

HOUSING AND LAND MARKETS IN KATHMANDU, NEPAL

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“Population and economic growth does not take place in thin air; it requires land and lots of it.”

- David Dowall¹

Introduction

The dramatic growth of cities of the developing world has become something of a cliché. Between 1950 and 1990, the world's urban population more than trebled, from 730 million to 2.3 billion. Between 1990 and 2020, it is likely to double again, to over 4.6 billion. A staggering 93 per cent of this increase will occur in the developing world. That means more than 2.2 billion people will be added to the already burgeoning cities of the Third World – an increase of 160 percent.²

Increase in demand for urban housing in the latter half of this century had led to the emergence of housing as a priority sector for many national governments and public authorities around the globe. The *Global Report on Human Settlements 1986* (UNCHS) indicates that 40-50% of the population lives in slums and informal settlements in many cities of the developing world. While not all informal settlements provide unsatisfactory living conditions, they are usually inadequately served with essential infrastructure. Extremely high population densities and room occupancy rates, although not proof of unsatisfactory housing conditions, usually do indicate an inadequate supply of housing. Even as the fairly recent attitude of “slum eradication” is slowly transforming to “slum upgradation”, the very fact that they need to be ‘upgraded’ implies that they are lacking, or atleast considered so by the authorities.

Nepal, however, presents a striking paradox to this universal phenomenon. Despite the fact that it is among the poorest countries in the world, its capital and predominant urban center, Kathmandu, does not face the problem of slums to the extent prevalent in other third world cities. Although the quality of housing is low for a vast majority of the population, the incidence of extremely poor living conditions is fairly limited. Even more impressive is the fact that there are virtually no public sector housing programs or comprehensive/consolidated land development schemes that have facilitated access to housing or land to any class of people, rich or poor. What then explains this anomalous behavior of the housing market? Is it to do with:

- the country's relatively small size and population?
- the fragmented nature of land-ownership, resulting in a high percentage of people who own land?
- the common practice of constructing surplus housing units for rental income?
- the comparatively ‘relaxed’ nature of housing and land regulations and standards (or, for that matter, poor administration and implementation by the state)?
- the fact that something is inherently right or appropriate about the existing policies and patterns of land development? It might well be argued that the non-interventionist attitude of the government and policymakers has led to a competitive market for land and housing that does not constrain supply.

The first section of this paper provides a background of Nepal and highlights the importance of Kathmandu Valley as its primary urban center. It then goes on to explain the housing scenario in prevalent Kathmandu, debating the positive and negative aspects of these trends, followed by an explanation of the basic microeconomic principles of housing markets. The next section deals with implications of government policies on the demand and supply of housing, understanding what policies (or absence thereof) could be directly (or indirectly) responsible for the self-sufficiency of the housing stock in Kathmandu. The conclusions provide a general overview of the importance of informal housing in today's urbanizing third-world cities, based primarily on the views of Rakodi, Turner, Dowall and Peattie. The last section contains an outline of the scope for future research that could help substantiate the evidence documented in this paper.

This paper poses two major questions:

1. *Can the absence of slums/squatters be attributed to the fragmented land ownership pattern prevalent in Kathmandu, reinforced by the minimal government intervention in the housing/land market, resulting in a competitive housing market and an elastic supply of housing stock? If so, are there lessons that can be usefully incorporated into policies of other developing countries that see slums and squatters as a stigma to their society?*

¹ David Dowall, “The Land Market Assessment: A New Tool for Research and Policy Analysis”, Working Paper 534, UC Berkeley, 1991.

² Nick Devas and Carole Rakodi, “The Urban Challenge”, Managing Fast Growing Cities: New Approaches to Urban Planning and Management in the Developing World, 1993.

2. *Or is it due to the fact that Nepal is still in the embryonic stages of urbanization, and that with the passage of time, demand for housing will exceed the supply, leading to the formation of slums/squatters by migrants/poor people. If so, is there scope for the future housing problem to be tackled, and how?*

Background

Landlocked and land-poor, Nepal is a small country with very limited resources of arable soil to support its large population. Nepal's population of 22.6 million is growing at 2.7 percent per year, and the ratio of population to arable land (around 600 persons per square kilometer) is one of the highest in the world.³

The capital and only metropolitan city of Nepal, Kathmandu, has evolved from lake-bed to paddy agriculture to present day urban society. Exploiting the Valley's agricultural abundance and trade between the Gangetic Plains and Central Asia, the inhabitants developed an urban culture and townscape unequalled in the entire Himalaya -- a evolving mix of religion, ritual, art and architecture -- one quite distinct from cities of the plains. The Gorkha Kings invaded Kathmandu in 1768-69, and made it the capital of Nepal. They were careful, however, not to tamper with the Valley's distinctive physical characteristics. The same was true for the Rana oligarchs who came later and ruled till the middle of this century.

A definitive break in cultural continuity came after the overthrow of the Ranas (1951) and the establishment of the Panchayat⁴ System in 1960. The Ranas' policy of restricting entry to the Valley was lifted. Every citizen from the length and breadth of Nepal gained the right to migrate into Kathmandu.⁵ In 1956, the first motor road linked the Valley to India, opening it to commercialization and external influence. Within ten years, a second international highway was built, connecting Kathmandu Valley to the Tibetan border.

The transformation began immediately, if slowly, in the early 1960s. The first international air service world was scheduled in 1974. Nepal's reputation as a traditional, politically unsophisticated, culturally exotic Kingdom attracted tourists from around the globe.⁶ The jolt of what was happening, however, came later. In 1990, a broad-based democracy movement succeeded in removing the 28-year-old Panchayat System.⁷ Five months later, a new constitution was promulgated, and just over a year after the ending of the agitation, the Nepali Congress Party secured a majority in a general election.

The most profound change in Nepal came in the form of foreign aid that began in the 1950s. Money flowed into the country, tripling with each passing decade, resulting in a profound impact on health, education, transportation and communication, especially in urban areas. New prosperity attracted new residents into Kathmandu. As the Valley's population tripled to more than a million by the end of the 1980s, so did the urban areas. A suburbia of modern houses began transforming the traditional landscape of the Valley. Land values soared. In 1986, the local town planning office warned that in 30 years, 60% of the valley, including the best farmland, would be swallowed by development.

Land in Nepal has traditionally represented the principal form of wealth, the principal symbol of social status, and the principal source of economic and political power. Even today, agriculture employs 83 percent of the country's economically-active population, even though cultivated land constitutes only 18 percent of Nepal's land area (due to the hilly terrain), with little room to expand. On an average, *eighty-two out of every hundred Nepali households own land*; 86 of every hundred actually farm. Agriculture provides nearly two-thirds of all household income. For almost 90 percent of those in the lowest-income quartile, farming is effectively the only remunerative activity available. Even at the top of the consumption scale, nearly 75 percent of the households are engaged in agriculture, and for both the lowest and the highest groups, farming income represents more than half (55 and 54 percent, respectively) of all income.⁸

Urban Growth in the Valley

Five percent of Nepal's population lives in Kathmandu Valley where the incidence of poverty is around 4 percent and illiteracy 24 percent. In the rest of the country, poverty is ten times as high and the chance of being literate almost three

³ Although the average figure might be deceptive, it is a fact that Nepal's terrain renders a large portion of its land unfit for agriculture. Population density varies across the country -- lower in rural areas where agriculture is the main occupation, and higher in urban areas.

⁴ The Panchayat System comprised of a multi-tiered system of popular bodies with the Village Panchayat at the bottom and the National Panchayat, the national legislature, at the top.

⁵ Andreas Proksch (ed.), *Images of a Century: The Changing Townscapes of the Kathmandu Valley*, GTZ/UDLE 1995.

⁶ Thomas Kelly, *Kathmandu: City on the Edge of the World*, 1989.

⁷ Michael Hutt, *Nepal in the Nineties: Versions of the Past, Visions of the Future*, 1994.

⁸ "The World Bank in Nepal", *Country Assistance Strategy 1999-2001*, <http://www.worldbank.org.np/worldbank/over/intro.html>

times lower.⁹ The average per capita income in Nepal is \$160, as wealth remains concentrated in the upper classes. The country also has one of the highest inflation rates in Asia.

Table 1

1997	
Population (<i>millions</i>)	22.6
GNP per capita (<i>US\$</i>)	210
GNP (<i>US\$ billions</i>)	4.7
Average Annual Growth, 1991-97	
Population (%)	2.7
Labor Force (%)	2.5
Most recent estimate (latest year available, 1991-97)	
Population Density (persons/sq. mi.)*	389
Poverty (% of population below national poverty line)	42
Urban Population (% of total population)	11
Life Expectancy at birth (<i>years</i>)	57
Infant Mortality (<i>per 1000 live births</i>)	82
Child malnutrition (% of children under 5)	49
Access to safe water (% of population)	48
Illiteracy (% of population age 15+)	73
Gross Primary Enrollment (% of school age population)	110
* USAID Assistance: Nepal, http://www.info.usaid.gov/regions/ane/New%20Pages/one_pagers/nep.htm	

(Source: "Nepal at a Glance", The World Bank, 1998).

The rapid pace of urbanization in Kathmandu today is greatly increasing the demand for shelter, infrastructure, employment opportunities and social services. Moreover, in addition to internal migration, the Valley also needs to tackle the influx of cheap labor from across the open borders with India. As a result, the housing stock in Kathmandu, as in most developing countries, is facing increasing pressure.

Urban activities of Kathmandu Valley are located around Greater Kathmandu. Urban expansion is taking place wherever there is provision of roads, water and electricity. Of all the activities carried out in urban areas, housing activities cover the maximum land use. In Kathmandu, the rate of land conversion to urban use is enormous; **between 1971 and 1981, the residential land area of the city doubled.**¹⁰ Haphazard and substandard development in the metropolitan area is going on at a rapid rate. There is extensive disparity in residential density, ranging from 700 persons/hectare to a low of 10 persons/hectare. Overcrowding, congestion and unsanitary living conditions are widespread, particularly in old residential areas. Prices of land have soared in recent years, and most people have resorted to so-called "unauthorized" or informal house construction in the absence of 'developed' land within their means.

Many noted writers have commented on the negative aspects of the housing trends prevalent in the Valley, but no one has delved into the other side of the story -- is it possible that what is typically considered bad, might just be the most suited for Kathmandu? The next section summarizes the general opinions, according to conventional wisdom, regarding the factors responsible for the poor housing condition in Kathmandu today; this is then followed by a counter-argument from the author.

Conventional Wisdom

⁹ USAID Assistance, Nepal (http://www.info.usaid.gov/regions/ane/New%20Pages/one_pagers/nep.htm)

¹⁰ William Doebele, "Intervening in the Informal Urban Land Supply: Neglected Opportunities", 1987

Efficiency of Land-Use:

- There is an undesirable *mixing of land uses*, and acute deficiency of parks, schools, other facilities and municipal services. While the old part of the city is a chaotic mix of incompatible land uses, new areas are lacking in compactness and social cohesion¹¹.
- *Fragmented land-ownership*, due to the growing demand, shortage in supply and soaring prices on one hand, and the inheritance laws on the other, has led to the inability to develop or consolidate land in a comprehensive manner.

Role of Public Sector:

- Urbanization is supposedly a wealth-producing process, yet city governments everywhere are impoverished. Inadequate and *inefficient tax structure* in Kathmandu has resulted in lack of resources to provide public services.
- This *limited public sector intervention* in infrastructure provision has led to disorganized and wasteful expenses incurred by individuals to meet their personal infrastructure needs.

Equity:

- The wealth remains concentrated in the upper classes who live in sprawling bungalows, while the poor are confined to unhealthy and unsanitary living conditions -- *disparity in residential density* that ranges from a low of 10 persons/hectare to 700 persons/hectare.

Stability:

- The government is unstable, Nepal being a budding democracy, comprising of officials lacking a vision or commitment towards the improvement of housing and infrastructure to meet present day needs or to cope with future growth.

Counter-argument: There is no doubt that haphazard and 'substandard' development in the metropolitan area is occurring at a rapid rate. Having said that, however, a feature that gives a unique twist to Kathmandu is the fact that, despite all these shortcomings, and unlike other developing country cities, the increased housing demand has not manifested itself in the form of slums or squatters, atleast to the extent prevalent in other cities. The different aspects discussed above might, hence, need to be approached differently, as follows:

Efficiency of Land Use:

- *Mixing of land uses*, or simply not laying down strict landuse regulations, has led to an efficient use of land, in that, people often use a house for multiple-purposes, such as rental accommodation, shops etc. This is particularly beneficial for low-income families who do not have a regular source of monthly income.
- *Fragmented land ownership* is a direct consequence of inheritance laws and the absence of subdivision regulations. With flexibility to subdivide, the land gets used more cost-effectively (more sq. footage per unit area of land) than it otherwise would have been. Also, this has increased the ability of landowners to subdivide without the unnecessary transaction costs, and made it easier for low-income families to purchase land at lower rates, indirectly facilitating their access to self-built housing.

Role of Public Sector:

- *Limited intervention* of the public sector has encouraged people to undertake service provision in their own hands -- using borewells and hand-pumps (water) and septic tanks (solid waste disposal) as *substitutes* for government-provided services. Although this might have long-term problems such as underground water contamination (leading to health hazards) etc.; nonetheless, it is self-sustaining and more viable in this case where the government lacks the resources to provide public services efficiently.

Equity:

- The *absence of regulations* restricting densities has enabled poorer household to use discretion in construction (in terms of built-up area as well as unit-types).

Stability:

- The lack of stability of the government should itself advocate a *minimal intervention* by the state in service provision. Just that has made the present *competitiveness* of the housing market possible. This is not to say that the government should never intervene, just that it might be better to leave service provision to natural market forces, especially in cases where the institutional framework for service provision is lacking.

¹¹ Kathmandu Valley: Physical Development Concept 1984 (Vol. 1)

Housing Stock

Although the quality of housing in Kathmandu is low for a vast majority of the population, the incidence of extremely poor living conditions or the existence of squatters in urban areas is fairly low (refer to Table 2).

	National	Urban	Rural
Stock by Housing Type			
Squatter	07.81%	09.09%	07.64%
Traditional (Urban)	00.53%	04.28%	00.00%
Kuchcha (Temporary)	42.18%	08.25%	46.94%
Semi-pucca (Semi-permanent)	41.18%	37.09%	41.76%
Pucca (Permanent)	08.30%	41.27%	3.67%
Stock by Tenure			
Squatter	07.21%	08.61%	07.02%
Renters	06.70%	24.46%	04.28%
Owners			
<i>Owner-builder</i>	18.33%	12.87%	19.07%
<i>Owner-purchaser</i>	02.79%	03.47%	02.70%
<i>Owner-occupier</i>	64.97%	50.59%	66.93%
Overcrowding Indices			
Total DU size (sq.ft.)	867.5	780.8	879.3
Per capita Space (sq.ft./person)	155.3	134.7	158.7
Number of Persons per room	2.2	2.0	2.2
Condition of house			
Good	20.60%	26.34%	19.32%
Average	67.61%	61.98%	68.37%
Bad	11.80%	11.68%	11.81%
Satisfaction Level of Present House			
Very satisfied	03.97%	10.91%	03.02%
Satisfied	63.37%	66.37%	62.97%
Dissatisfied	32.67%	22.72%	34.02%
Income (NRs.)			
Median monthly HH income	-	2517.00	1264.00
Average monthly HH income	2313.60	4200.70	2059.10
Average monthly per capita income		432.90	747.50
			390.50

(Source: Shelter and Human Settlement Development: Nepal Private Sector Perspective for The UN II Conference", Shelter and Local Technology Development Centre, 1996)

While the national stock has a major proportion of temporary and semi-permanent housing, urban areas have over three-fourths semi-permanent and permanent housing. This is indicative of better living conditions in urban areas compared to rural areas. Squatter settlements comprise of nine percent of the urban housing stock, a low figure compared to other countries (refer to Table 4). Data specific to Kathmandu is not available; however, it can be said with certainty that its share of squatters is far below the national average.¹² The data, however, does not spell out clearly the distinction between temporary housing and squatters – this could be a problem since there might well be an overlap between the first three categories of housing types.

It is clear that owner-occupier housing is the most prevalent in both urban and rural areas. However, in urban areas, renters occupy almost a quarter of the housing stock, indicating the ready availability of rental housing in urban areas.

¹² Other urban areas in Southern Nepal contribute to the figure presented above. That is because those areas have open borders with India, and tend to have a dominant potential to attract immigrants.

The average DU size as well as the per capita space in urban and rural areas is pretty consistent with each other. This shows that the space standards are not vastly different in urban areas, where people are assumed to be living in cramped conditions. However, it must be noted this data-source does not specify whether these are mean or median values. The value of per capita space in urban areas could be misleading due to inclusion of outliers (the rich households who live in large sprawling bungalows) in the calculations. It might have been helpful to get a rough idea of the distribution (with the extreme values).

There is insufficient information regarding what house condition is considered good, bad or average. If the same criteria have been used for both urban and rural areas, then there is significant consistency – as a matter of fact, too significant to be true. If the rural areas have a much higher percentage of temporary housing than urban areas, then, if judged by same standards, there must be a difference in the conditions of houses in the two areas.

Approximately one-fourth of the occupants in urban areas seem to be dissatisfied with their present housing, as opposed to one-third in rural areas. This higher incidence of satisfaction gives an idea of the ability of people to fulfill their needs and requirements in urban areas.

Table 3.

Year	City	Irregular settlements	Settlement type
1993	Bangkok	8%-20%	Slums, underserved
1981	Delhi	36%	Irregular settlements
1983	Bombay	40%	Irregular settlements
-	Calcutta	42%	Rental “bastees”, refugee colonies
1987	Hyderabad	30%	Squatters
1987	Bhopal	27%	Squatters
1981	Jaipur	42%	Irregular settlements
-	Dhaka	50%	Slums, squatters
-	Manila	40%	Irregular/underserved settlements

(Source: Alain Durand-Lasserve, “Regularization and Integration of Irregular Settlements: Lessons from Experience”, *Urban Management Program, 1996*)

Note: Comparisons are difficult to make since certain authors use the term ‘irregular settlements’ for irregular land occupation and others to underserved or dilapidated and overcrowded settlements, but this does give a rough idea of how grave the problem of irregular settlements is in many developing country cities.

The above conclusions are drawn on the assumption that the information provided is accurate. However, the reliability of the data might be questionable, since this type of survey has likelihood of a bias creeping, since it covers a broad range of categories in so many different regions.

Demand and Supply

It is commonly observed that there is a ‘shortage’ of serviced land and housing in the cities of developing countries. A shortage implies that, at the existing prices, taxes, or service charges levied by the authorities, the demand for services exceed the supply that the authorities are making available. This shortage in land and/or services is reflected by the high price that it fetches in the open market.

Poor Response to Market Demand

Economic development in urban centers induces in-migration, causing an increase in demand for housing and urban services (Figs. 1 and 2). If the supply is unresponsive to market demand, the price of housing increases substantially. This typically happens when

- (i) supply is inelastic, due to:
 - shortage of land due to speculation

- general shortage of supply factors including land, construction materials, infrastructure provision etc.
 - imposition of high standards and regulations such as zoning, landuse and subdivision regulations, building standards etc., that do not allow people to respond to changing to market demand (by subdividing, or constructing rental units),
 - a monopolistic supply of urban services
- (ii) demand is inelastic, due to:
- imposition of high standards and regulations such as zoning, landuse and subdivision regulations, building standards etc., that do not allow people to live below preset standards
- (iii) both demand and supply are elastic, but demand increases faster than supply due to other factors that encourage investment on land/housing as an asset.

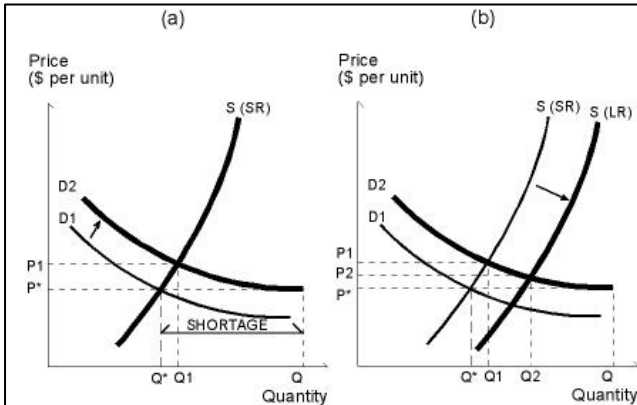


Figure 1. Inelastic supply in:

- (a) *Short Run*: When demand increases (shifts out), there is a sharp increase in price in the short-run. Here, for a price P^* that the low-income households can afford, there is a shortage of housing by an amount shown in the diagram. This increase in price beyond the affordability of low-income families results in the formation of irregular settlements such as slums and squatters.
- (b) *Long Run*: Supply will tend to increase to meet demand, lowering the price to some extent.

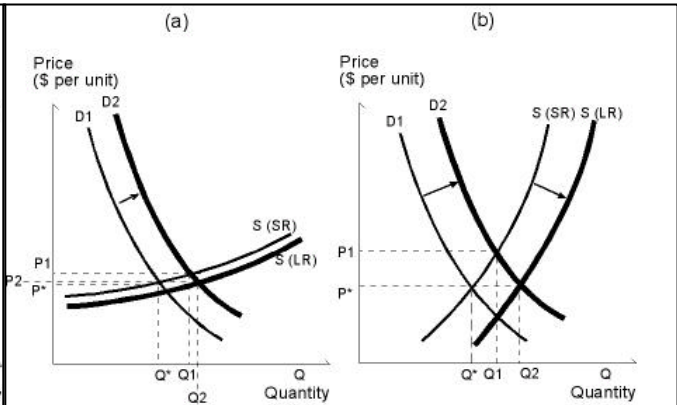


Figure 2.

- (a) *Inelastic demand relative to supply*: When demand increases, price increase is relatively low.
- (b) *Inelastic demand and inelastic supply*: Small changes in demand can lead to large fluctuations in price in the short-run. The ability to stabilize in the long-run of course depends on the ability of the supply to adjust to meet demand.

Effective Response to Market Demand

An effective response to market demand can be brought about by:

- (i) making supply elastic
- discouraging speculation
 - facilitating efficient supply of land, construction materials, infrastructure etc.
 - relaxing standards and regulations, and allowing people to respond to changing to market demand (by subdividing, or constructing rental units),
 - promoting competition in provision of urban services
- (ii) making demand elastic
- relaxing standards and regulations, giving flexibility to people to live according to their own needs and affordability
- (iii) making supply demand-responsive, as in a competitive market situation.

Housing Trends in Kathmandu

Having ruled out that the people are wealthy enough to afford good housing Nepal, we need to understand what factors could be responsible for the relatively better access to land and housing in Kathmandu as compared to other developing country cities.

I. Standards

Housing standards in developing countries might be defined as consisting of two categories: official and cultural.

“Official standards are those established by legislation, by laws and other rules and regulations, while cultural standards are those derived from traditional practices or found tolerable and acceptable by a large number of people.”¹³

Traditional housing in Kathmandu was basically governed by cultural standards. The practice of housing in more recent times is changing rapidly, affected by modernization forces, both social and political. Housing is now considered an individual's problem. For the low and lower-middle income residents, the contemporary housing in Kathmandu can be categorized into two groups:

1. *Institutional*: mostly professionally designed sites-and-services and employee-housing projects by the public and private sector; and

2. *Unplanned*: spontaneous, individually-built (often informal). This mode, adopted by the private sector, supplies the bulk of present-day housing to all income groups in Kathmandu. It comprises of:

- 'formal' housing of the higher income group, who hire architects, engineers and contractors to build the house.

- 'informal' housing of the lower-middle and low income groups, who build houses entirely by themselves, using their own labor or directly employing construction labor by paying them on a daily basis. This particular category of housing is termed informal because except for obtaining a building permit, there is no other professional or institutional involvement.

In Kathmandu, as in most developing country cities, the legal, formal sector is largely irrelevant in terms of meeting the basic shelter needs of low- and moderate-income households. This search for shelter inevitably leads them to the informal sector, where government rules and regulations associated with formal housing production are non-existent. The major outcome of these informal approaches is the relatively efficient production of low-cost shelter.

“For a majority of the people who cannot avail themselves of governmental assistance in the provision of their accommodation, the set of standards operated by the local authorities constitute the single most important obstacle to their settled existence in the urban areas to which they have migrated.” (Mabogunje, A., et al., 1978)

“When the dwellers control the major decisions, and are free to make their own contribution to the design, construction and management of their housing, both the process and the environment produced stimulate individual and social well-being. When people have no control, or responsibility for key decisions in the housing process, on the other hand, the dwelling environment may instead become a barrier to personal fulfillment and a burden to the economy.” (Turner and R. Fichter, 1972).¹⁴

Although the living conditions might not be at par with 'standards' set by most other developing countries, this individual initiative in the housing process does not hinder housing quality. In fact, the total control of the housing process by the dwellers themselves produces a lively form of housing by means of active participation of the residents.

Zoning

Kathmandu is divided into a number of use-zones – residential, commercial etc. Each zone has its special regulations, as different use-zones vary in their character and function.

Zoning regulations that restrict the supply of land available for development operate to increase land prices. This happens when authorities attempt to maintain environmental quality or real estate value by designating residentially zoned land for open space or agricultural use, or for more fiscally desirable commercial or industrial activities.

In Kathmandu, the absence of strict zoning regulations enables poor households to use their houses as a work-cum-residential space. In addition, households commonly build a number of extra rooms for *rental* purposes. This, besides generating a regular monthly income for their own survival, adds substantially to the housing stock, providing cheap accommodation for other low-income families or migrants who lack the means of constructing their own house or choose not to do so for other reasons.

¹³ Ambika Prasad Adhikari, Urban and Environmental Planning in Nepal: Analysis, Policies and Proposals, IUCN Nepal, 1998.

¹⁴ Source: Ambika Adhikari (1998).

Plot Configuration and Density

Zoning regulations differ from building codes which are uniformly applied to all land/building types.

Table 4

<i>Res. Land Area</i>	<i>Max. Gr. Coverage</i>	<i>Max. # Stories</i>
>1 ropani ¹⁵	50%	4
3/4 – 1 ropani	60%	4
1/4 – 3/4 ropani	70%	4
1/8 – 1/4 ropani	75%	4
< 1/8 ropani	80%	4

(Source: Ambika Adhikari, *Urban and Environmental Planning in Nepal: Analysis, Policies and Proposals*, IUCN Nepal, 1998)

In the past, throughout Kathmandu valley, housing was meticulously designed for compactness, saving precious agricultural land. The traditional urban dwellings in Kathmandu were built around courtyards that served as common open space for the surrounding plots. This avoided the need to have an individual plot for each housing unit. The traditional residential density in Kathmandu, taken on the basis of the entire urban area, was one of the highest in the world. The net residential density in the traditional urban core often exceeds 2000 persons/ha. As early as 1960, Kathmandu's urban area attained a high density almost twice that of New York. Even today, the traditional wards in the city core have gross residential densities above 1200 persons/ha (PADCO 1986), with a three- and four-story building typology, and ten of the twelve residential wards have densities greater than 400 persons/ha.

In contrast, the new form of relatively sparse housing development in Kathmandu, both formal and informal, are essentially row-housing. The most popular plot sizes generally used by lower middle income residents of Kathmandu are 60 and 125 square meters, while those of low-income families range from 20 to 60 sq. mt., and construction is generally three to four stories. The gross density of these new 'unplanned' residential areas often create dearth of light inside rooms, problems in excavating separate foundations, lack of adequate separation from nearby structures and higher construction cost per dwelling unit. Yet, in terms of the meeting the needs and requirements of the people, these residential areas do very well.

Subdivision Standards

Kathmandu has a very fragmented nature of landownership. This is predominantly due to:

- (i) *Inheritance rules and legal issues* -- Inheritance rules in Nepal call for equal division of land between heirs (sons); land then becomes further subdivided with each generation, and family disputes often tie up plots for years. It is often difficult to consolidate a plot of land within a family because one sibling lacks the means to buy out the others. Besides, family members may be reluctant to come to an informal arrangement consolidating land use, for fear of losing their rights to the land, and a formal rental transaction may be limited by legal reasons.
- (ii) *Transaction costs* -- Transaction costs involved in the sale and transfer of plots usually inhibit the consolidation of small (subdivided) plots, even when all parties are willing, reducing the scope for land-pooling and guided land development. Once we acknowledge the presence of transaction costs, then the past history of land distribution becomes relevant for understanding the current situation.
- (iii) *Volatility of land markets* -- An offer to sell land may result in a large fall in the price of land; the opposite holds with an offer to buy.
- (iv) *Absence of acquisition laws*
- (v) *Absence of subdivision regulations* -- There are no subdivision requirements, and the majority of low-income families do not even seem to obtain a building permit for constructing their house. Absence of these standards has legitimized the informal production of plots and made it easier for informal sector developers to deliver plots in the market. Consequently, public areas of housing precincts (such as roads and open spaces) are minimized by homeowners, builders and brokers – the only actors on the housing scene.

In principle, it would seem clear that land fragmentation raises infrastructure costs, and prevents the realization of economies of scale of consolidate land development. Additionally, boundaries between plots could result in a significant

¹⁵ 1 ropani = 74 ft. x 74 ft.

loss of usable *land*. But, in fact “*these losses have not been quantified, and reasons for the persistence of fragmentation are poorly understood*”.¹⁶

Throughout the Third World, high subdivision standards pose a serious problem for low-income families. Subdivision layouts push the minimum costs of plots beyond what households can afford. For instance, large lot size requirements increase the minimum price of residential plots. Besides raising the costs of plot development, land subdivision regulations limit the ability of developers to respond to rising land costs by altering the design of subdivisions. As land prices increase, strict plot-size or circulation requirements make it difficult to build at higher densities.

II. Production Inputs

The wide range of housing types, in general, emphasizes the substitutability of one component for another. A rise in the price of a particular component prompts a search for ways to economize on it. When land costs are high, for example, construction becomes denser to reduce land costs per dwelling units. If cement is scarce, other building materials may be substituted in the production process.¹⁷

Land

In Nepal, as in most developing countries, a strong preference exists for savings in physical assets, such as land, silver and gold, because:

- securities and other investments are unattractive or non-existent and because inflation tends to erode the value of savings deposited in financial institutions;
- land is greatly valued for prestige purposes, and to provide a sense of security;
- some landowners hold vacant land off the market in speculation.

To all urban families, land for housing is essential for access to employment, infrastructure, and social services. To low-income families in particular, a piece of land on which basic facilities are provided is its foothold in the urban community. To Kathmandu Valley as a whole, the smoothly functioning, competitive land market has strengthened the spatial relationship between residential and employment locations, and increased access to poor families.

Restrictions on the supply of land and the density of residential development greatly affect housing costs. For instance, in India, urban land use controls and policies have a dramatic impact on land supply and price. In 1976, the Urban Land Ceiling Act was adopted to check speculation. This caused significant reduction in the supply of land for residential development, creation of a vast black market for real estate, and an overall worsening of housing affordability in urban areas, leading to a rapid growth of slum areas.

Materials

Housing in Kathmandu is still individually and uniquely built. The materials used are few, the most common ones being brick and concrete, usually locally produced. Construction is manual. Unlike developed countries, where varieties of manufactured components are available to be assembled on site, construction in Kathmandu starts from the basics providing opportunities for creating specifically tailored details.

Infrastructure

High- and mid-rise buildings need a reliable electrical supply, water supply, and adequate services in sewerage, drainage etc., which are not currently available in Kathmandu, or affordable, especially for low-income housing. Even when they are available, they are often not reliable. Kathmandu presents an impressive case of how most people, both rich and poor, have resorted to private substitutes for basic services – wholly, or to supplement government-provided services – such as bore-wells for water supply, and septic tanks for solid waste disposal.

Although the infrastructure provided by the government is clearly insufficient, it must be acknowledged that the minimalist nature of these services controls the land prices from escalating (which would be the case otherwise), allowing access for the poor to land and housing.

Installation of services in the form of roads, water supply, sewerage, drainage, and other utilities turns raw land into land suitable for housing. Variation in the cost of providing services is the result of mainly the topography and size of

¹⁶ Rashid Faruqee and Kevin Carey, “Land Markets in South Asia: What Have We Learned?”, The World Bank, 1997.

¹⁷ Grimes, Orville F. Jr., Housing for Low-Income Urban Families, The World Bank, 1976 (Chapter 4)

cities, as well as the density of development. Quality of service is as important as the quantity. The choice of level of service must be made to accommodate the preferences and willingness to pay of urban households.

In some countries, high standards for service provision have severely constrained the supply of land, increasing the cost of housing. For example, in Karachi, despite the fact that 90 percent of the land is in public ownership, the supply of 'serviced' plots is constrained due to lack of infrastructure provision. As a consequence, land and housing prices have increased in real terms at 11 percent per year -- far faster than household income. This pricing out of low- and moderate-income households from the market has resulted in the acceleration of informal sector settlements.

Construction Cost

In Kathmandu, the proportion of housing cost allocated to construction varies considerably as a result of the differences in the cost of materials and labor, construction techniques, the size of the structure, and the cost of other housing components. The three major cost components are (i) raw land, (ii) service-provision, and (iii) basic construction. The cost of raw land depends on its location: peripheral land typically constitutes a lower proportion of total cost than intermediate or centrally located land. Land servicing accounts for minor portions of the total cost. Basic construction cost makes up the major proportion of total cost. Given that land is mostly inherited, and services are minimal, most low-income families need only to bear costs of construction. Incremental upgrading makes this construction cost affordable.

Finance

As seen above, housing supply in Kathmandu has been taking place almost entirely through the owner-builder process, financed mainly from personal savings, sale of family assets such as land and jewelry, family loans, and to some extent, provident-fund loans, and employer- and bank-loans. Family income (refer to Table 3) compared to house price¹⁸ is pretty low. It takes five to ten years, on an average, for low-income families to save to buy a plot of land and then almost as many years more to build a house. It is common to build low- and middle-income housing incrementally. Virtually all the houses are constructed one story at a time, with provisions to add floors.

Investment in urban housing involves purchase of land, construction of dwellings, and the provision of associated physical and social services. With excessive demand due to controlled interest rates, the few private housing finance institutions that have come up recently prefer lending to least risky borrowers, channeling money to rich customers with ample collateral. Low income families, and often those with medium incomes, are excluded in such rationing; they are left to rely on informal credit markets, in which interest rates are often many times their level elsewhere, or to a few mutual savings associations.

III. Physical Access

Kathmandu has attempted to overcome the deficiency of a good public transport system by resorting to private substitutes -- from mini-buses and private taxi-cabs, to three-wheelers and cycle-rickshaws. Although vehicle ownership is growing at a fast pace, it is prevalent only among the upper income classes.¹⁹ In low-income housing in Kathmandu, where vehicular ownership is practically non-existent at present, the road-widths are extremely narrow. Walking and cycling provide acceptable solutions for the poor almost everywhere, thanks to the city's small size.

Proximity to employment centers obviously has an impact on real estate value. As a result, areas close to central commercial zones command high prices, while those far out are relatively cheaper. But again, since the city is relatively small in size, the variations in price are not very substantial.

Urban land resources are fixed and must be used where they are found. Thus, the movement of persons and goods from one point to another always involves a cost. The severity of the transportation situation of the poor is determined primarily by the city size. In most cities, efficient and diversified private and public transportation is required to facilitate commuting.

IV. Land Acquisition Laws and Public Land

¹⁸ Data not available.

¹⁹ This, in itself, raises another set of questions regarding the environment, the deterioration of which is posing a serious threat. The traditional core with extremely narrow road-widths provides evidence of the fact that the city was never designed to accommodate so many cars. A good public transportation, then, is imminent for the Valley in the long-run.

The very fact that there is little government control over land and housing in Kathmandu, and the absence of any real land-acquisition laws (in practice), means that the state, in real terms, has very little control over the land markets. Most of the land is in private ownership. This non-availability of public or no-man's land could be another factor preventing the growth of slum and squatters.

*"The frequency with which public or private land is invaded differs, showing that invaders choose between the two types of land according to the chances of success which each of them offers. It is calculated that, throughout the years, 90 percent of violent invasions have occurred on state land, especially waste or unoccupied land. It is easier to invade state land than private land for, when no particular individual is affected, there is less incentive to react. There are also political considerations which may make to government sympathetic to an occurrence which, although it amounts to illegal seizure of property, may appear to be a spontaneous act of redistributive justice."*²⁰

"The more difficult it is for a family to settle down in a house of their own, the more non-owner occupant households there will be. This exerts an upward pressure on rents which, in turn, limit possibilities to save, and so on."

- Jan van der Linden²¹

Conclusions

In cities of the developing world, a third to two-thirds of the inhabitants are unable to afford the cheapest new standard housing, and end up living in crowded and dilapidated central city slums and shanty towns.²² The phenomenal growth and development of these informal settlements is a testament to the drive and initiative of the poor, and their ability to forge affordable housing solutions. This informal housing delivery system is remarkable in its ability to respond to the housing needs of the low- and moderate-income households, and has vastly out-produced the formal sector.

Characteristics of Informal Housing:

- Smaller configuration of dwelling unit (unit size, no. of rooms, and plot size) than in planned developments; higher densities per room -- reflecting diminished ability of lower-income households to pay.
- High percentage of single-family units -- reflecting tendency of households to gradually self construct their units on small plots, with incremental upgrading.
- May not be high quality, but is more efficient, affordable, and demand responsive.²³

Hence, informal settlements should be viewed as

*"a 'solution' rather than a 'problem'. The vast settlements surrounding major cities in developing countries are not 'rings of misery', nor 'creeping cancers', but evolving communities... The shanties are not housing in deterioration; they are housing in the process of improvement, in which new urban migrants are struggling to make their way upward in a newly-industrializing economy... The piecemeal system of building affords great advantages to those who, like most of the poor in developing societies, have great variations in income from month to month... The shanty towns should be seen as active, organized and self-mobilizing, rather than being demoralized and parasitic, and their housing substandard only if looked at one point in time. In the larger context, it is a stock in progress, on the way to becoming adequate through continuous investment by the individual household."*²⁴

Third World Housing: What Next?

Land markets in developing and industrializing countries are subject to regulatory constraints that significantly affect the operation of the market and equilibrium prices and sales, contribute to reduced efficiency, and have negative equity

²⁰ Hernando de Soto, "Informal Housing", The Other Path.

²¹ Jan van der Linden, "Back to the Roots: Keys to Successful Implementation of Sites-and -Services", Beyond Self-Help Housing: The effects of such a process are clearly visible in cities like Karachi: increasing household sizes, increasing occurrence of renting and doubling-up, densification in existing settlements, rising prices of land and rents, and the recurrence of non-commercial invasions of land.

²² Lisa Peattie, "Some Second Thoughts on Sites-and-Services", HABITAT INTL, Vol. 6, No. 1/2, 1982.

²³ David E. Dowall, "A Tale of Two Cities: A Comparison of Karachi's Informal and Formal Housing Delivery Systems", UC Berkeley, 1991 (IURD Working Paper 530)

²⁴ Lisa Peattie, "Some Second Thoughts on Sites-and-Services", HABITAT INTL, Vol. 6, No. 1/2, 1982.

implications.²⁵ Regulations impede land supply, increase the costs of residential plots, and limit the ability of developers to respond to changing housing demand. Complicated approval procedures limit housing market competition by creating barriers to entry. They also make the housing market more sluggish and slow to adjust production to meet changing demand.

In many third-world country cities, serviced land is made available at unduly high space standards, which means that more land must be acquired to house the same number of people. Housing standards are typically established by those concerned almost exclusively with the physical aspects of the dwelling rather than with wider aspects of the residential environment. As a result, official minimum standards for the placement and construction of dwellings are generally higher than families with low incomes can afford or than they deem essential to satisfy their needs.

Reasons for the adoption of minimum space standards above the acceptable level are:

- the governments are loath to being accused of building slums;
- standards can be said to reflect expectations;
- widespread lack of understanding of the costs imposed by excessively high standards.

Such standards, however, are largely theoretical: plots are likely to become over-occupied as long as demand outstrips the available supply. An “alternative development” argument says that

“law impedes the efforts of ordinary people to house themselves, to obtain an income, to get access to potable water, electricity and other urban services and thereby to survive and better themselves in an urban environment. Law turns homesteaders into squatters, self-build houses into ‘slums’ and ‘nuisances’ which must be demolished; petty traders into criminals and job seekers into vagrants. The less the law and lawyers have to do with uncontrolled urban settlement and the informal urban economy the more chance people in those sectors have of survival and development.”²⁶

“The relationship between the informal housing production sector and government regulations over housing and land development is direct and reciprocal. The informal sector exists because of government regulations. Remove them and you will eliminate the blemish of informality... Without regulations, the marketplace will determine what households are willing and able to purchase in terms of housing services.”²⁷

So, should governments be legislating standards that less than half of their citizens can afford? Clearly, the answer is “no”. What then legitimizes the role of law in urban development?

One possible answer is that a government in accordance with law is likely to be fairer and more effective in the long-run than a government in defiance of the law. Within a government then, law can provide a measure of certainty and support for particular policies and programs, and institutions whose job it is to execute them.

But what about the government vis-à-vis the people? An example would be a law that confers power on the government, and rights on the people, such as a law permitting compulsory acquisition of land subject to payment of compensation. But then, governments are more likely to know their powers than the people their rights, and this could result in an unequal application of the law.

This does not, however, imply complete deregulation or the abandonment of any attempt to manage growth. The realistic reappraisal of the failures of state intervention should not be replaced with a wholly unrealistic view of what uncontrolled market forces and individual initiatives can achieve. The relevant policy question to ask is: **what are the minimum levels of regulations or standards that can effectively address concerns of affordability and access to housing by the poor?**

There is no single answer to this. Solutions vary with context. One important consideration, though, is that “minimum” housing standards should be established to improve the overall well-being, and conceived of as relative to health and safety, without focusing only on the cost or design aspects of the dwellings. For example, lack of ventilation, sunlight, drainage and other amenities may be more important to health than the amount of space per person. Many developing

²⁵ Antônio Salazar P. Brandão and Gershon Feder, “Regulatory policies and reform: the case of land markets”, Chapter 10 of Regulatory Policies and Reform: A Comparative Perspective, Claudio Frischtak (ed.), World Bank, December 1995. pp. 191-209.

²⁶ Nick Devas and Carol Rakodi (Eds.), Managing Fast Growing Cities: New Approaches to Urban Planning and Management in the Developing World, John Wiley & Sons, Inc., New York, 1993.

²⁷ David Dowall, “Less is More: The Benefits of Minimal Land Development Regulation”, Working Paper 531, USAID, UC Berkeley, IURD, 1991.

countries turn to standards derived from the experience of developed countries, which generally have different (usually more severe) climates as well as higher incomes and different patterns of development. Additionally, in order to eliminate the unfortunate impacts of well-intentioned regulations and policies, governments need to undertake an assessment of the urban land markets of their major cities and towns. A land market assessment (LMA) serves as an important guideline for establishing and reforming government regulations (Dowall, 1990)²⁸.

The state, whether at the national or the local level, has a clear role in providing the appropriate framework for development, and countering inefficiency and inequity. But it is important that the interventions are *more selective, more strategic and more realistic*.

²⁸ Besides assessing the basic issues related to land markets, such as changing demand and supply, real estate prices, inflation, affordability, occupancy, access to housing, relationship between supply and regulations etc., the LMA also provides baseline estimates of future urban land requirements, and helps guide infrastructure programming and investment decisions.

Future Research

This paper was based on my observations in Kathmandu during my stay there (1995-98), and supported by evidence that I gathered from a literature review during the past 3 months. It was while looking for data specific to Kathmandu did I realize how little research has actually been conducted in Nepal, let alone Kathmandu. And even lesser is up-to-date (most of the information I gathered was from publications of the 80s and early 90s), or backed by strong evidence (many journals and reports make conclusions without referring to sources, or to the kind of surveys that were conducted – whether there is a likelihood of a bias creeping due to sampling errors etc.). This literature review has been an insightful experience that gave me a broad overview of housing problems in the third-world countries. In the course of the next few years, I would like to continue this research in the field.