning interventions in urban fringe incorporating the strengths and mitigating the weaknesses. Thus the farmers and the landowners of the fringe also could enjoy the benefits of urbanization.

- In unorganised development, the study suggests that land subdivision in urban fringe is haphazard and incoherent so some inner plots are deprived from proper accessibility. It is not a desirable aspect because the land remains as waste and land parcels could not be used in their full economic potential. This weakness can be reduced or eliminated in planning interventions. In most of the formal planning interventions, infrastructures are furnished at the beginning of the project which is underutilized for a longer period of time as the building activities start slowly. The farmers get deprived of practicing agriculture and reduced land parcel results in reduced productivity. This could be managed by staged development based on long term planning action. Institutions like VDC could take initiative in this regard. Local Self Governance Act -1999 has given planning authority to the VDCs too. The concept of guided land development (GLD), which is implemented within the municipalities of Kathmandu Valley, should be applied at the initial level of planning in the fringe area. VDC would prepare a comprehensive plan of road network comprising urbanizable areas and identify phase wise intervention so that it would help in control haphazard development and the serviced land could be supplied incrementally in the market. It would help farmers to continue with agriculture occupation.

- The study suggests that occupation shift of the local people are gradual and still most of the households practice agriculture as major source of income. In such a case, there still is a need of agricultural land to support the economy of local people. Planning intervention should provide an opportunity to practice agriculture. Prime agricultural land preservation scheme should be thought and developed accordingly.
  - Settlements should be allowed only in those areas where agricultural activity do not viable. In this case, government institutions should play pro-active role and designate some area as exclusively agriculture zone where building permit would not be allowed. It provides opportunity for the farmers to buy agricultural land by selling developed land if they want to practice agriculture.
  - The minimum plot size in the fringe area should be reviewed from the present eighty square meters to a larger area which could be used for agriculture purpose too. Subba (2003) suggested the minimum plot should at least be about five ropanis (2500 square meters). Subba argued that this size of agricultural land yields crop which is about sufficient to feed a family of five throughout a year.
- Image of the planned area is, most often, associated with full-furnished motorable access to all the plots. Participatory planning approach such as land pooling demands more land contribution to provide motorable access to each plot. Its effect ultimately reflects in the increased land price which is sometimes beyond the affordability of the needy people. If we could develop an incremental development approach which demands lesser land contribution that would ultimately help in maintaining the land price. When community feels the need to have wider road it could be developed by the contribution of the respective landowners. For this, ultimate road width must be conceived at

the beginning and accordingly bye laws should be developed to preserve the land from construction purpose.

- Social relationship in planned area was found to be decreasing which is not a good sign. The relationships should be increased by planning interventions too. The peripheral settlements should also be incorporated while planning physical and social infrastructures. Road, electricity, water supply, drainage should also be extended towards immediate periphery so that they would also be benefited from the planning activity carried out in their periphery and it would help them to make a good relationship with the new neighbours. Commercial area, community halls, schools, libraries should be located in such a way it would act as a medium of social relationships. Mutual help could be established in maintaining the infrastructures and using the services.
- The study revealed that people were much inclined towards small scale business. If the original landowners compensated by commercial plots at strategic locations then it would help them to continue their business.



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# Appendix

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## Questionnaire form

उत्तरदाताको नाम :

उमेर .....

लिंग : पुरुष  महिला

शिक्षा .....

छोरा, छोरीको संख्या

जम्मा ..... छोरा ..... छोरी .....

स्कूल जाने छोरा छोरीको संख्या

जम्मा ..... छोरा ..... छोरी .....

परिवारको संख्या .....

1) तपाईंको क्षेत्रमा भइरहेको शहरी विस्तारले के के कुरामा परिवर्तन ल्याएको महशुस गर्नुहुन्छ?

2) तपाईंलाई सामाजिक परिवर्तनको सन्दर्भमा केही प्रश्न गरिदिएँ, निम्न लिखित प्रश्नहरूको उत्तर दिई सहयोग गरिदिनुहोस ।  
I. टोलका मित्र तथा छिमेकी विचको पारस्परिक सहयोग कस्तो महशुस गर्नु भएको छ? र त्यसको कारण के होला ?

II. यस स्थान संगको परम्परागत विशेषतामा केही परिवर्तन पाउनुभएको छ?

3) आज भन्दा २० वर्ष अघि तपाईंहरूको कति जग्गा थियो ?

4) अहिले तपाईंको कति जग्गा छ ?

5) यदि तपाईंले जग्गा विक्री गर्नुभएको छ भने,  
I. त्यसको कारण के होला ?

II. कुन समयमा कति जग्गा कति मूल्यमा विक्री भएको हो?

6) तपाईंको परिवारको प्रमुख आयको स्रोत के हो?

7) तपाईंको परिवारको २० वर्ष अघिको प्रमुख आयको स्रोत के थियो ?

8) तपाईंको मासिक आमदानी निम्न उल्लेखित मध्ये कुन मा पर्दछ ?

I. रू ५,००० सम्म

II. रू ५००० - रू १०,०००

III. रू १०,००० - रू २०,०००

IV. रू २०,००० भन्दा बढी

9) तपाईंको परिवारको स्वामित्वमा रहेको गाडी भए उल्लेख गरिदिनु होस ।

I. कार/जिप ..... संख्या

II. मोटर साइकल/स्कुटर ..... संख्या

III. साइकल ..... संख्या

IV. अन्य ..... संख्या

10) २० वर्ष अघि र अहिलेको जीवनस्तरमा कस्तो परिवर्तन अनुभव गर्नु हुन्छ?

11) हाल बसिरहनुभएको घरको अवस्था कस्तो छ?

I. बाटो

मोटरवाटो

पैदलवाटो

II. विजुली बत्तीको सुविधा

छ

छैन

III. खानेपानीको सुविधा

छ

छैन

IV. घरको प्रकार

पक्क

कच्ची

टहरा