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A POLICY STUDY ON URBAN HOUSING IN NEPAL

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Inputs from various stakeholders during interactions at Advisory Committee meetings, and the workshop organized by the EPN Focal Unit have been incorporated in the report.

Foreword

Economic Policy Network (EPN) initiated in August 2004 is an undertaking of the Government of Nepal with an Asian Development Bank (ADB) Technical Assistance (TA) to develop and institutionalize an open, responsive and result oriented economic policy formulation process based on sound economic analysis and dialogues with the partnership of public and private sector, academia, and independent professionals, to support and consolidate the Government's economic policy reforms on poverty reduction strategy. The initial focus has been in the areas of macroeconomic management; trade, investment and employment; infrastructure development; and tourism, agriculture, and regional development through four thematic advisory committees chaired by the secretaries of the respective implementing ministries, and guided by a high-level steering committee. The present study is an outcome of the initiative under the Advisory Committee for Economic Policy on Infrastructure Development chaired by the Secretary of the Ministry of Physical Planning and Works.

This report has reviewed the process of urbanization, constraints of owner built housing and rental housing and the housing situation in major cities of the country. The report has attempted to evaluate the housing development in Kathmandu in terms of quality of dwelling units, basic services and facilities, tenureship, financing mechanism and maintenance of housing colonies. The recommendations are the outcomes of consensus reached among major stakeholders through various consultations and the EPN workshop. I hope the findings and recommendations will be helpful for policy makers for future reforms.

I would like to thank Prof. Dr. Jiba Raj Pokharel for carrying out the study. I also thank all those who have provided inputs for the report during the interactions, the advisory committee meetings, and the EPN technical workshop held in Nepal Administrative Staff College, Jawalakhel, Lalitpur. The work of the advisory committee for Economic Policy on Infrastructure Development is to be commended for selecting the issue and for following through with the study. I would also like to appreciate the entire EPN team for their hard work. Last but not least, I would like to thank the ADB for supporting this initiative.



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Executive Summary

This world is characterized by the fulfillment of the needs of the living beings in general and the human beings in particular. Needs, especially the basic ones have to be fulfilled at any cost. The inability to do so leads to disturbances of several kinds. Housing is one of the basic needs and hence it should be given emphasis by the Government.

The urban housing deserves especial attention because of the larger contribution that urban areas make to the Gross Domestic Product of the country when compared to its rural counterpart. In Nepal we find more than sixty per cent contribution of the urban areas to the country's gross domestic product despite lesser investment made to it. In fact more investment needs to be made to the urban areas due to its potential to contribute to the country's economy.

The need of the urban housing is increasing with the passage of time with faster pace of urbanization underway in the country. The new millennium is an era of urbanization and we cannot wish it out of existence. In fact, urbanization should be considered as an asset more than liability. It should be made use of for bolstering the economy of the country. Example can be cited of Uganda that made investment in the urban areas due to the rural areas being disturbed by the conflict, which reduced the poverty dramatically. It is thus necessary that the urban housing needs to be given much attention for which there is the need of a policy. This policy paper revolves around the following objectives:

- Review the process of urbanization in Nepal and the housing situation in major cities of the country.
- Review the present constraint of owner built housing process and the rental housing market in urban areas
- Analyze the role of land brokers in the delivery of housing plots to urban dwellers and the supply of developed housing plots through land development schemes undertaken by the Government
- Analyze the private housing development in Kathmandu in terms of quality of dwelling units, basic services and facilities, tenureship, financing mechanism and maintenance of housing colonies
- Suggest necessary policy reforms and recommendations
- Suggest a policy- action matrix containing
 - a. constraints (policy, legal, institutional, administrative and others if applicable
 - b. recommended policy improvements
 - c. activities
 - d. indicators of achievement
 - e. responsible agencies
 - f. time frame (immediate, intermediate and long term)

It has been found that a good housing contributes to efficiency, enthusiasm and energy of the people who can contribute meaningfully to the country's economy. Unfortunately, the urban housing scenario is not encouraging in Nepal. More number of people are living on rent, the overcrowding indices is high, the infrastructure is not meeting the needs of the people whether it be water supply or sanitation. The number of squatters is increasing and the slum areas are also following the same trend. The financial resource is not available easily. The land plots are difficult to find. The urban houses are in dilapidated state

and need up-gradation. Much of the housing is vulnerable to earthquake and flood. Most of the houses are owner built and lack the expected attribute, as would be the houses built by organized sector such as the housing companies. The database is very limited. There was a survey done known as the Nepal National Housing Survey but it was back in the early nineties and these data have only indicative meaning more than quantitative and qualitative. The Nepal Living Standard Survey does not provide all the necessary data about housing even though one section is devoted to it. For example, the information of the valley cities have been lumped into that of Kathmandu Valley and rest of the cities are given under the other urban areas.

The Government has made some effort to cater to the need of the housing plots. But these are far from adequate. The private sector is a recent entrant in this arena and it is not making the desired effect. It appears that only ten per cent of the requirement is fulfilled by the private sector. People look at it with suspicion than comfort because of some of the housing company's alleged tendency to make quick money. The Act on Real Estate Business has been drafted and submitted to the parliament. Many problems related to the land will be solved once the Act is enforced.

The rental housing has a significant market. But there is no Act to administer it in the interest of the landlords as well as the tenants. Nepal Tenant Society is initiating necessary action in this regard.

The Housing companies have been operating since some time now and have been providing quality housing except one or two but they have been catering to the need of rich classes only. The poor cannot afford to have housing inside such colonies. Contrary is the case in India when the Government has made it mandatory to cater to the need of economically weaker section of the society along with those of the higher income group through cross subsidy. These companies have made some suggestions the implementation of which is likely to make some positive contribution to this sector. Very importantly, if it is made mandatory to follow the existing bye-laws the problems of congestion as it is seen these days can be lessened to a great extent. This is necessary because only the organized housing can solve the urban housing problems. The owner built housing is not going to solve it as has been seen at the present.

In this context there are series of constraints that the urban area is facing at the moment. These are the lack of finance, unavailability of the serviced land plots, the lack of optimally efficient building materials and construction technology, the lack of suitable legislation about rental housing and providing housing to the poor people, the need to upgrade the dilapidated housing stock, lack of housing for disadvantaged groups such as the old, the orphans and the street children and above all the lack of recent data in housing. These problems need to be solved in two phases immediate, intermediate and the long term. These have been given under the matrices.

The policy addresses not only the twin urban areas of the Kathmandu Valley and the other as provided in the Nepal Living Standard Survey, 2004 but also on the would be urban areas which are significant in number.

Chapter I

A Policy Study on Urban Housing

1.1 Introduction

Human activities form an important spectacle of the daily world. Psychologists have opined that the fulfillment of the needs trigger the human activities. So the needs are one of the most important features of this world (Lang 1994).

Housing has been recognized as one of the three basic needs, the other two being food and shelter. Good housing contributes to increased activities of the human beings (Gupta 1995) leading to the development of the country. Most of the countries round the globe have developed because of the priority given to the housing needs. China for instance spends 6 per cent (ADB, 2004) of its GDP on housing and India 4 percent (Planning Commission Report 2002). It is no wonder then that they are attaining high-level growth, double-digit growth in the case of China every year. Nepal in turn spends only 0.05 per cent of GDP in housing (NPC 2002 The Tenth Plan: 427).

Housing is understood as a place of human habitation, which has physical, social and cultural infrastructure, however, with a very thin line of separation among them. The land, building and roads fall under the physical realm. Hospitals, Schools fall under the social arena. The temples, churches, the mosques, prayer halls each fall on the cultural avenue. All the three infrastructures have to be available in order to be recognized as a good housing. The absence of one leads to an incomplete housing. Housing can be classified as rural and urban housing.

The urban housing attains increased significance because the countries receive more contribution from the urban areas. At the present, the urban contribution to the National GDP in Nepal is 62 % (NPC 2002: 48) with its rural counterpart contributing only 38 per cent. The Twelfth Plan is expecting a 75 per cent contribution from the urban areas. It would be a far-fetched proposition to seek higher contribution from the urban area if the urban housing is not given due attention. According to Nepal Living Standards Survey Reports (CBS 2004), only 77.8 per cent of the people in the urban areas felt the provision of housing to be adequate, 21.6 per cent of the people found it inadequate (Annex 1.1).

Urbanization refers to the process of growth in a higher proportion of population living in urban areas. The concept of urbanization has been related to specialization, industrialization, and consequent economic development. It is found that there is a general consensus that a fundamental characteristic of urbanization is the structural shift in employment from agriculture to non-agriculture pursuits. It can be stated that urbanization is often taken as a proxy for the level of development in general.

Nepal had announced a Shelter Policy in the year 1996 (MHPP 1966) according to which the objective was to fulfill the needs of housing by the year 2006 in two phases. The first phase spanned from the year 1996 to 2001 and the second from 2001 to 2006. Accordingly, some 2.5 million dwelling units had to be constructed, 17 per cent of them being in the urban areas. This is based on the calculation of the deficit of 9085 houses in the urban areas (Annex 1.2). Similarly, 732,000 houses had to be upgraded of which 60,000 were in the urban areas. The Government had switched its role from that of an executioner to that of a facilitator.

There are very few data available for the urban housing in Nepal at the present. The first one is that of Nepal National Housing Survey (1991). The second one is that of the Nepal Living Standard Survey (2004). The third one is the study made by the researchers. These three data have been used in this paper. Available data indicates that there were 3,000,000 dwelling units in Nepal in 1991, 300,000 units being in the urban area. In 2001, there were a total of 3,598,212 dwelling units, 436,533 units in urban areas. This indicates that there is an increment of 13,653 urban dwelling units every year (CBS 2003: Population Monograph Vol. I).

One of the problems is that the urban areas continue to have rural characteristics to a considerable extent because the determination of the urban areas has been made on the political grounds more than technical ones. The dependence of wood as fuelling material and the practice of fodder collection reflects this reality (Annex 1.3, 1.4).

1.2 Objectives

The objectives of this paper are as follows:

- Review the process of urbanization in Nepal and the housing situation in major cities of the country.
- Review the present constraint of owner built housing process and the rental housing market in urban areas
- Analyze the role of land brokers in the delivery of housing plots to urban dwellers and the supply of developed housing plots through land development schemes undertaken by the Government
- Analyze the private housing development in Kathmandu in terms of quality of dwelling units, basic services and facilities, tenureship, financing mechanism and maintenance of housing colonies
- Suggest necessary policy reforms and recommendations
- Suggest a policy- action matrix containing
 - g. constraints (policy, legal, institutional, administrative and others if applicable
 - h. recommended policy improvements
 - i. activities
 - j. indicators of achievement
 - k. responsible agencies
 - l. time frame (immediate, intermediate and long term)

Chapter II

Review the Process of Urbanization in Nepal and the Housing Situation in Major Cities of the Country.

It can be seen that there are two parts in the aforementioned objectives and they are, firstly, the process of urbanization in Nepal and secondly, the housing situation in the major cities of the country. These two have been highlighted separately in the following.

2.1 Process of Urbanization in Nepal

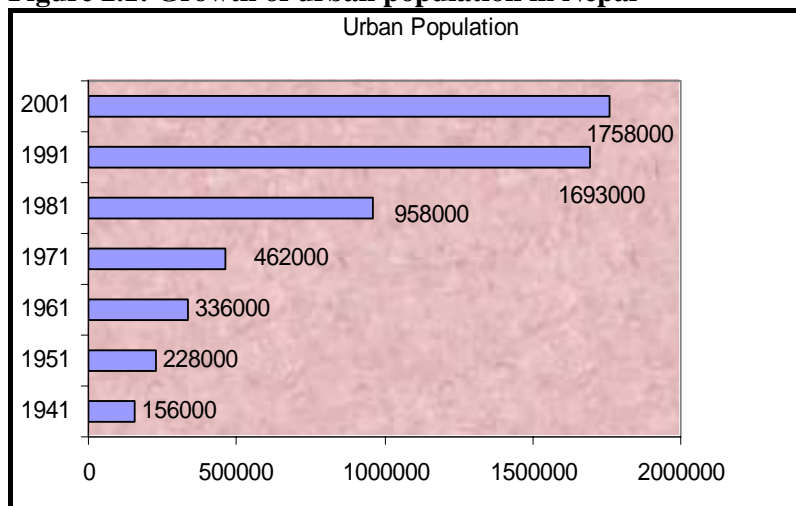
The Oxford Dictionary has defined process as a series of things that happen, especially ones that result in natural changes. Urbanization in turn is understood as a phenomenon connected with the town or the cities. Town is perceived as a place with many houses shops/stores etc. where people live and work. The city is generally known as a large and important town (Eisner et al 1993). The aspect that is common to the towns and the cities are the dominance of non-agriculture trades such as the industrial ones. Services and industrial activities assume a leading role and agriculture is very minimal in the urban areas. These days a concept of urban farming has emerged which, suggests that at least ten per cent of food requirement of the urban areas should be met from within for environmental reasons. So urbanization is characterized by the domination of non-agriculture trades.

Urbanization in Nepal is believed to go back as far as the second century when Lichhavis were ruling in Nepal (Levi 1905). It was then understood as a comparatively more dense a settlement. But the urbanization as we understand now as the adoption of the industrial and service trades and the abandonment of the agriculture trades is a recent phenomenon in Nepal.

Urbanization in Nepal has its point of departure in the migration of the people from the inaccessible villages to places with access, which offers opportunities for employment, education and health. The migrant population is 36.6 per cent in the country (NLSS: 2004). Whilst 81.5 per cent of the people are migrants from VDCs, only 5 per cent are the migrants from the municipalities. 75.2 per cent of the migrants had left their place for family reasons, 11.6 per cent had done so for easier life style. 6.8 per cent migrated looking for job.

Urbanization is also synonymous to increased housing activities. Housing activity in Nepal in particular begins with the purchase of the building plot, which is then followed by the construction of the building and the reception of services. This is a traditional approach to housing. The more scientific and the modern approach is believed to begin from the plot, the provision of infrastructure and then the construction of the dwelling unit. What is a village suddenly transforms into municipality in the process of urbanization.

Figure 2.1: Growth of urban population in Nepal



The first municipality to come into being was during the rule of Ranas in the year 1947. It began with the announcement of then the Prime Minister Padma Shamsher to hold an election for the Municipality. Prime Minister Juddha Shamsher set up a Civil Service Department (Jana Sewa Bibhag) during his regime. At that time there were 3 towns in Nepal; Kathmandu, Lalitpur and Bhaktapur (until the end of the regime). The number of urban population was very low but as can be seen from the following table, there has been a steep increase in the urban population, which has reached 14.2 per cent in the year 2001.

Table 2.2: Percentage and growth rate of urban population

Census Year	Percent of Urban Population	Percent of rural population	Annual growth rate	
			Urban	Rural
1952/54	2.9	97.1	-	-
1961	3.6	96.4	4.53	1.56
1971	4	96	3.23	2.03
1981	6.4	93.6	7.55	2.40
1991	9.2	90.8	5.89	1.79
2001	14.2	85.8	3.44	1.85

Source: Nepal Population Report MOPE: 2061

The table clearly indicates that over the period of last forty years, urban population has increased by around 400%. The urban population growth rate is almost double of the rural population.

The definition and delineation of the town has been revised from time to time (Annex 2.1). In Panchayat period municipality was called town Panchayat. Until the end of the Panchayat regime there were 33 town Panchayats and with the establishment the municipality its number has increased to 58 having different population (Annex 2.2). The municipality has also been classified into different categories like (a) Municipal Corporation, (b) Sub-municipal Corporation, and (c) Municipality.

Box2.1: Provision of LOCAL SELF-GOVERNANCE ACT, 1999

This act provides the division of urban areas into different categories on the basis of population, sources of income and other urban facilities:-

- (a) Municipal Corporation,
- (b) Sub-municipal Corporation,
- (c) Municipality.

Each category has population and urban facilities as follows:-

- (a) Municipal Corporation : With the population of at least three hundred thousand and annual income source of minimum four hundred million rupees, having the facilities of electricity, drinking water and communications, having the main road and accessory roads of the town pitched, availability of highly sophisticated nature of service in respect of health services, having the necessary infrastructures as required for international sports programmes, availability of adequate opportunities for higher education in different subjects and having at least one university established and other similar adequate urban facilities and having already been existed as a Sub-municipal Corporation.
- (b) Sub-municipal Corporation : With the population of at least one hundred thousand and annual income source of minimum one hundred million rupees, having the facilities of electricity, drinking water and communications, having the main roads of the town already pitched, having the facilities of higher level education and health services, ordinary facilities for national as well as international level sports programmes, having the provisions of public gardens and city halls and other similar necessary urban facilities and having already been existed as a Municipality.
- (c) Municipality: A semi-urban area with a population of at least twenty thousand, and annual source of income of minimum five million rupees and with electricity, roads, drinking water, communications and similar other minimum urban facilities.

Provided that in the cases of mountainous and hilly areas, a population of at least ten thousand and annual source of income of minimum five hundred thousand rupees shall be sufficient even if there is no road facility.

It can be seen from the above that urbanization is showing an upward trend and it cannot be wished out of existence. Urbanization should be considered as an asset and not as a liability. At the present, only 72 per cent of the people own houses in the urban areas (NLSS 2004). It was 66 per cent in the year 1990. It shows that the number is going up which is very encouraging indeed. So, there is a need of a proper policy so that more number of people may get housing in the urban areas.

2.2 Housing Situation in the Major and Would be Cities of the Country

Housing situation is understood as the circumstances and things that is happening with housing at a particular time and place. It can be perceived as the existing condition of housing also. The housing condition is known by means of a few parameters and they are stock by housing type, stock by tenure, over crowding indices, household income, level of services, major problems faced, conditions of house, satisfaction level of the present house, household characteristics, major characteristics by household income level.

Whether or not a city is major is determined by the degree of population living in that city. Accordingly, the major cities of Nepal are Kathmandu, Lalitpur, Biratnagar, Pokhara and Birgunj with a population of 671,846, 166,674, 162,991, 156,321 and 112,484 respectively in the year 2001 (CBS 2003- Annex 2.3). Out of these five cities, Biratanagar, Kathmandu and Pokhara have been taken because they fall represent all the three ecological belts- the Terai, hills and mountains and also the eastern, central and the western development region.

2.3 Would be Cities

Apart from these there are some thirty-five towns, for which the decision has been taken to promote them to the status of the sub municipalities. But this decision has yet to be implemented. The information regarding housing of these cities are very little or none at all. In this study, the information of Lubhu town has been incorporated to the extent available. The housing conditions of the urban areas and those and these three cities altogether with those of the would-be cities to the extent available are given in Annex 2.4.

The following issues emerge after the study of the conditions of urban housing in Nepal.

- The squatter population has almost touched 10 per cent in the urban areas (Annex 2.4.)
- The temporary housing type is more than half of the total housing (Annex 2.4.)
- The number of renters is quite significant with 23 per cent (NLSS 2004)
- 17 per cent of the people still defecate in the open (NLSS - Annex 2.5.)
- 30.6 per cent of the urbanites are still using wood as the cooking fuel (NLSS 2004 – Annex 2.6)
- Only 87.4 per cent of the people are using electricity for lighting purposes (NLSS 2004- Annex 2.5)
- Only 53.3 per cent of the urbanites have access to piped water (NLSS 2004- Annex 2.7)
- The buildings with damp walls and leaky roofs are close to 10 per cent needing for the up-gradation of the existing houses. (NLSS 2004)
- 21.6 per cent of the people feel that the housing that they are using is inadequate (NLSS 2004)
- the buildings are vulnerable to earthquake and flood

The other attributes of the dwellings in the urban areas are given in Annex 2.8-2.15.

The urban areas are very important on the virtue of their higher contribution to the economy of the country. In Nepal, this phenomenon is very prominent despite very little investment made in the urban areas compared to their rural counterpart. The first Government after the restoration of multi party polity in Nepal following a People' Movement in the year 1990

invested 70 per cent of its budget in the urban areas. Other studies have shown that the investment in the urban areas is just 2 per cent (World Bank, 2003). It is because majority of the people live in the rural areas. In this age of vote polity, the reversal of this prevailing trend is just unimaginable though it is true that the investment in the urban areas produces a multiplier effect, which eventually filters into the rural areas. The recent example is that of Uganda which invested all budget in the urban areas due to the conflict prevalent in the rural areas. The result was phenomenal. The poverty showed a dramatic reduction. This successful story of Uganda is known all over the world.

Urban areas are fast losing their identity. The Kathmandu World Heritage Site was put in the danger list but fortunately it has been ejected from this list. But still, the new buildings that are being constructed are not enhancing the existing architectural milieu.

The most critical problem facing the urban areas is its earthquake vulnerability. As is evident from the earthquake of the year 1934, the urban areas are going to be badly affected in the aftermath of an earthquake. The urban areas in the Plains are susceptible to flood while the ones in the hills are vulnerable to landslides and debris flow. But nothing so significant has been done so far in this direction.

Studies have shown that the historic core urban areas can be made earthquake resistant and identifiable at a profit of 15 to 20 per cent. This approach has been successfully carried out in Dharavi, Bombay. This concept needs to be implemented in Nepal as well.

For the flood in the cities in the plains, the construction of dykes can be a proper solution. Such approaches have been made in the west and also in China. These dykes can be constructed free of cost by making use of the wasted land and it can be a resource due to significant amount of sand available after the rainy season.

2.4 Impact of Urban Housing

The impact of urban housing can be seen clearly in three levels- physical, social and cultural. In the physical level, the agricultural land has been increasingly occupied and the open areas have diminished dramatically. In the social level, the migrant population have formed considerable chunk of the city population. The cultural impact is that there has been its erosion due to the indifference of the migrant population to the culture of the cities.

2.5 Zoning and Urban Housing

The concept of zoning appears to have been implemented in Kathmandu and Lalitpur in the early nineties with the execution of Building Bye Laws according to which the whole of the city has been divided into nine zones. These are the old city zone, residential zone, institutional zone, industrial zone, conservation zone, city extension zone, surface transport zone and play as well as recreation zone. The residential zone has again been divided into commercial sub-one, dense mixed habitation sub-one, other residential zone, planned residential zone. The concept of zoning has not been enforced in Nepal very seriously. Again a strict zoning system has been discouraged in the west due to considerable time spent to travel between the work of place and stay. Hence, the mixed zoning system is being slowly promoted in those countries. But in Nepal the lack of a clear-cut segregation between the industrial and the residential zone is a case of worry. Again, the residences have been converted into Schools and medical nursing homes, which is also equally alarming.

Chapter III

Review the Present Constraints of Owner Built Housing Process and the Rental Housing Market in Urban Areas.

Constraint with respect to an object is understood as a thing that limits or restricts on the freedom to do something with that object. The owner built housing is the one, which is constructed with the involvement of the owner right from the beginning to the end as opposed to the houses of a housing colony where the builder is engaged in this job. 63 per cent of the houses in Nepal continue to be built in this mode even in the urban areas even though the housing colonies have been emerging speedily especially in Kathmandu (Annex 2.4). The attributes of different housing tenures are given in Annex 3.1 and 3.2.

The first constraint is the lack of necessary financial resources. The per capita income is Rs 15,162 in the country of which that of the poorest 20 per cent of the population is Rs 4,003 and that of the richest 20 per cent is Rs 40,486 (NLSS 2004). The national per capita consumption is Rs 15,848 of which only 9 per cent is on housing that too on housing rent. 47 per cent of the loans are borrowed for household consumption, 29 per cent for the personal use and 24 per cent for business or farm use. One finds no loans taken for the purpose of housing (NLSS 2004). In the urban areas, 51.9 per cent of the people feel that cash savings was the most important source while 19.5 per cent felt that land sale was the most important for purchasing the land (NNHS 1991- Annex 3.3). Similarly, the cash savings and the land sale were the most important source for the construction of house for 48.5 and 20 per cent of the people. The employee loan and the bank loan were mentioned as the most important sources by 7.7 and 4.6 per cent respectively (Annex 3.4).

3.1 Loan for Housing

Previously, housing loan was not available from the financial institutions to commoners. It was available to employees of financial institutions such as Banks as an incentive.

Karmachari Sanchaya Kosh (KSK) started providing housing loan in 1971/72 A.D. for the depositors with the interest rate ranging from 8 to 12 percent. The loan period was up to 25 years or until the age of retirement. The collateral of land title and personal guarantee of 2-year salary was required for this purpose.

Presently KSK provides housing loan to the depositors for the areas in Pokhara, Biratnagar, Lekhnath, all municipalities of Kathmandu valley and the adjacent villages. The maximum amount of loan is calculated as the salary amount equal to ten years with the salary of the first year as the basis. The interest rate is 8 per cent and the loan duration is a maximum of 20 years.

Nepal Housing Development Finance Company (NHFDC), established in the year 1989, is the first finance company completely focusing on the housing sector set up in Nepal. It grants loan for improvement of existing housing arrangement, launching new housing schemes, and providing housing related services. The loan amounts and the monthly installment of the loan are as follows:

Loan Amount(Rs)	Loan Duration		
	5 years	10 years	15 years
100000	2224.44	1434.71	1200.17
500000	11122.22	7173.55	6000.84
1000000	22244.45	14347.09	12001.68
150000	33366.67	21520.64	18002.52

The loan giving institutions were very few in the past but now their number is increasing as can be seen from Annex 3.11. Presently, most of the financial institutions including cooperatives are offering housing loan. But the interest rate is still high even though many banks have appeared recently in the market as follows:

Financial Institutions	Interest rate in per cent
Nabil Bank	8.5-9.5
Infrastructure Development Bank	11.5-12.5
Birgunj Finance Ltd	10-15
Kist Merchant	14-15.5
Nepal Investment Bank	10-11
Bank of Kathmandu	9-9.5
Machhapucchre Bank	8.25-9.5
N. B. Bank	9
NIC Bank	6.99-9.99
Lumbini Bank	8-10
Laxmi Bank	8-10
Sanima Bank	9.5-10.5
Standard Chartered Bank	8-9.5
Nepal Bank	7.5
Everest Bank	8-9.5

Source: Kantipur National Daily 30th July 2006

It has been found that 54.2 per cent of the people took 5 to 10 years to have enough saving for the purchase of the land (Annex 3.5). There is a proposal that those not constructing buildings after buying the plots having the plan of selling land on a higher price should be taxed. Because 29 per cent of the households have been found to hold the land for ten years (Annex 3.6). It is right to do so but such persons are difficult to identify. Because people are so exhausted economically after buying the land that they cannot construct house immediately.

The second constraint is the unavailability of the land. It has been found that 20.8 per cent of the owner builders were fortunate to inherit the land from the parents. But 59.2 per cent of the people had to buy the land for making a house (Annex 3.7.).

The third constraint is the unavailability of good designers. As a result, the buildings are designed in a very modern style even in the periphery of the World Heritage Sites. Moreover, they are not designed following earthquake resistant measures.

On the basis of the above, the following aspects deserve urgent attention.

- People should get opportunities for loan to ease their financial burden

- Serviced plots have to be available in fair prices without having to wait for a long time
- The existing houses need upgrading
- Special shelter needs are necessary for the disadvantaged groups of the society
- Squatter problem should be addressed

3.2 Rental Housing Market in the Urban Areas

In the urban areas, one can see significant number of people living on rent. 78 per cent of these people have houses outside Kathmandu. 22 per cent of the renters pointed at job transfer as the reason for renting the house. 13 per cent rent for more convenient location (NNHS, P 53). The attributes of the renters are given in Annex 3.2. The other attributes of the renters are given in Annex 3.8-3.10.

The market is characterized by the demand and supply. The demand and supply have to match for an urban area to be more habitable.

3.2.1 Demand of Rental Housing

According to Nepal Living Standards Survey (CBS 2004), 23.5 per cent of the households have been found to be staying on rent in the urban areas. This forms the demand of rental housing in the urban areas in Nepal. The number of urban household as per CBS 2002 is 664,507. The households living on rent are thus 157,820. 78 per cent of these household have however houses outside Kathmandu in Nepal. Share of housing rent is 18.5 per cent of the urban income. The urban income is Rs. 183,709 per year (NLSS 2004). So the total expenditure on rent in the urban areas is Rs. 5.3 billion per year.

3.2.2 Supply of Rental Housing

The houses are constructed for several purposes. When inquired about the purpose of the construction of the house, 59.1 per cent said that it was for housing own family. 22.6 per cent said that it was for giving it on rent. In Kathmandu, this figure was 38 per cent. Another 12.8 per cent said that it was for addition of some space in the existing house (Annex 3.1).

If we take the households of Kathmandu it is seen that there is an increment of 30,000 households in four years (ISRSC: 324). So there is an increase of 7,500 households every year. The number of building permits taken in the year 2004 was 4,500. Given that 23.5 per cent of these households live on rent and 38 per cent have constructed the houses for giving on rent, it will be 1,760 verses 1,710, which means that there is a marginal shortage of apartments for rent. 1710 houses are available for 1760 renters.

Chapter IV

Analysis of the Role of Land Brokers in the Delivery of Housing Plots to Urban Dwellers and the Supply of Developed Housing Plots through Land Development Schemes Undertaken By the Government.

A study made by Management Support for Town Panchayats Project (MSTP) estimated that there was the requirement of 9,490 hectares of urban land from 1987 to 2002 for the 33 municipalities in Nepal, which suggests the need of 630 hectares of land every year. It has been found that one third of the houses constructed in the urban areas in the whole of country are constructed in Kathmandu and Lalitpur every year. 6541 building permits were issued in Kathmandu/Lalitpur in the year 2004, it can be said that 14000 houses are constructed in the urban areas every year in Nepal. The average area of the housing plot is 1448 sq ft (NLSS 2004) and hence there is a need of 200 hectares of land in the country every year. It has been found that 50 per cent of the people have plot size varying from 1000 to 5000 sq ft (Annex 4.1). It is the same for lowest and the highest 50 per cent of the households (Annex 4.2).

59.2 per cent of the owner builders in the urban areas buy the land from outsiders (MHPP 1992). Out of these 9.6 per cent receive land from the brokers. 13,653 houses are built in the urban areas every year (Annex 4.3). Hence, the owners receive 1310 plot of land from the brokers per year. The average area of the plot in the urban areas (CBS 2004) is 1448 sq ft. So, the total land provided by the brokers per year is 14 hectares. So, the land distributed from the year 1976 to 2006 will be 420 hectares. The Government has supplied 247 hectares under site and services approach, 3600 under GLD (exclusive of Lalitpur and Bhaktapur) and 600 under the Land Pooling Schemes, which comes to a total of 4447 hectares. So, the brokers have catered to ten per cent of the urban land supplied by the Government.

Land brokers in delivery of housing plots to urban dwellers came into existence in the late 70's. From 80's it became a lucrative business and many parties emerged in this scene. But after the slump of the land market in 1994 many parties left the job as they were badly trapped into the loans due to decrease in the land price. Only after the emergency the land price in the valley started to rise and there was a land transaction boom. But after the peace prevailing for more than 3 months the land transaction business has slumped.

Planned towns like Rajbiraj, Pokhara, Mahendranagar, Hetauda, Tulsipur and Tikapur have been conceived for creating good housing in Nepal. A study has shown that in Kathmandu Valley the government has only supplied about 10% of the developed land. The landowners and private parties called brokers supply the rest of the land.

Government had first initiated the providing the service land by the option of site and service programs as in Kuleswor (26.75 ha) and Golphutar (14.50 ha) of Kathmandu.

Table 4.1: Features of Site and Services in Kathmandu valley

Location	Area	Duration	Housing plots
Kuleswor	(26.75 ha)	1977-89	400
Golphutar	(14.50 ha)	1982-1989	511

However with the increased resentment of the landowners the participatory kind of land development was carried out. Guided land development and land pooling were the schemes

in this regard. In Guided land development access is either improved in already existing areas or new access is given to the inaccessible lands by the contribution of the landowners. In land pooling all lands of the owners are pooled together and after deducting some land, which is required for the creation of infrastructure, the land is developed and returned back to the landowners. The contribution of the land caters to all the development cost of the project with provision of open space allocation in the area. Then after land pooling initiatives have become a popular means of urban land development. Even the municipalities have come forward in doing land pooling for the supply of the service land.

Table 4.2: Land development in Kathmandu valley

Name	Area (In hectare)	Residential Land Use (in %)	Remarks
Gongabu	14.4	70.4	
Sainbu	22.5	44	
Lubhu	13.5	68.7	
Libali	34	66.5	
Dallu	34	60	
KamalBinayak	10.9		
Nayabazar	41		Municipality involvement
Sinamangal	36		
Siuchatar	26.9		
Bagmati Corridor	9.8		
Chamati	71.7		Municipality involvement
Manohara	200		Municipality involvement
Seneli tar	27.5		
Chabahil	10.88		
Bagmatinagar	62.35		
Total	615.43		

A study suggests that in the Kathmandu Valley, government could only cater less than 10% of the demand of the housing plots. Rest of the land is being delivered by the informal sectors that pool the land and sell by plotting (land subdivision). The irony is that the land supplied by the Private Sector considerably lacks the quality of space due to the presence of the meandering road, due to no consideration made of the natural drainage system and due to lack of public open space.

Chapter V

Analyze the Private Housing Development in Kathmandu in Terms of Quality of Dwelling Units, Basic Services and Facilities, Tenure Ship, Financing Mechanism and Maintenance of the Housing Colonies

Private housing development in the country in organized way started with Tashi Rijal industries entering into the scene in the eighties. But they were ahead of time as they could not sell the apartments due to the lack of necessary legislation. As a result, it had to be given on rent for a long time. Ansal Chaudhary Company was the first of its kind in rendering the services with the sale of apartments the *Kathmandu Residency* in Bagdol of Lalitpur. Then after, as many as 30 private companies have come forward in supplying the houses; but only 15 companies have got the necessary sanction from the Kathmandu Valley Town Development Committee (Annex 5.1). Even in Pokhara private companies have come forward in supplying the ready-made houses.

Table 5.1: Housing developers active in Kathmandu/ Lalitpur

Project	Location	Type
1. Kathmandu Residency	Badole, Lalitpur	Apartments
2. Mount View Residency I	Harisiddhi, Lalitpur	Apartments, duplexes
3. Mount View Residency II	Harisiddhi, Lalitpur	Apartments, duplexes
4. Comfort Housing	Sitapaila, Kathmandu	Independent houses
5. Sunrise Homes	Balkumari, Lalitpur	Apartments, duplexes
6. Civil Homes	Bhaisepati, Lalitpur	Independent houses
7. Subha Awas	Naya Naikap	Duplexes
8. Oriental Colony	Kuleshwor, Kathmandu	Apartments
9. Shangrila Villa	Gongabu, Kathmandu	Apartments, duplexes
10. Ace Apartments	Naxal, Kathmandu	Apartments
11. Kusunti Housing	Kusunti, Lalitpur	Duplexes
12. Paradise Housing Colony	Sano Bharyang, Kathmandu	Twin and Independent

Regarding the quality of dwelling units most of the housing colonies are made up of the frame structures (Annex 5.2.). All of them have provision of electricity and telephone and for the water supply they have been relying upon the underground water. House owner can directly transfer the tenure of the house by full payment at a time or pay money in installment basis and get the tenure ship after the all bills are paid to the company. The housing companies have very often provided the housing loan from the financial institutions. Usually there is a user committee is formed for the solid waste disposal and maintenance of the areas.

Quality is regarded as the fitness to the purpose. So far as the physical fitness is concerned, the houses built by the housing companies are fine. But these houses lack the economic fitness. People feel that the buildings that are constructed by the Housing Colonies are costly and the owners can construct such buildings in much lesser a cost.

For example a survey conducted in Stupa Housing in Buddha Nagar Baneswore showed that said that despite communication facility, the lack of open space, the lack of parking for the

vehicles, the weakness in management and security were sighted as the drawbacks. But in Sunrise Home, all the nine interviewed appeared happy despite some comments on the quality of construction. It can however be seen that the byelaws have not been fully implemented in the planning.

Moreover, these houses are only for the sophisticatedly rich class of people. They are meant for those who have a foreign job. Local people in general and the poor in particular do not have the opportunity to have housing in such premises. While in India, we can see how provision is made for Economically Weak Section (EWS), Low Income Group (LIG), with Medium Income Group (MIG) and Higher Income Group (HIG) to stay through cross subsidy. There should be a proper legislation to ensure such an opportunity for the poor in Nepal also.

These companies construct generally the buildings. But they do not construct the community buildings such as temples etc. In a large housing colony, there should be open spaces such as gardens and parks. Such provision is not seen in the housing colonies.

5.1 Suggestion of the Housing Companies

The Nepal Housing and Land Development Association (Kathmandu Valley Town Development Committee, 2062 BS) have given a suggestion so as to be able to make more contribution towards the shortage of the urban housing. Some of them are

- Availability of facilities at par with the other industries as housing is registered under the Ministry of Industries
- The need for interaction with the Housing companies regarding the bye laws
- The need for any Housing Company to be the member of the Association before applying for permit
- The need to reform the bye laws because of their outdated character
- The Association to be made the member of Kathmandu Valley Town Development
- The initial open space to be maintained as the proposed increase will increase the cost dramatically

Chapter VI

Suggest Necessary Policy Reforms And Recommendations.

The Shelter Policy made a two-phased effort in 1996 (1996-2001, 2001-2006) to cater to the housing needs of Nepal by 2006. Its policies were to

- Increase the availability of dwelling units and repair and maintain the existing stock by
 - increasing the supply of serviced land
 - increasing the necessary basic infrastructure services
 - improving the use of building material and construction technology
- Promote effective mobilization and allocation of financial resources by
 - mobilizing the land and building credit delivery mechanism
 - developing the process of cost recovery of public investment
 - increasing the financial self sufficiency of the shelter sector
- Improve the organizational structure by
 - mobilizing clarifying the role of public and private sectors for implementing the National Shelter Strategy
 - introducing the appropriate and effective laws and regulations
 - making arrangement for data base

Very little headway has been made in the area of providing sufficient numbers of serviced land plots through Site and Services Approach, Land Pooling and Guided Land Development. Some laws have been enacted and some are in the course of being so, appreciable number of housing companies have emerged in the private sector. Apart from this more need to be done in the area of shelter.

The Tenth Plan had the twin objectives of firstly providing with safe and cost effective houses by promoting systematic settlements and secondly to construct and develop safe, cost effective, environment friendly buildings that can display indigenous architecture. The strategy was to use private sector for this purpose. This has at the best minimally achieved. So, the policy takes these two strands forward in this paper.

Policy is regarded to have two parts, which are the ends and the means. The ends are what we want to achieve and the means are the tools that we use for this purpose. Our long-term objective should be that all the urban dwellers should get minimum shelter despite their inability to afford instantly. The immediate objective should be to ease the problems faced at the present.

Some of the problems faced by the urban areas in Nepal in housing are

- Lack of financial resources to own a house
- Unavailability of the serviced housing plots
- Lack of regulations favoring the poor and the deprived
- Unaffordable apartments constructed by the Housing Colonies
- Lack of housing for the disadvantaged groups

- Increment of squatting
- Loss of identity and vulnerability of the housing to earthquake

The means is certainly the Government. But the Government has expressed to act as a facilitator than executor. So, the public and private agencies have to join hand with the Government to make the realization of the urban housing needs a reality.

6.1 Lack of Financial Resources to Own a House

The Basic Need Program had recommended a building of 30 sq m in a land of 40 sq m. The total cost of this undertaking will be minimum of Rs 800000 (at Rs 10000 per sq m of building, about Rs 1,00,000 per *anna* which is 34.25 sq meter of land and the infrastructure)at the present. The annual median income of the urban areas is Rs 105,035 as per the Nepal Living Standard Survey 2003/04. The share of the housing consumption is 9%, which comes out to be Rs 9453.15. By this data we can see that it takes 84.78 years to own a house and land in urban area. So, for the construction of the residences in urban Nepal house owners sell land in addition to the cash saving. But this is not enough and they have to take the loan. According to NLSS, 23.2 per cent of the people in the urban areas take loans by putting collateral for land and housing. But the interest rate of the loan is still high. If the Government could form some kind of a consortium of the banks, then the interest rate could come down. Like in India, even poor people can afford a modest dwelling.

6.2 Unavailability of the Serviced Housing Plots

67.5 per cent of the people buy land from the landowners, which are seldom furnished with the required services. As a result, people first make the building and then make arrangement of the necessary services. This is in fact a very classical mode of carrying out housing activities and it is not scientific. So, there is a need of developing a mechanism by which people can receive serviced plots. The Site and Service approach adopted earlier on and the Land Pooling at the present is responding modestly to this necessity. But this is not adequate. The problem is that the Government generally takes long to materialize such projects, especially the Site and Services Projects, and the private sectors cannot carry it out effectively.

6.3 Lack of Regulations Favoring the Poor and Deprived

The country should make such a provision that even the poor people can get modest accommodation. This has been made possible in India through cross subsidy. Some attempt has been made in the recently drafted Real Estate Act by providing 10 per cent of the housing plots of between 50 to 70 sq meters in a price affordable for the poor. This is adequate for the urban areas because the recent urban poverty is said to be 10 per cent. But such a provision should be made for building as well.

6.4 Unaffordable Housing Sold By the Housing Companies

Only Oriental Housing sells flats at low prices (7.5 lacs). The other Housing Companies sell the flats at a higher price. Grace Apartment sells in a price ranging from 52 lacs to 75 lacs. These prices are certainly unaffordable for the average urban dweller. There should be a provision by which not only the rich but the poor also can stay side by side in a price affordable for them.

6.5 Lack of Housing for the Disadvantaged Groups

There are significant numbers of senior citizens, infants, and special need persons who need housing. But their requirement is not very well addressed in developing countries like Nepal. As a result, increased numbers of persons are seen lying on the streets creating an unpleasant situation. The Government should create facilities for such people.

6.6 Increased Number of Squatters

Squatters cannot be totally wished out of existence. There are such settlements in all the countries whether developed or developing. The main problem of such settlement is the degrading environment. So, the up-gradation of such settlements is very necessary.

6.7 Loss of Identity and Vulnerability to Earthquake

The historic core of Nepali cities, of the valley cities in particular, is fast loosing its identity. Moreover, these cities are also vulnerable to disasters such as earthquake. There is a great need to retain the identity and lessen vulnerability the core city.

Chapter VII

Policy Matrix

An immediate, intermediate and long-term policy matrix has been prepared as follows.

7.1. Immediate Policy Matrix

Constraints	Policy	Activities	Indicators of achievement	Responsible institution	Time frame
1 Vulnerability of the buildings to earthquake and flood	To make the buildings resistant to earthquake and to avoid flooding	Enforce the Building Code And initiate the construction of dikes in the rivers passing through the urban areas	More number of earthquake resistant houses constructed and the flood controlled	MHPW	One year
2. Lack of regulation	To facilitate the poor, the tenant and the landlords	Begin drafting of the laws	Increased facilities to the poor, tenant and the landlords	MHPW	One year
3. Lack of regulation for the Housing Companies to accommodate the poor	To facilitate the housing for the poor in the Housing Companies	Begin drafting of the laws	Increased facilities to the poor, tenant and the landlords	MHPW	One year
4. Earthquake Vulnerability and loss of identity	To make the urban core earthquake resistant and identifiable	Invest in one core area to show that the Project is profitable	Visibly earthquake resistant and identifiable	MHPW with the private sector	One year

7.2. Intermediate Policy Matrix

Constraints	Policy	Activities	Indicators of achievement	Responsible institution	Time frame
1. Finance Inadequate access to finance for housing	To make the loan available for housing	Create a consortium of the financing agencies	Increased reception of loan by house builders	MHPW/HA	Two years
2. Unavailability of serviced land plots	To make the land available for constructing the houses	Begin a NG sponsored land development projects for the low income households	Increased reception of the lands by the house builders	MHPW	Two years
3 Squatters are increasing	To improve the environment of the squatter areas	Upgradation of the squatter colony	Enhanced environment of the squatter areas	MHPW	Two years

7.3 Long term Policy Matrix

Constraints	Policy	Activities	Indicators of achievement	Responsible institution	Time frame
1. Research about building materials, construction technology and database	To make use of efficient building materials and recent data	Enter into MOU with academic institutions and review the Shelter Policy	Increased use of efficient materials and technology and recent data	MHPW	3 Years
2. Housing for disadvantaged groups	Creating senior citizens' homes, dormitories for sleeping for the infants and street children	Construct such houses in the city	Lesser number of such persons in the street	MHPW with charitable organizations	3 years
3. Dilapidated housing	To Upgrade the existing houses	Introduce home improvement program	Enhanced situation of the existing housing	MHPW and donor agency	3 years

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Appendices

Annex 1.1. : Degree of Adequacy

Degree of Housing Consumption by Degree of Adequacy			
	Kathmandu Valley	Others	Urban
Less than Adequate	13	26.3	21.6
Just Adequate	86.2	86.2	77.8
More than Adequate	0.8	0.8	0.6
Not Applicable	0	0	0.1
<i>Total</i>	100	113.3	100.1

Annex 1.2: Current Annual Production of New Units and Shortfall

Particulars	Urban Nepal	Rural Nepal
Annul Increase in Household	17,500	59,800
Annul Production of Dwelling Units	10,465	111,670
Gross Shortfall /Surplus Units per Year	-6758	51,870
Annual Units Required for Replacement	2,300	65,280
Net Deficit (Units per Year)	-9,085	-13,410

Source: Nepal Shelter Report

Annex 1.3. Distribution of households by place of firewood collection (percent)

Sn	Definition	Place Of Firewood Collection			
		Own Land	Community managed forest	Government forest	Other
1	Nepal	25.7	30.6	30.3	13.4
2	Urban Nepal	27.5	36.1	18.9	17.4
3	Kathmandu Valley	65.3	11.8	0.0	22.9
4	Other urban areas	26.6	36.8	19.4	17.2
5	Lalitpur				
6	Biratnagar				
7	Pokhara				
8	Birgunj				
9	Lubhu				

Annex 1.4 : Distribution of households by fodder collection by households (percent)

Sn	Definition	Percentage of Households that collect fodder	Distribution of collector households by place of collection			
			Own land	Community forest	Government forest	Other
1	Nepal	75.2	57.8	10.5	12.4	19.3
2	Urban Nepal	28.3	54.0	14.8	6.7	24.6
3	Kathmandu Valley	1.3	28.6	0.0	0.0	71.4
4	Other urban areas	43.1	54.4	15.0	6.8	23.8
5	Lalitpur					
6	Biratnagar					
7	Pokhara					
8	Lubhu					

Annex 2.1

Nagar Panchayat Act 1962

The *Nagar Panchayat Act 1962* officially designated *nagar panchayat* for designated urban areas, which became an urban administrative unit (Shrestha 2056 BS). Since 1962 the urban area is interpreted as a local self- government unit rather than a settlement unit per se. The act stipulated a population size of 10,000 and over for a locality to receive a municipal status and accordingly, not all urban areas designated in 1961 received municipal status. Based on the population size set by the act, sixteen urban localities were classified as *nagar panchayats* in 1971.

Annex 2.3: Population in major urban centers

Municipality	1952/54	1961	1971	1981	1991	2001
Kathmandu	106579	121019	150402	235160	421258	671846
Lalitpur	42183	47713	59049	79875	115865	162991
Biratnagar	8060	35355	45100	93544	129388	166674
Pokhara	-	5413	20611	46642	95286	156342
Birgunj	10037	10769	12999	43642	69005	112484

Source: CBS

Annex 2.4. : Existing Housing Conditions in Nepal
(Households by Percent, unless mentioned otherwise)

S.N.	Particular	National	Urban	Rural	NLSS 2003/04		
					Kathmandu Valley	Other	Lubhu
1	<i>Stock By Housing Type</i>						
	Squatter	7.81	9.09	7.64			
	Traditional	0.53	4.28	0.00			
	Kuchha	42.18	8.25	46.94			
	Semi Pucca	41.18	37.09	41.76			
	Pucca	8.3	41.27	3.67			
2	<i>Stock By Tenure</i>						
	Squatter	7.21	8.61	7.02			
	Renters	6.7	24.46	4.28	33.1	18.2	
	Owners				62.5	77.2	
	Owner Builder	18.33	12.87	19.07			
	Owner purchase	2.79	3.47	2.7			
	Owner Occupier	64.97	50.59	66.93			
3	<i>Over Crowding Indices</i>						
	Total Dwelling Unit Size(Sq.ft)	867.5	780.8	879.3			
	Per Capita Space (Sq.ft/person)	155.53	134.7	158.2			
	Number of persons per room	2.2	2	2.2			
4	<i>Household Income</i>						
	Median Monthly HH income (Nrs)		2517	1264			
	Average Monthly HH income (Nrs)	2313.6	4200.7	2059.1			
	Median Monthly/ Capita income (Nrs)	432.9	747.5	390.5			
5	<i>Level of Services</i>						
	<i>Defecating Place</i>						
	Indoor Toilet	5.59	37.23	1.27			
	Outdoor Toilet	17.58	33.63	15.7			
	Open Space	58.98	22.57	63.93			
	Rivers and Ditches						
	<i>Cooking Fuel Type</i>						
	Fire wood	84.45	55.3	88.42	2.5	46.1	
	Electricity	0.83	0.79	0.83			

	Illumination Type						
	Electricity	29.98	82.09	22.91	99.1	80.9	
	Kerosene	68.96	17.21	75.98			
	Drinking water supply						
	Piped water supply						
	in house	28.08	33.52	27.56	78.6	39.3	
	Public Stand Pipe	0.12	0.56	0.08			13% Hiti, 84% well
	Other	71.58	65.91	72.27			
6	Major problems faced in last 10 years						
	Fire	2.25	0.92	2.38			
	Wind	36.15	12.79	38.46			
	Leaking Roof	6.3	13.71	5.57			
	Damp Wall	1.69	7.86	1.08			
	Damp Floor	0.55	2	0.4			
7	Conditions of House						
	Good	20.6	26.34	19.82			19
	Average	67.61	61.98	68.37			45
	Bad	11.8	11.68	11.81			35
8	Satisfaction level of present House						
	Very Satisfied	3.98	10.91	3.02			
	Satisfied	63.37	66.37	68.37			
	Dissatisfied	32.67	22.72	34.02			
9	Household Characteristics						
	Family Size	6.3	6.3	6.4			
	Family Members Illiterate	3.4	2.1	3.6			
	No of Income earners	2.5	1.9	2.6			
10	Major Characteristics By Household Income						
	10.1 Lower Income Tenure under median HH						
	Family Size		5.3	5.6			
	Family Members illiterate		2.4	3.9			
	Monthly Household Income		1537.8	719			

	Monthly percapita Income (NRs)		360.8	153.9			
	No of income Earners		1.6	2.3			
	Total DU Size(sq.ft)		542.2	142.3			
	Per capita DU Size(sq.ft)		112.2	142.3			
	No.of persons per room		2.3	2.5			
	10.2 Higher Income Tenure under median HH						
	Family Size		7.4	7.2			
	Family Members illiterate		1.8	3.3			
	Monthly Household Income		6537.3	3319.5			
	Monthly percapita Income (NRs)		1143.6	3319.5			
	No of income Earners		2.3	2.9			
	Total DU Size(sq.ft)		1032.8	1085.6			
	Per capita DU Size (sq.ft)		157.9	174.2			
	No.of persons per room		1.7	2			

Annex 2.5: Access to various facilities (percent)

Sn	Definition	Access to various facilities				
		Electricity	Telephone	Sanitary System	Garbage Disposal	Toilet
1	Nepal	37.2	6.1	12.1	8	38.7
2	Urban Nepal	87.4	31.9	54.4	45	81.3
3	Kathmandu Valley	99.1	51.3	98.1	83	98.9
4	Other urban areas	80.9	21.2	30.4	24.1	71.6
5	Lalitpur					99.1
6	Biratnagar					76.5
7	Pokhara					94.9
8	Lubhu					

Annex 2.6: Distribution of households by main fuel used for cooking (percent)

Sn	Definition	Main fuel used for cooking				
		Wood	Cow dung/Leaves /Straw/Thatch	LPG	Kerosene	Other Fuels
1	Nepal	69.1	15.7	8.2	4.7	2.3
2	Urban Nepal	30.6	4.8	40.7	19.9	3.9
3	Kathmandu Valley	2.5	3.7	64.6	28.1	1.1
4	Other urban areas	46.1	5.4	27.6	15.4	5.5
5	Lalitpur					
6	Biratnagar					
7	Pokhara					
8	Lubhu					

Annex 2.7. : Distribution of households by Source of drinking water

Sn	Definition	Source of drinking water				
		Piped to House	Piped outside of House	Covered well	Open Well	Other
1	Nepal	14.4	29.5	37.2	4.7	14.2
2	Urban Nepal	53.3	14.3	25.3	3.4	3.9
3	Kathmandu Valley	78.6	9.7	5.8	3.0	2.9
4	Other urban areas	39.3	16.8	35.9	3.6	4.4
5	Lalitpur					
6	Biratnagar					
7	Pokhara					
8	Lubhu					

Annex 2.8: Main Physical Characteristics of Urban Housing Stock (total Covered Floor Stock)

Sq. ft	<100	100-175	175-250	250-500	500-750	750-1000	<1000
Percentage	1	4	6	24	20	16	29

Source: Nepal Shelter Report

Annex 2.9: Main Physical Characteristics of Urban Housing Stock (Number of Stories)

Storey	1	1.5	2	2.5	3	over 3
Percentage	42	1	40	0	16	1

Source: Nepal Shelter Report

Annex 12.10: Main Physical Characteristics of Urban Housing Stock (Number of Dwelling Units in Structure)

(Number of Dwelling Units In Structure)	1	2	3	4-5	6-10	10+
Percentage	92	5	2	1	0	0

Source: Nepal Shelter Report

Annex 2.11: No. Of years Age the Urban DU was constructed

Row =%	Upto 3Yrs	3-5 Yrs	5-10 Yrs	10-20 Yrs	20-40 Yrs	Above 40 Yrs	% of non response
Owner occupier	0.93	0.31	1.23	59.57	27.47	10.49	36.7
Owner builder	33.33	26.36	40.31	0.00	0.00	0.00	0.00
Owner Purchaser	25.00	12.50	50.00	12.50	0.00	0.00	77.3
Renter	36.36	27.27	9.09	18.18	0.00	9.09	95.6
Squatter	14.52	4.84	16.13	29.03	25.81	9.68	29.7
Total	11.42	7.87	13.30	40.07	19.56	7.68	

Source: Nepal Shelter Report

Annex 2.12 : Housing Type by Urban Tenure (Percentage Distribution)

Row =%	Squatter	Traditional	Kaccha	Semi pucca 1	Semi pucca 2	Pucca
Owner occupier	0.00	8.35	11.48	29.23	11.69	39.25
Owner builder	0.00	0.00	7.94	23.81	10.32	57.94
Owner Purchaser	0.00	0.00	0.00	37.14	5.71	57.14
Renter	0.00	0.43	6.09	32.17	11.74	49.57
Squatter	100.00	0.00	0.00	0.00	0.00	0.00
Total	9.09	4.28	8.25	26.85	10.24	41.27

Source: Nepal Shelter Report

Annex 2.13: Urban Household Income Quintile by Housing Type (Percentage Distribution)

Row =%	Squatter	Traditional	Kaccha	Semi pucca 1	Semi pucca 2	Pucca
1st Quintile	26.78	2.73	16.94	28.96	8.74	15.85
2nd Quintile	9.68	3.76	10.75	31.18	12.37	32.26
3rd Quintile	5.61	5.10	7.14	30.10	10.20	41.84
4th Quintile	2.62	3.66	4.19	21.99	8.38	59.16
5th Quintile	1.05	6.32	2.63	21.58	11.58	56.84
Total	8.99	4.33	8.25	26.74	10.25	41.44

Source: Nepal Shelter Report

Annex 2.14: Percentage of Urban Owner builder Household by income Level

	<1000	1000-1500	1500-2000	2000-2500	3000-5000	>5000
Percentage	5.4	16.0	9.9	22.9	19.9	25.9

Source: Nepal Shelter Report

Annex 2.15: Average Household Size, income earners, Monthly Household and Per Capita Income for urban Income Decile

Decile	Average HH size	Average no of income Earners	Monthly HH Income (NRS)			Monthly Per capita Income (NRS)		
			Minimum	Maximum	Mean	Minimum	Maximum	Mean
Lowest Decile	4.59	1.22	17	990	670	3	900	176
2nd Decile	4.94	1.35	1000	1333	1123	83	1240	290
3rd Decile	5.05	1.63	1367	1370	1533	118	1700	399
4th Decile	5.91	1.69	1750	2073	1945	103	2000	410
5th Decile	5.75	1.83	2083	2500	2346	139	2500	509
6th Decile	6.14	1.70	2533	3100	2869	155	3067	611
7th Decile	6.69	2.05	3117	3982	3514	225	3333	647
8th Decile	6.75	2.25	4000	5200	4468	229	2500	804
9th Decile	7.95	2.90	5238	7925	6344	273	3750	988
Highest Decile	9.17	2.49	8000	100000	17063	314	14133	2618

Source: Nepal Shelter Report

Annex 3.1: Averages (Means of Various Housing and Household Characteristics by Tenure Type

	Owner Occupier	Owner Builder	Owner Purchaser
Family Size	7.3	7.3	6.1
% Family illiterate	30.1	57.5	23.0
Monthly HH income (Rs)	4923.8	4440.8	6641.5
Monthly PC income (Rs)	754.9	728.4	1226.3
No. Of Income Earners	2.1	1.7	
Total DU Size (Sq.ft)	1029.2	1186.9	701.3
Per Capita DU Size (Sq.ft)	160.6	178	131.3
No. Of Persons per Room	1.7	1.5	1.7
Lower Income Tenure Group (Under Median HH income)			
Family Size	6.1	6.9	5.5
% Family illiterate	42.6	58.0	42.7
Monthly HH income (Rs)	1571.0	1614.5	1419.7
Monthly PC income (Rs)	291.2	314.4	275.2
No. Of Income Earners	1.7	1.6	1.2
Total DU Size (Sq.ft)	786.2	1090.7	587.8
Per Capita DU Size (Sq.ft)	147.9	137.3	115.8
No of Persons per Room	1.9	1.7	2.4
Upper Income Tenure Group (Over Median HH income)			
Family Size	8.1	7.5	6.4
% Family illiterate	23.5	57.3	18.8
Monthly HH income (Rs)	7315.4	6686.4	8939.1
Monthly PC income (Rs)	1094.2	1057.3	1644.9
No. Of Income Earners	2.4	1.7	1.8
Total DU Size (Sq.ft)	1206.1	1262.3	750.9
Per Capita DU Size (Sq.ft)	170.6	209.6	138.4
No of Persons per Room	1.6	1.3	1.4

Source: Nepal Shelter Report

Annex 3.2: Averages (Means of Various Housing and Household Characteristics by Tenure Type

	Renter	Squatter	National Total Urban
Family Size	4.4	5.6	6.3
% Family illiterate	34.1	64.3	33.3
Monthly HH income (Rs)	3069.7	1619.0	4200.7
Monthly PC income (Rs)	819.5	316.3	747.5
No. Of Income Earners	1.6	1.6	1.9
Total DU Size (Sq.ft)	312.7	359.9	780.8
Per Capita DU Size (Sq.ft)	82.2	71.3	134.7
No. Of Persons per Room	2.5	3.1	2.0
Lower Income Tenure Group (Under Median HH income)			
Family Size	3.9	5.5	5.3
% Family illiterate	41.0	67.2	45.3
Monthly HH income (Rs)	1589.5	1271.5	1537.8
Monthly PC income (Rs)	528.4	265.2	360.8
No.Of Income Earners	1.4	1.5	1.6
Total DU Size (Sq.ft)	252.2	357.4	542.0
Per Capita DU Size (Sq.ft)	75.7	71.8	112.2
No of Persons per Room	2.7	3.1	2.3
Upper Income Tenure Group (Over Median HH income)			
Family Size	5.3	6.6	7.4
% Family illiterate	24.5	50.0	24.3
Monthly HH income (Rs)	5597.7	4225.0	6928.3
Monthly PC income (Rs)	1316.8	699.8	1143.6
No.Of Income Earners	1.8	2.5	2.3
Total DU Size (Sq.ft)	421.9	408.9	1032.8
Per Capita DU Size (Sq.ft)	88.0	70.7	157.9
No of Persons per Room	2.3	3.4	1.7

Source: Nepal Shelter Report

Annex 3.3 : Source for finance for land

Source OF Finance	Response%	Most Important Source%
Cash Saving	69.5	51.9
Kind Saving	1.2	0
Remittance	6.1	4.9
Bank Loan	6.1	2.4
Employee Loan	12.2	4.9
Cash Dowry	2.4	1.2
In law Property	2.4	1.2
Ornament Sale	14.6	1.2
Property Sale	8.5	4.9
Land Sale	23.2	19.5
Animal Sale	1.2	0

Source: Nepal Housing Survey 1991

Annex 3.4: Source for finance for housing

Source OF Finance	Response%	Most Important Source%
Cash Saving	70.8	48.5
Kind Saving	5.4	0.8
Remittance	3.8	1.5
Friends/Relative Gift	3.0	3.1
Bank Loan	10	4.6
Employee Loan	13.8	7.7
Cash Dowry	3.8	0.8
Kind Dowry	0.8	0.8
In law Cash Help	3.1	0.8
Ornament Sale	13.1	0
Property Sale	5.4	2.3
Land Sale	24.6	20
Animal Sale	1.5	0.8

Source: Nepal Housing Survey 1991

Annex 3.5: Years required saves for land

Years Since Plot Acquired	Urban (%)	National (%)
<3	4.2	3.6
3-5	27.1	28.6
5-10	54.2	53.6
10-15	4.2	3.6
>15	4.2	3.6
Don't Know	6.3	7.1

Source: Nepal Housing Survey 1991

Annex 3.6: Owner builder years since plot acquired

Years Since Plot Acquired	Urban (%)	National (%)
<1	12.8	12.7
1-2	15.1	12.7
2-3	8.1	6.8
3-4	10.5	9.3
4-5	7	5.9
5-6	3.5	6.8
6-7	3.5	2.5
7-8	5.8	5.9
8-9	1.2	0.8
9-10	3.5	5.9
10+	29.1	30.5

Source: Nepal Housing Survey 1991

Annex 3.7: Mode of Land Acquisition

Mode of acquisition	Urban (N=130)
Inheritance	20.8%
Partition of Parcel	7.7
Dowry Gift	2.3
Gift (Bakas Patra)	3.8
Disguised Gift	3.9
Purchase	59.2
Tenancy right	1.5
Free Land	-
Other	0.8

Source: National Shelter Report

Annex 3.8: Rental Housing in Nepal: Percentage of Total Households, which are renting

Geographical Area	
Himal	not available
Hill	27.1%
Terai	20.4%
Nation	24.5%

Source: Nepal Shelter Report

Annex 3.9: Monthly Household Income for Urban Renters (in rupees per month)

	<1000	1000-1500	1500-2000	2000-3000	3000-5000	5000<
Percentage	17.1	32.4	14.29	21.9	7.6	6.7

Source: Nepal Shelter Report

Annex 3.10: Distribution of households by Occupancy status (percent)

Sn	Definition	Occupancy status			
		Owner	Renter	Rent Free	Others
1	Nepal	91.6	5.4	2.5	0.5
2	Urban Nepal	72	23.5	3.8	0.7
3	Kathmandu Valley	62.5	33.1	3.0	1.4
4	Other urban areas	77.2	18.2	4.3	0.4
5	Lalitpur	51.2	46.6	0.2	2
6	Biratnagar	60.6	33.4	1.3	4.7
7	Pokhara	45.6	49.3	0.8	4.3
8	Birgunj	56.7	38.5	0.4	4.4
9	Lubhu				

Annex 3.11: Number of Financial Institutions

Types of Financial institutions	Number of institutions in mid July						Mid January 2006
	1980	1985	1990	1995	2000	2005	
Commercial Banks	2	3	5	10	13	17	17
Development Banks	2	2	2	3	7	26	29
Finance Companies	-	-	-	21	45	60	63
Micro credit Development Banks	-	-	-	4	7	11	11
Saving and credit Cooperatives	-	-	-	6	19	20	19
NGOs (Performing limited Banking Activities)					7	47	47
Total	2	5	7	44	98	181	186

Source: Nepal Rastra Bank 2006

Annex 4.1: Owner builders in Last 10 Years: Size Of Plot Of Land (in Percentage)

Size of Plot (sq.ft)	Urban Nepal	Rural Nepal
0-500	9.3	7.1
500-1000	17.1	11.5
1000-2500	26.4	16.0
2500-5000	24.8	25.3
5000-10000	12.4	17.1
10000+	10.0	23.0

Source: Nepal Shelter Report

Annex 4.2: Owner builders in Urban Areas: Household Income and Size of Plot

Size of Plot	Lowest 50% of Households	Lowest 50% of Households
0-500	12.1	6.9
500-1000	19.0	15.3
1000-2500	22.4	29.2
2500-5000	25.9	25.0
5000-10000	10.3	13.9
10000+	10.3	9.7

Source: Nepal Shelter Report

Annex 4.3: Ownership of last 10 years: Mode of land Purchase

Mode of acquisition	Urban (N=82)
Through friends	14.5
Through broker	9.6
Direct from Owners	67.5
Through Neighbors	6.0
Other	2.4

Source: National Shelter Report

Annex 5.1: List of approved housing developers in Kathmandu and Lalitpur

S.N.	Organization	Location	Approval date (BS)	Remarks
1	Siddhartha Builders	Mahankal	6/9/2060	Land Development
2	Property Dealers	Balkhu	8/15/2060	Land Development
3	Civil homes Phase 2	Tinthana	7/26/2060	Group Housing
4	Pinewood Residency	Syombhu	11/20/2060	Group Housing
5	The Comfort Housing	Sitapaila	10/24/2059	Group Housing
6	Mahima Housing	Balambu	6/22/2061	Land Development
7	The Comfort Housing	Budhanilkantha	6/22/2061	Group Housing
8	Sitapaila Housing	Sitapaila	9/28/2061	Group Housing
9	Thankot Mahadev Village	Thankot	3/6/2062	Land Development
10	Housing and Prudential JV	Kirtipur	3/6/2062	Group Housing
11	Housing and Development	Dhapasi	3/6/2062	Group Housing
12	Euro Housing	Soaltemode	3/6/2062	Group Housing
13	Tulasi Adhikari	Balumbu	8/3/2062	Land Development
14	Kohinoor Hill Housing	Wafal	8/3/2062	Group Housing
15	Oriental Builders and Developers	Dhumbarahi	8/3/2062	Group Housing

Annex 2.2: Population size of urban areas Nepal 1952-2001

Municipalities	1952-54	1961	1971	1981	1991	2001	Area km ²	Persons per km ²
Tarai region								
Bhadrapur			7,499	9,761	15,210	18,145	10.56	1,718.28
Bharatpur				27,602	54,670	89,323	162.16	550.83
Biratnagar	8,060	35,355	45,100	93,544	129,388	166,674	58.48	2850.10
Birganj	10,037	10,769	12,999	43,642	69,005	112,484	21.17	5,313.37
Butwal			12,815	22,583	44,272	75,384	69.28	1,088.11
Damak					41,321	35,009	70.63	495.67
Dhangadhi				27,274	44,753	67,447	103.73	650.22
Dharan		13,998	20,503	42,146	66,457	95,332	103.38	922.15
Gaur						25,383	21.53	1,178.96
Gulariya						46,011	95.14	483.61
Inaruwa					18,547	23,200	22.36	1,037.57
Itahari						41,210	42.37	972.62
Jaleshwar					18,088	22,046	15.49	1,423.24
Janakpur	7,037	8,928	14,294	34,840	54,710	74,192	24.61	3,014.71
Kalaiya					18,498	32,260	18.98	1,699.68
Kamalamai						32,838	207.95	157.91
Kapilbastu					17,126	27,170	37.2	730.38
Lahan				13,775	19,018	27,654	20.23	1,366.98
Mahendranagar				43,834	62,050	80,839	171.24	472.08
Malangawa	5,551	6,721			14,142	18,484	9.39	1,968.48
Matihani		5,073						
Nepalgunj	10,813	15,817	23,523	34,015	47,819	57,535	12.51	4,599.12
Rajbiraj		5,232	7,832	16,444	24,227	30,353	11.96	2,537.88
Ramgram						22,630	34.72	651.79

Municipalities	1952-54	1961	1971	1981	1991	2001	Area km²	Persons per km²
Ratnanagar						37,791	35.62	1,060.95
Siddharthnagar			17,272	31,119	39,473	52,569	36.03	1,459.03
Siraha						23,988	23.78	1,008.75
Tikapur						38,722	67.11	576.99
Tribhuvannagar			16,194	20,608	29,050	43,126	74.45	579.26
Triyuga						55,291	319.88	172.85
Tulsipur						33,876	92.22	367.34
Sub total	41,498	101,893	178,031	461,187	827,824	1,506,966	1,994.16	755.7
Hill region								
Amargadhi						18,390	138.95	132.35
Baglung						20,852	18.35	1,136.35
Banepa		5,688			12,537	15,822	5.56	2,845.68
Bhaktapur	32,320	33,877	40,112	48,472	61,405	72,543	6.56	11,058.38
Bidur					18,694	21,193	33.48	633
Birendranagar				13,859	22,973	31,381	34.95	897.88
Byas						28,245	60.02	470.59
Dasarathchand						18,345	55.01	333.48
Dhankuta				13,836	17,073	20,668	48.21	428.71
Dhulikhel					9,812	11,521	12.08	953.73
Dipayal-Silgadhi					12,360	22,061	73.98	298.2
Hetauda				34,792	53,836	68,482	47.77	1,4333.58
Ilam			7,299	9,773	13,197	16,237	26.63	609.73
Kathmandu	106,579	121,019	150,402	235,160	421,258	671,846	49.45	13,586.37
Kirtipur	7,038	5,764				40,835	14.76	2,766.60

Municipalities	1952-54	1961	1971	1981	1991	2001	Area km²	Persons per km²
Lalitpur	42,183	47,713	59,049	79,875	115,865	162,991	15.15	10,758.48
Lekhnath						41,369	77.45	534.14
Madhyapur- Thimi	8,657	9719				47,751	11.11	4,298.02
Mechinagar						49,060	55.72	880.47
Narayan						19,446	67.01	290.2
Panauti						25,563	31.73	805.64
Pokhara		5,413	20,611	46,642	95,286	156,312	55.22	2,830.71
Prithvinarayan						25,783	60.28	427.72
Putalibazaar						29,667	70.14	422.97
Tansen		5,136	6,434	13,125	13,599	20,431	21.72	940.65
Walimg						20,414	34.76	587.28
Sub total Mountain region	196,777	234,329	283,907	495,534	867,895	1,677,208	1,126.05	1489.5
Bhimeshwar						21,916	65.04	336.96
Khandbari						21,789	91.03	239.36
Sub total						43,705	156.07	280.0
All total	238,275	336,222	461,938	956,721	1,695,719	3,227,879	3276.28	985.23

Source: CBS census reports 1952 – 2001

Annex 5.2: Comparison of Private Housing in Kathmandu Valley

Housing Name	Grace Apartment	Oriental Colony	Stupa Colony	Kathmandu Residency	Mount View Residency I+II	Sunrise Homes	Paradise Home	Civil Homes	Comfort Housing	Kusunti Housing	Pacific Crown Development	Road Show Housing
Location	Naxal	Balkhu	Buddhanagar	Bagdol	Harisiddhi	Balkunmari	Syambu	Sainbu	Sitapaila	Nakhu	Budhanilkantha	Maharajgunj
Land Area	6.5 Ropani	22Ropani	2Ropani	14Ropani	26+50Ropani	32Ropani	4Ropani	15Ropani	28Ropani	9.5Ropani	29Ropani	6.5Ropani
No. Of Unit	56	306	50	140	71+134	116	9	45	59	21	29	9
F/I/T/R	F	F	F	F	F/T/I	F/T/I	T/I	T/I	I	R	I	I
Play area /Recreational space	Children play area/Swim pool/Common Hall	Garden	*	Garden	Play Area +Club	5rop/Including Dept.Store	*	2rop./Including Garden +Play area	Play area /Swim.Pool/Community Block	-	Swim.Pool /Community Block/Garden	*
Area per unit				*	*-	800-1930 sq.ft	5.2-7.2 anna	4-8 anna	4-10anna	4 anna	12-14 anna	8-14 anna
1Bed Sq.ft	*	*	*	606	681-718	*	*	*	*	*	*	*
2Bed Sq.ft	1200	575	450	822	-	-	1212-1286	991.7-1217.3	*	*	*	*
3Bed Sq.ft	1400	990-1085	*	1120	1520-1731	-	*	1217.3-1729.5	*	-	*	*
4Bed Sq.ft	*	*	*	*	*	-	*	1729.50	-	-	2700-3300	2400-2600
Structure	Frame	Frame	Frame	Frame	Frame	Frame	Frame	Frame	Frame	Frame	Frame	Frame
Material	Brick/Steel Truss/GI Sheets/Aluminum/Timber/RCC	Brick/RC C/Timber/Glass	Brick/RC C/Timber/Glass	Brick/RCC/Timber/Glass	Brick/RCC /Timber/Glass	Brick/RCC/Timber/Glass	Brick/RCC/Timber/Glass	Brick/RCC /Timber/Glass	Brick/RCC/Timber/Glass	Brick/RCC/Timber/Glass	Brick/RCC /Timber/Glass	Brick/RCC /Timber/Glass
Finishing Level	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	Changeable	Changeable	Fixed	Fixed	Fixed

Water Supply	Well+ Treatment	Boring+ Treatment	2 wells+ Treatment	Local Supply	Boring+ Treatment	Boring/ Treatment	Boring+ Treatment	Well +Local Supply	Boring+ Treatment	Local Supply (Water tank)	Local Supply	Local Supply +Boring
Sanitation	-	-	Septic tank/Connection to local sewer	Septic tank/Connection to local sewer	Septic tank+ Treatment	-	Individual Septic tank+soak pit	Individual Septic tank+soak pit	Common Septic tank+soak pit	CommonSeptic tank +soakpit	Individual Septic tank +soakpit	Septic tank/Connection to local sewerage
Electricity	NEA/Emergency Light	NEA	NEA	NEA	NEA	NEA	NEA	NEA	NEA	NEA	NEA	NEA
Access	18' Road	14' Road	20' Road	20' Road	-	-	13' Road	12'&21' Road	18'&21' Road	20'Road	16' Road+6'(peti)	13' Road
Telephone	Individual pt.	Individual pt.	*	Individual pt.	Individual pt.	Individual pt.	Individual pt.	Individual pt.	Individual pt.	Individual pt.	Individual pt.	Individual pt.
Cable Network	Individual pt.	*	*	Individual pt.	Individual pt.	Individual pt.	Individual pt.	Individual pt.	Individual pt.	Individual pt.	Individual pt.	Individual pt.
Security	Guards/Electronic Door and Video Security System	Guards	Guards	Guards	Guards	Guards	Guards	Guards	Guards	Guards	Guards	Guards
Health Club/First Aid	Doctors	*	*	*	Club	*	*	*	Community Block	*	Community Block	*
Postal Service	*	*	*	*	*	*	*	Guards	*	Guards	*	*
School/Childcare	*	*	*	*	*	*	*	*	*	*	*	*
Parking	Basement	Pay Parking	Only Bike	Pay Parking	-	Individual Paying/visitors	Individual	Individual + visitors in road	Individual+ visitors	Individual+ visitors in road	Basement) community Block)	Individual

Maintenance	1st 2 years	Individual	Individual	1st Year	1st Year	Individual	1st Year	*	Individual	Individual	Individual	1st Year
Economic Status	High	Middle	Middle	Upper Middle/Middle	Upper Middle/Middle	Middle/Upper Middle/Higher	Middle/Upper Middle	Upper middle/Higher	Upper middle/Higher	Upper middle/Higher	Higher	Higher
Cost	36-53 Lakhs	7.50-14.99Lakhs	7.75-8.50Lakhs	-	17-30.4Lakhs	12.83-37.635Lakhs	21.50-22.75Lakhs	21.95-31.00Lakhs	32.95-52.45Lakhs	26Lakhs		

Source:VAASTU Vol5 ,2003

Note:F=Flat,I=Independent,T=Twin,R=Row