



Urban Growth and Informal Settlements: Understanding the Evolution of Squatter Communities in Kathmandu Valley

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Abstract

Kathmandu Valley, Nepal's urban core, has witnessed unprecedented population growth and spatial expansion over the past five decades, resulting in the proliferation of informal or squatter settlements along riverbanks and peri-urban fringes. This study grounded entirely on secondary data sources census statistics, published reports, academic literature, spatial analyses, and institutional records examines the dynamics of urban growth and the evolution of informal settlements in the Valley. Through a comprehensive review and synthesis of existing research, the article analyzes the interconnections between demographic pressures, land-market transformations, policy gaps, and the socio-economic conditions of squatter communities. The findings reveal that informal settlements are not merely manifestations of poverty, but rather products of structural urban inequities, weak land governance, and inadequate housing policies. Environmental degradation, tenure insecurity, and limited access to services further exacerbate social vulnerability. The study identifies critical knowledge gaps in longitudinal monitoring, urban land management, and integrated planning frameworks. Policy discussions emphasize the need for inclusive urban strategies that balance environmental sustainability, affordable housing, and social justice. This review contributes to the understanding of urban informality in Nepal by consolidating fragmented evidence into a coherent framework for future research and policy reform.

Keywords: Informal Settlements, Urban Growth, Land Governance, Housing Policies, Socio-economic Vulnerability



1. Introduction

1.1 Background

Rapid urbanization has become one of the most defining features of socio-economic transformation in developing countries, particularly in South Asia. In Nepal, the Kathmandu Valley has experienced significant demographic and spatial expansion since the 1980s, driven by rural-to-urban migration, economic centralization, and administrative concentration (Thapa & Murayama, 2008). However, this urban growth has not been accompanied by adequate planning or affordable housing provisions, resulting in the proliferation of informal and squatter settlements along riverbanks and public lands (Lumanti, 2010) (UN-Habitat, 2015).

Urbanization in Kathmandu Valley reflects a paradox of progress and exclusion while the city serves as Nepal's political and economic core, it simultaneously reveals deep-seated inequalities in access to housing, land, and basic services. A significant portion of the low-income population, unable to access formal housing markets, has informally settled in vulnerable areas such as Thapathali, Teku, Sinamangal, and the Manohara River corridor (Acharya, 2015) (Lumanti, 2021). These settlements represent a complex interaction between urban land pressures, migration dynamics, and weak governance, mirroring trends observed in other South Asian cities like Delhi and Dhaka (Hasan, 2010) (Roy, 2005).

1.2 Problem Statement

Despite decades of policy efforts, including the National Urban Development Strategy (NUDS, 2017) and National Housing Policy (DUDBC, 2020), informal settlements continue to expand in Kathmandu Valley. The absence of secure tenure, inadequate infrastructure, and exposure to environmental risks remain persistent issues. While several studies have mapped the growth of squatter communities, there is limited understanding of how urban growth processes them to contribute their formation and transformation. This gap underscores the need to analyze the evolution of squatter settlements as a dynamic outcome of urbanization, governance practices, and community adaptation mechanisms.

1.3 Objectives of the Study

The main objective of this study is to examine the evolution and characteristics of squatter communities in Kathmandu Valley within the broader context of urban growth. The specific objectives are to:

1. Assess the spatial and temporal expansion of informal settlements in relation to urban development trends.
2. Analyze the socio-economic and environmental conditions of squatter communities.
3. Examine the policy and institutional responses addressing informal housing and urban poverty.
4. Propose strategic directions for integrating informal settlements into inclusive urban planning frameworks.

1.4 Rationale of the Study

Understanding the linkages between urban growth and informal settlement formation is essential for developing equitable and sustainable urban policies. This study contributes to the ongoing discourse on inclusive urbanization by documenting how marginalized populations negotiate space and survival in the rapidly transforming urban landscape of Kathmandu. Furthermore, it supports evidence-based decision-making for agencies such as the Kathmandu Valley Development Authority (KVDA), DUDBC, and local governments in designing participatory and context-sensitive housing programs.

1.5 Review of Related Literature

The phenomenon of informal settlements has been widely discussed in urban studies literature. According to (Roy, 2005), *urban informality* should not be viewed merely as a symptom of poverty but



as an intrinsic part of the urbanization process shaped by political and economic exclusion. Similarly, (UN-Habitat, 2015) emphasizes that the growth of informal settlements reflects inadequate urban governance and the inability of cities to provide affordable housing.

In the context of Kathmandu Valley, (Thapa & Murayama, 2008) used remote sensing to reveal the city's rapid expansion and its encroachment into peri-urban and environmentally sensitive areas. Their study highlights that unplanned growth and weak land management systems have intensified land-use conflicts and squatter encroachment. (Lumanti, 2010) & (UN-Habitat, Study of urban poverty and housing in Kathmandu Valley, 2010) provide valuable socio-economic insights, showing that squatter households rely on informal employment and lack secure tenure and access to sanitation. (Acharya, 2015) further notes that these communities are not homogeneous but display internal diversity in livelihoods, tenure claims, and social organization.

From a policy perspective, (NUDS, 2017) & (DUDBC, 2020) have identified informal settlements as a critical urban development challenge, urging integration of upgrading and regularization programs into municipal planning. Internationally, (Hasan, 2010) and (UNESCAP, 2018) argue for participatory upgrading as a viable alternative to forced eviction, emphasizing community empowerment and co-production of housing solutions.

Despite these contributions, research on Kathmandu's squatter settlements remains fragmented often focusing on socio-economic profiles rather than the processes driving their evolution. This study addresses that gap by analyzing informal settlement growth as a product of urban expansion, governance dynamics, and community adaptation within the spatial and policy context of Kathmandu Valley.

2. Urban Growth in Kathmandu Valley

2.1 Overview of Urbanization in Nepal

Urbanization in Nepal has accelerated rapidly over the past four decades, transforming the socio-economic and spatial landscape of the country. The share of the urban population increased from 3.6% in 1971 to 66% in 2021, largely due to the administrative reclassification of municipalities and migration from rural areas (CBS, 2022). However, this growth has been highly concentrated in the Kathmandu Valley, which has evolved into the nation's dominant political, economic, and cultural center.

The valley, encompassing Kathmandu, Lalitpur, and Bhaktapur districts, occupies only about 665 km² but houses over 2.5 million people nearly 20% of Nepal's urban population (MoUD, 2017). This disproportionate concentration of population and investment has placed immense pressure on urban infrastructure, land, and housing markets.

2.2 Historical Evolution of Urban Growth in Kathmandu Valley

The Kathmandu Valley's urban development dates back centuries, rooted in the Newar civilization and its traditional city-states of Kathmandu, Patan, and Bhaktapur. However, modern urbanization began after the 1950s, following the end of Rana rule and the establishment of a centralized governance system.

2.2.1 Early Phase (1950s -1980s): Controlled Growth

During the early decades, urban growth was relatively contained, with the central city areas expanding gradually. Government initiatives such as the Town Development Implementation Act (1978) and the establishment of the Kathmandu Valley Town Development Committee (KVTDC) aimed to manage urban expansion through planned land development and infrastructure provision (Shrestha, 2013).



However, the implementation of these plans was limited, and the lack of affordable housing options prompted the emergence of informal settlements near riverbanks, particularly along the Bagmati and Bishnumati rivers (Lumanti, 2010).

2.2.2 Expansion Phase (1990s - 2010s): Rapid and Unplanned Growth

The 1990s democratic transition triggered a surge in rural to urban migration, as people sought employment, education, and services concentrated in the capital. The urban area of Kathmandu Valley expanded more than fourfold between 1989 and 2016 (Thapa & Murayama, 2008) (ICIMOD, 2018).

Land use studies show that agricultural lands were rapidly converted into residential and commercial uses, often without formal zoning or infrastructure planning. The private sector dominated land subdivision, resulting in fragmented and unregulated urban sprawl. Concurrently, low-income migrants unable to afford formal land resorted to squatting on marginal lands, contributing to the proliferation of informal settlements (UN-Habitat, 2010).

2.2.3 Recent Phase (2015- Present): Metropolitan Expansion and Spatial Inequality

The post-2015 federal restructuring and the 2015 earthquake accelerated metropolitan expansion. Reconstruction activities and land speculation increased housing demand, pushing the urban fringe further into peri-urban municipalities such as Kirtipur, Madhyapur Thimi, and Changunarayan (KVDA, 2019).

At the same time, squatter settlements became more visible and politically sensitive, as eviction efforts under the Bagmati River Restoration Project drew national attention (Lumanti, Lumanti Support Group for Shelter. Community-led housing initiatives in Nepal., 2021). Thus, the contemporary phase of urban growth in Kathmandu Valley is characterized by both modernization and deepening spatial inequality.

2.3 Drivers of Urban Growth in Kathmandu Valley

Urban growth in Kathmandu Valley is influenced by a combination of demographic, economic, political, and institutional factors:

2.3.1 Rural to Urban Migration

Migration is the principal driver of population increase. Limited employment opportunities, poor access to services, and the impact of natural disasters in rural areas have pushed people toward the valley (CBS, 2022). Migrants are attracted to Kathmandu by perceived economic and educational opportunities (Shrestha & Shrestha, 2019).

2.3.2 Economic Centralization

Kathmandu accounts for nearly 35% of Nepal's GDP, hosting most national headquarters, universities, and international agencies (World Bank, 2021). This economic centralization fuels real estate development but also inflates land prices, making formal housing inaccessible to low income groups.

2.3.3 Land Market and Speculation

Rapid land value appreciation has encouraged speculative land trading. Informal land subdivision and irregular plotting are common, often in flood prone areas. As noted by Hachhethu (2014), this speculative urbanism has marginalized the poor and exacerbated informal land occupation.

2.3.4 Weak Urban Governance

Urban growth management remains fragmented across multiple agencies, including KVDA, DUDBC, and local governments. Weak enforcement of land-use regulations, coupled with political patronage, has resulted in unregulated settlements and encroachments (MoUD, 2017) (Acharya, 2015).



2.3.5 Infrastructure and Connectivity

Improvements in transportation and communication networks have expanded the urban footprint. Road expansion under the Ring Road and Outer Ring Road projects has encouraged suburbanization, converting fertile agricultural land into urban plots (ICIMOD, 2018).

2.4 Spatial Pattern and Land Use Change

GIS-based analyses reveal a striking spatial transformation in Kathmandu Valley. Built-up areas increased from 27 km² in 1989 to over 110 km² by 2016, with significant expansion toward the northern and western fringes (Thapa & Murayama, 2008); (ICIMOD, 2018).

This pattern corresponds with:

- The densification of the urban core (Kathmandu Metropolitan City)
- Peripheral sprawl along the Manohara, Hanumante, and Bagmati river corridors
- Conversion of farmland into unplanned residential zones
- Emergence of informal settlements on marginal lands and floodplains

Such patterns reveal the spatial inequality of urban growth where high income gated communities and low-income squatter clusters coexist within close proximity, highlighting the dual nature of Kathmandu's urbanization (UN-Habitat, 2015).

2.5 Consequences of Rapid Urban Growth

The accelerated and uncoordinated urbanization of Kathmandu Valley has produced multiple interlinked consequences:

2.5.1 Housing Shortage and Informal Settlements

The formal housing market has failed to meet demand due to high land prices and limited financing options. As a result, informal and squatter settlements have proliferated, accommodating low-income groups and recent migrants (Lumanti, 2010); (Acharya, 2015).

2.5.2 Environmental Degradation

Uncontrolled land conversion has degraded the valley's fragile ecosystem. River pollution, loss of agricultural land, and reduced groundwater recharge have been widely reported (ENPHO, 2018). Informal settlements located along riverbanks are especially vulnerable to floods and waterborne diseases.

2.5.3 Infrastructure Deficiency

Urban expansion has outpaced infrastructure development. Many peri-urban areas lack adequate water supply, sanitation, and waste management, creating disparities in service delivery (MoUD, 2017).

2.5.4 Social and Spatial Inequality

The uneven distribution of resources has intensified inequality between formal urban residents and informal settlers. The spatial segregation of the urban poor contributes to socio-economic marginalization and limited upward mobility (Roy, 2005).

2.6 Summary

Kathmandu Valley's urban growth is a complex and uneven process shaped by migration, economic centralization, speculative land markets, and weak urban governance. While the city has emerged as Nepal's primary growth hub, its rapid expansion has produced deep spatial inequalities and the proliferation of informal settlements. The next chapter will examine how these structural forces have directly influenced the emergence, characteristics, and spatial patterns of squatter communities, highlighting their role in the broader narrative of urban transformation.



3. Emergence and Distribution of Informal (Squatter) Settlements

3.1 Introduction

The phenomenon of informal or squatter settlements in Kathmandu Valley represents one of the most visible manifestations of unregulated urban growth and socio-economic inequality. As the valley urbanized rapidly over the past five decades, the demand for affordable housing far outpaced the supply of planned land and services. Consequently, low-income migrants and marginalized populations resorted to occupying public or environmentally fragile lands, particularly along riverbanks and open spaces (Lumanti, 2010).

Informal settlements have thus evolved as a spatial outcome of the intersection between urban expansion, poverty, and exclusionary land markets. Understanding their emergence and distribution is essential for framing inclusive urban policies and sustainable housing solutions.

3.2 Defining Informal and Squatter Settlements

Informal settlements are broadly characterized by unplanned and unauthorized occupation of land without formal tenure, lacking adequate housing, infrastructure, and basic services (UN-Habitat, 2015). In the Nepali context, the term “squatter” (Nepali: Sukumbasi) often refers to people residing on public or government-owned land without legal ownership (MoUD, 2017).

However, as argued by Roy (2005), urban informality should not be viewed merely as illegality but as a form of “negotiated space” within the formal planning system where residents create social, economic, and political legitimacy over time. In Kathmandu Valley, such in-formalization has evolved into a socio-political process rather than just a physical one.

3.3 Historical Emergence of Squatter Settlements

3.3.1 Early Beginnings (1970s–1980s)

The first known squatter settlements in Kathmandu Valley appeared during the 1970s, as rural migrants displaced by poverty and lack of livelihood opportunities moved to the city in search of work. Settlements like Thapathali, Shankhamul, and Teku emerged on public lands near riverbanks, where access to water and proximity to employment were key considerations (Lumanti, 2010).

The government response during this period was largely neglect or eviction, with little recognition of informal housing as part of the urban system (Shrestha A. , 2013). However, the absence of affordable alternatives made these settlements more resilient over time.

3.3.2 Expansion and Consolidation (1990s - 2010s)

The democratic movement of 1990 and subsequent rural-urban migration led to an exponential rise in squatter populations. Between 1990 and 2010, the number of informal settlements increased from 17 to over 60, with the population reaching approximately 10,000 households (Lumanti, 2010); (UN-Habitat, 2010).

This period also saw institutional recognition of the issue. NGOs like Lumanti Support Group for Shelter and development agencies like UN-Habitat began documenting and supporting squatter communities through housing, sanitation, and microfinance programs (Lumanti, 2010); (UN-Habitat, 2015).

3.3.3 Recent Trends (2015 - Present)

Following the 2015 Gorkha Earthquake, many displaced families, particularly renters and migrants, sought refuge in informal settlements or established new ones along the Manohara River, Hanumante River, and peri-urban areas of Kirtipur and Madhyapur Thimi (Lumanti, 2021).

The post-earthquake reconstruction phase also brought renewed debates over tenure security, with some settlements being relocated under the Bagmati River Restoration Project (KVDA, 2019).

Thus, the evolution of squatter settlements in Kathmandu Valley reflects the interplay between displacement, poverty, and exclusionary urban development.

3.4 Typology and Characteristics of Informal Settlements

Squatter settlements in Kathmandu Valley are heterogeneous in terms of location, structure, and social composition. Based on Lumanti (2010) and MoUD (2017), they can be classified into four broad types:

Type	Location Characteristics	Examples	Dominant Features
Riverbank Settlements	Along Bagmati, Bishnumati, Manohara, and Hanumante rivers	Thapathali, Shankhamul, Teku, Sinamangal	Prone to flooding; poor sanitation; high density
Roadside Settlements	Near highways and public lands	Kalanki, Balaju, Tinkune	Informal vending; temporary structures
Institutional Land Occupation	On government or public institution lands	Bansbari (Forest Department), Tinkune (DoR land)	Semi-permanent structures; long-term settlers
Peri-Urban Settlements	Outskirts of the valley	Kirtipur, Imadol, Changunarayan	Expanding rapidly; land purchased informally or through middlemen

Socially, these communities comprise a mix of rural migrants, Dalits, indigenous groups, and marginalized hill populations. Livelihoods are primarily based on the informal economy, including daily wage labor, street vending, recycling, and domestic work (Shrestha & Shrestha, 2019).

Despite their precarious conditions, these settlements exhibit strong social cohesion and community-based organization, often supported by federations like the Nepal Basobas Basti Samrakshan Samaj and Lumanti's Community Women's Network.

3.5 Spatial Distribution of Squatter Settlements

The spatial distribution of informal settlements closely follows the river systems and public open spaces of the valley.

3.5.1 River Corridors

The Bagmati River corridor has historically hosted the largest concentration of squatter settlements, including Thapathali, Shankhamul, Teku, and Sinamangal. Similarly, Bishnumati and Manohara rivers feature densely populated clusters such as Bafal, Gaurighat, and Mulpani (UN-Habitat, 2010) (Lumanti, 2021). These locations provide access to water and central city areas but are exposed to flooding and eviction risks.

3.5.2 Institutional and Public Land

Publicly owned land under government agencies, such as the Department of Roads, Forest Department, and Municipal Properties, has been occupied by informal settlers. These areas tend to be more permanent and politically connected, often with semi-permanent housing and access to electricity (MoUD, 2017).

3.5.3 Peri-Urban Expansion

The urban fringe areas particularly Imadol, Kirtipur, and Changunarayan have witnessed an increase in informal settlements since 2015, driven by migration and limited rental housing (KVDA, 2019). These areas represent the new frontier of informal urbanization in the valley.



3.6 Socio-Economic Conditions of Squatter Households

Empirical studies (Lumanti, 2010); (UN-Habitat, 2015); (Shrestha A. , 2013) reveal the following key socio-economic patterns:

- **Income and Employment:** Most households earn less than NPR 20,000 per month, relying on informal or irregular work.
- **Education:** Literacy levels are significantly lower than the city average; however, access to community schools is improving.
- **Tenure and Security:** Only 10-15% possess any form of semi-legal documents; others depend on community recognition or political protection.
- **Infrastructure:** Access to piped water, sanitation, and waste management remains inadequate. Shared toilets and water points are common.
- **Social Capital:** Strong community networks and women-led savings groups play a critical role in managing microfinance, housing upgrades, and collective action (Lumanti, 2021).

These conditions highlight both the vulnerability and resilience of squatter communities within the urban system.

3.7 Policy Responses and Institutional Engagement

Government and civil society responses to informal settlements have evolved from eviction-oriented policies to participatory upgrading approaches.

- The Bagmati River Basin Project (1992–2002) initiated resettlement and eviction programs, often without adequate compensation (Shrestha A. , 2013).
- The National Shelter Policy (2012) and National Urban Development Strategy (NUDS, 2017) acknowledged the role of informal housing in urban growth and emphasized inclusive solutions.
- Organizations like Lumanti, UN-Habitat, and Asian Coalition for Housing Rights (ACHR) have implemented community-led housing and savings programs, promoting incremental upgrading rather than displacement (Lumanti, 2021).

Nevertheless, the challenge remains in formalizing tenure and integrating informal settlements into city planning frameworks.

3.8 Summary

The emergence and distribution of squatter settlements in Kathmandu Valley are deeply intertwined with urban growth dynamics, economic centralization, and social exclusion. From the riverbanks of Thapathali to the expanding fringes of Kirtipur, these communities represent both a symptom and survival strategy of Nepal's uneven urbanization.

Their persistence reflects not only poverty but also the failure of formal urban governance to provide accessible land and housing. The next chapter will explore the socio-environmental implications of these settlements focusing on vulnerability, risk exposure, and resilience mechanisms adopted by squatter communities.

4 Socio-Economic Profile of Squatter Communities

4.1 Introduction

This chapter presents a systematic socio-economic profile of squatter communities in Kathmandu Valley. Building on spatial and historical analyses (Chapters 2 and 3), it examines demographic composition, livelihoods and income patterns, education and health status, housing and tenure conditions, access to basic services, social capital and community organization, and gendered



dimensions of vulnerability and resilience. Where possible, findings are related to existing studies and program reports to situate empirical patterns within the broader literature.

4.2 Demographic Composition

Squatter settlements in Kathmandu Valley show heterogeneous demographic profiles but share several common patterns reported in national and local studies:

- Age structure and household size: Settlements typically host young to working-age populations driven by rural-to-urban migration; households often include extended family members and average household sizes tend to be larger than formal urban averages (Lumanti, 2010); (UN-Habitat, 2010).
- Migration status and origin: Large shares of residents are internal migrants from hill and mid-hill districts who move seeking work, education, or because of disaster/displacement (CBS, 2022); (Shrestha & Shrestha, 2019).
- Ethnicity and social groups: Squatter neighborhoods are socially mixed but often over-represent marginalized caste/ethnic groups and economically vulnerable populations (Acharya, 2015); (Lumanti, 2010).

These demographic features shape both needs (e.g., schooling, childcare) and capacities (labor supply, collective action) within settlements.

4.3 Livelihoods and Income Patterns

Livelihoods in squatter settlements are predominantly informal and diverse:

- Informal employment predominance: Residents commonly engage in daily wage labor (construction, pottering), informal commerce (street vending, small shops), recycling and waste collection, domestic work, and small-scale service activities (Lumanti, 2010); (UN-Habitat, 2010).
- Income volatility and low earnings: Household incomes are typically low and irregular; many households report multiple income sources to smooth consumption (Lumanti, 2010). Limited access to formal credit constrains investment in housing or micro-enterprise.
- Livelihood diversification and seasonal work: Seasonal migration and cyclical construction or agricultural demand affects income flows; some households depend on remittances from abroad but these are unevenly distributed (World Bank, 2021).

The informal nature of work limits social protection coverage and increases economic vulnerability to shocks (e.g., flood, pandemic).

4.4 Education and Human Capital

Education outcomes in squatter areas lag behind city averages, though there are positive trends:

- School attendance and literacy: Many children attend local community or public schools, but dropout rates especially at secondary level are higher due to child labor needs and affordability constraints (UN-Habitat, 2010). Adult literacy varies, with older and female cohorts often having lower rates.
- Skills and vocational training: Formal vocational training access is limited; NGOs and community groups sometimes provide short courses (livelihood training, tailoring) that improve employability for specific groups (Lumanti, 2021).
- Intergenerational aspirations: Despite constraints, families commonly prioritize education as a pathway out of poverty, indicating potential for human capital investments if financial and access barriers are addressed.



4.5 Health, Sanitation, and Public Health Indicators

Health status in squatter settlements is shaped by environmental exposure and limited services:

- Sanitation and water access: Many settlements rely on communal water points or informal connections; sanitation facilities are frequently shared and inadequate, raising risks of waterborne disease (ENPHO, 2018).
- Disease burden and vulnerabilities: Crowded living conditions, poor drainage, and proximity to polluted rivers increase exposure to diarrheal diseases, respiratory infections, and vector-borne illnesses. Maternal and child health indicators often fall short of municipal averages (ENPHO, 2018); (UN-Habitat, 2015).
- Health service access: While public health centers exist in the valley, financial and informational barriers can limit timely care. NGO-led health outreach programs have partially filled gaps.

Overall, environmental determinants of health are central to vulnerability in informal settlements.

4.6 Housing Conditions and Tenure Security

Housing and tenure are core socio-economic concerns for squatter households:

- Housing stock: Dwellings range from temporary structures (tin / bamboo) to incrementally improved brick houses. Construction quality is often poor and fails to meet safety or seismic standards (Shrestha A. , 2013).
- Overcrowding and multi-family occupancy: Limited plot sizes and the need to accommodate extended families produce overcrowding and substandard living space.
- Tenure insecurity: Most households lack formal land titles; tenure is frequently informal or dependent on local arrangements or political influence. This insecurity discourages long-term investment and increases eviction risk (MoUD, 2017); (Lumanti, 2010).
- Incremental upgrading: Where possible, households invest incrementally improving foundations, walls, or sanitation often funded by small loans or collective savings groups (Lumanti, 2021).

Tenure regularization and secure land rights emerge repeatedly in the literature as prerequisites for sustainable upgrading and poverty reduction.

4.7 Access to Basic Services and Infrastructure

Access to public services is uneven and often inferior compared to formal urban neighborhoods:

- Water supply: Intermittent piped water, dependence on communal taps, and informal connections are common. Distance to safe water points increases time burdens, especially for women.
- Sanitation and solid waste: Shared or inadequate toilets and limited waste collection services contribute to unsanitary conditions and environmental pollution near river corridors (ENPHO, 2018).
- Electricity and energy: Many settlements have electricity, though illegal connections and reliability issues exist. Energy poverty persists where connections are absent or unaffordable.
- Transport and connectivity: Proximity to work and markets is often a motivating factor for riverbank and roadside settlements, but peripheral settlements face higher transport costs and limited public transit (ICIMOD, 2018).

Service deficits directly affect health, livelihood options, and the time poverty of household members.

4.8 Social Capital, Community Organization, and Collective Action

Squatter communities display substantial social assets that contribute to resilience:



- Savings and credit groups: Women's savings groups and micro-finance circles are widespread; these groups facilitate small investments in housing and livelihoods and strengthen social cohesion (Lumanti, 2021).
- Community leadership and networks: Local leaders, neighborhood committees, and informal mediation mechanisms help coordinate collective needs (e.g., shared sanitation, water management).
- Linkages with NGOs and federations: Partnerships with organizations (Lumanti, ACHR, UN-Habitat) have supported upgrading, legal advice, and capacity building demonstrating the importance of institutional collaboration (UN-Habitat, 2015).

Social capital thus functions as both coping mechanism and a platform for negotiating with authorities.

4.9 Gender Dimensions and Social Inclusion

Gender plays a central role in shaping vulnerability and agency:

- Women's economic roles: Women participate in informal livelihoods (home-based enterprises, vending) and often manage household finances and savings groups. However, they face limited access to formal employment, skills training, and land ownership (Lumanti, 2021).
- Protection and safety: Dense, poorly lit public spaces and inadequate sanitation increase risks for women and girls (UN-Habitat, 2015).
- Participation in decision-making: While women engage in savings groups and community initiatives, their representation in formal negotiation forums with government is often limited; targeted gender-sensitive programs are required to strengthen their voice in upgrading and tenure processes.

Addressing gendered barriers is essential for equitable outcomes in upgrading or resettlement interventions.

4.10 Vulnerability, Shocks, and Adaptive Strategies

Squatter households are exposed to multiple shocks but also demonstrate adaptive capacity:

- Hazards and shocks: Floods, landslides (in fringe settlements), disease outbreaks, and eviction or demolition are recurrent shocks that compound socio-economic fragility (ENPHO, 2018); (Lumanti, 2010).
- Coping strategies: Diversified livelihoods, reciprocal support networks, savings groups, temporary migration, and incremental housing improvements are typical adaptive responses.
- Role of policy and programs: Community upgrading, regularization pilots, and disaster risk reduction initiatives increase resilience when designed inclusively and with tenure considerations (MoUD, 2017); (UN-Habitat, 2015).

Longer-term resilience requires coupling social protection and secure tenure with infrastructure and livelihood support.

4.11 Summary and Implications for Policy and Research

The socio-economic profile presented highlights the following cross-cutting conclusions:

1. Informal employment and low, volatile incomes are core features interventions should emphasize livelihood stabilization, skills training, and access to microfinance.
2. Tenure insecurity undermines investment in housing and infrastructure; policies that enable secure, incremental tenure are essential.
3. Service deficits (water, sanitation, waste) produce health burdens upgrading programs should prioritize basic services accessible at household level.



4. Social capital is a critical asset policy approaches must leverage community savings groups and local leadership rather than replacing them.
5. Gender-sensitive programming is needed to ensure women's safety, economic inclusion, and voice in planning.
6. Resilience-building must integrate hazard risk reduction with socio-economic supports to reduce vulnerability to both environmental and policy shocks.

These implications inform the design of inclusive urban policies and targeted interventions to integrate squatter communities into the broader urban fabric of Kathmandu Valley.

5. Governance, Policy Response, and Urban Planning

5.1 Introduction

Governance and policy responses play a crucial role in shaping the trajectory of informal settlements and their integration into urban systems. In Kathmandu Valley, the interplay between rapid urbanization, weak land management systems, and fragmented institutional frameworks has created a complex landscape for managing squatter settlements. Urban governance in Nepal involves multiple actors operating at national, provincial, and local levels, often resulting in policy overlaps, coordination gaps, and inconsistent responses to informal settlements (Shrestha B. , 2021); (Acharya R. , 2020).

5.2 Urban Governance Structure in Kathmandu Valley

Nepal's federal restructuring (2015 Constitution) transferred significant responsibilities for urban planning and housing to local governments. However, the transition has been uneven, with many municipalities lacking sufficient technical and financial capacities (Rai, 2019). National-level institutions, such as the Ministry of Urban Development (MoUD) and the Department of Urban Development and Building Construction (DUDBC), retain authority over housing policies and standards. The Kathmandu Valley Development Authority (KVDA) oversees land use and zoning within the valley, while local municipalities handle service delivery and enforcement (Sharma, 2022). This overlapping of authority often leads to fragmented planning efforts and conflicting priorities—such as when riverbank restoration and eviction programs are implemented without adequate coordination with housing or livelihood programs (Lumanti, 2020).

5.3 Policy Frameworks and Institutional Responses

5.3.1 National Urban Development Strategy (NUDS, 2017)

The National Urban Development Strategy (NUDS) emphasizes sustainable and inclusive urban growth. It recognizes informal settlements as integral components of the urbanization process and advocates for participatory planning and in-situ upgrading (MoUD, 2017). However, implementation at the municipal level remains inconsistent due to resource limitations and lack of monitoring mechanisms (Thapa S. , 2021).

5.3.2 National Shelter Policy (2012)

Nepal's National Shelter Policy (2012) promotes the right to adequate housing and encourages partnerships with NGOs and communities to deliver affordable housing solutions. Nevertheless, gaps remain in operationalizing land tenure regularization and financing mechanisms for low-income groups (Paudal & Shrestha, 2018).

5.3.3 Bagmati River Basin Improvement and Resettlement Programs

The Bagmati River Basin Improvement Project (BRBIP) and related river corridor restoration initiatives have targeted squatter settlements located along riverbanks. These programs aim to improve water quality, enhance flood control, and relocate vulnerable households to safer areas (Jha, 2020). While



environmentally beneficial, scholars argue that these programs often lack adequate resettlement planning, community consultation, and livelihood restoration (Gautam, 2019).

5.4 Approaches to Informal Settlements

5.4.1 Eviction and Relocation

Historically, the dominant government approach has been eviction, particularly in river corridors and public land areas. Such evictions often justified under environmental or infrastructure objectives have faced criticism for lacking transparency, participation, and social safeguards (Shrestha B. , 2021). Displaced families frequently return to informal sites due to inadequate relocation facilities.

5.4.2 Regularization and Tenure Security

Recent discourse has shifted toward tenure regularization as a sustainable approach to integrating informal settlements. Granting legal or semi-legal tenure rights can incentivize residents to invest in housing improvements (Rai, 2019). However, the process remains complex due to overlapping land ownership, unclear cadastral records, and bureaucratic hurdles (Acharya R. , 2020).

5.4.3 In-Situ Upgrading and Community-Led Initiatives

Community-based organizations, notably Lumanti Support Group for Shelter, have championed in-situ upgrading through participatory approaches. These initiatives mobilize local savings groups, conduct participatory mapping, and implement small-scale infrastructure improvements (Lumanti, 2020). Such approaches have proven effective in improving living conditions while preserving community cohesion (Gurung, 2021).

5.5 Role of Non-State Actors

Non-governmental organizations (NGOs), community-based organizations (CBOs), and international partners have been instrumental in advocating for inclusive housing rights and implementing pilot upgrading projects. Their collaboration with local governments has demonstrated how community participation can enhance sustainability and accountability (UN-Habitat, 2010). However, the scaling up of these initiatives requires stronger institutional support and policy coherence (Paudal & Shrestha, 2018).

5.6 Challenges in Policy and Governance

5.6.1 Fragmented Governance and Institutional Overlaps

The coexistence of national, valley-level, and municipal agencies has led to overlapping jurisdictions. This institutional fragmentation often results in inconsistent responses and weak enforcement of land use regulations (Thapa S. , 2021).

5.6.2 Limited Municipal Capacity

Despite constitutional empowerment, most municipalities in Kathmandu Valley lack financial resources, technical expertise, and trained urban planners to address informality effectively (Rai, 2019).

5.6.3 Social Inclusion and Participation

The lack of systematic participation mechanisms has marginalized squatter communities in decision-making processes. Women and low-income groups, in particular, remain underrepresented in urban policy formulation (Sharma, 2022).

5.6.4 Environmental and Climate Risks

Informal settlements located along riverbanks and floodplains face increasing exposure to climate-related hazards such as flooding and erosion. Integrating climate resilience and disaster risk reduction into housing policies remains a pressing challenge (Gautam, 2019).



5.7 Policy Recommendations

1. Adopt participatory and inclusive upgrading approaches that prioritize in-situ improvements rather than mass evictions.
2. Enhance municipal capacity through fiscal transfers, technical training, and data systems for informal settlement management.
3. Integrate environmental and housing policies to ensure that river restoration projects include social safeguards.
4. Develop tenure-mix models such as community leases or incremental regularization to enhance security of tenure.
5. Institutionalize community participation in urban planning and resettlement programs through formal consultative mechanisms.

5.8 Conclusion

Effective governance and policy responses are central to addressing informal settlements in Kathmandu Valley. While Nepal's policy frameworks recognize the importance of inclusion and sustainability, implementation remains constrained by weak coordination, resource gaps, and limited participation. Moving toward a model of participatory, climate-resilient, and inclusive urban governance will be essential for transforming squatter settlements into integral components of the urban fabric.

6: Findings, Gaps, and Policy Implications

6.1 Introduction

This chapter presents the major findings derived from the study of urban growth and informal settlements in Kathmandu Valley. It highlights the patterns and processes underlying the formation of squatter communities, the socio-economic and environmental implications, and the policy responses observed to date. The chapter further identifies the existing research and governance gaps and outlines key policy implications for managing informal settlements in a more inclusive and sustainable manner.

6.2 Major Findings

6.2.1 Informality as a Structural Outcome of Urban Growth

Informal settlements in Kathmandu Valley have emerged as an inevitable consequence of unregulated urban growth, rural-to-urban migration, and unequal access to land and housing. As Thapa and Murayama (2008) demonstrated, urban sprawl in the valley accelerated after the 1980s, accompanied by the inability of formal housing markets and planning mechanisms to absorb new migrants. Roy (2005) and UN-Habitat (2015) similarly argued that informality is not a marginal condition but an organizing logic of urbanization in the Global South. The concentration of employment and services in the core areas of the Valley, coupled with the scarcity of affordable land, has pushed low-income groups to occupy marginal and hazard-prone areas, particularly along riverbanks.

6.2.2 Diversity and Dynamics of Squatter Settlements

The squatter settlements in the valley are spatially diverse and socially heterogeneous. According to Lumanti (2010) and ICIMOD (2018), they vary by tenure status, housing condition, and degree of integration with the formal city. Some settlements, such as Thapathali and Teku, are centrally located and densely populated, while others at the urban fringes like Balkhu and Sinamangal are less congested but more exposed to environmental hazards. The residents' livelihoods are typically informal, with reliance on daily labor, street vending, and recycling work (Lumanti, 2021). Despite deprivation, these communities exhibit strong social networks and adaptive capacities.



6.2.3 Tenure Insecurity and Its Implications

Tenure insecurity remains the defining feature of squatter life in Kathmandu Valley. The absence of formal recognition and legal protection against eviction discourages residents from investing in permanent housing improvements or local infrastructure (MoUD, 2017); (Rai, 2019). Periodic eviction threats from government agencies, particularly along river corridors under the Bagmati Restoration Program, have heightened social tension and instability (Gautam, 2019).

6.2.4 Service Deficiencies and Environmental Vulnerability

The lack of basic services—safe drinking water, sanitation, drainage, and waste management—continues to undermine the living conditions of squatter communities. Settlements along the Bagmati, Bishnumati, and Hanumante rivers are frequently exposed to flooding and pollution hazards (ENPHO, 2018); (Gautam, 2019). Environmental degradation is both a cause and a consequence of informality, as settlements often arise in ecologically fragile and unregulated zones.

6.2.5 Fragmented Governance and Limited Coordination

The governance structure of urban management in Kathmandu Valley is highly fragmented. Multiple agencies, including the Kathmandu Valley Development Authority (KVDA), the Ministry of Urban Development (MoUD), and local municipalities, share overlapping jurisdictions with limited coordination (Paudal & Shrestha, 2018). Community-based organizations and NGOs like Lumanti have pioneered participatory upgrading models, but these efforts remain localized and insufficiently scaled (Lumanti, 2021).

6.3 Gaps Identified

6.3.1 Lack of Comprehensive Data and Spatial Mapping

Although remote sensing studies (Thapa & Murayama, 2008); (ICIMOD, 2018) have enhanced spatial understanding of urban expansion, Kathmandu still lacks an integrated database linking socio-economic, cadastral, and environmental data on informal settlements. The absence of longitudinal datasets hampers evidence-based policymaking and monitoring of upgrading efforts.

6.3.2 Limited Long-Term Evaluation of Upgrading and Relocation Programs

Most studies and interventions evaluate outcomes only in the short term, with little understanding of the long-term socio-economic impacts of relocation or in-situ upgrading (Lumanti, 2021). There is a need for longitudinal assessments on livelihood transitions, housing durability, and community resilience.

6.3.3 Weak Institutional Framework for Tenure Security

Nepal's legal and institutional frameworks for land tenure remain inadequate to address informality. There are ambiguities surrounding community tenure, cooperative landholding, and conditional leases (Acharya R. , 2020); (Shrestha B. , 2021). These gaps discourage both communities and local governments from pursuing tenure formalization.

6.3.4 Insufficient Financing for Scalable Upgrading

Municipal budgets and donor support are limited, fragmented, and often project-based. Affordable housing policies are underfunded, and private sector participation remains minimal due to perceived risks (Paudal & Shrestha, 2018). The absence of a blended financing framework constrains the scaling of successful models.



6.3.5 Inadequate Gender and Social Inclusion Considerations

Gender-sensitive and socially inclusive approaches are often missing in the planning and implementation of upgrading programs. Women, marginalized castes, and migrants face compounded exclusion from tenure rights, decision-making, and credit access (UN-Habitat, 2015); (Lumanti, 2021).

6.4 Policy Implications

6.4.1 Emphasize In-Situ Upgrading and Secure Tenure Models

In-situ upgrading coupled with progressive tenure recognition offers a more socially equitable and economically viable alternative to mass eviction. Community-based mapping and participatory planning can help municipalities identify suitable models for incremental tenure formalization (Roy, 2005); (Lumanti, 2021).

6.4.2 Integrate Environmental Restoration with Social Safeguards

Urban river restoration programs should be redesigned to integrate social and environmental objectives. Safeguard measures, including negotiated resettlement and livelihood recovery, must be embedded in environmental improvement projects (Gautam, 2019).

6.4.3 Strengthen Institutional Coordination and Local Capacity

Urban governance should prioritize coordination between KVDA, MoUD, and municipalities, ensuring clarity of roles and joint programming. Building municipal capacity in land-use planning, GIS mapping, and inclusive governance is essential for sustainable outcomes (Rai, 2019); (MoUD, 2017).

6.4.4 Develop Sustainable Financing Mechanisms

Policy frameworks should encourage innovative financing such as community-based savings groups, municipal revolving funds, and public-private partnerships. These can fund infrastructure upgrading, basic services, and affordable housing construction (Paudal & Shrestha, 2018).

6.4.5 Institutionalize Gender and Social Inclusion in Policy

Policies must embed gender equity and social inclusion principles through mandatory representation in decision-making forums, targeted subsidies, and access to microcredit (UN-Habitat, 2015); (Lumanti, 2021). Monitoring systems should collect disaggregated data to track progress.

6.5 Research and Monitoring Priorities

To bridge existing knowledge gaps, the following research areas are critical:

1. Longitudinal studies on livelihood and housing outcomes post-upgrading or relocation.
2. Integrated GIS-based databases linking tenure, hazard exposure, and infrastructure data.
3. Experimental pilots on conditional community tenure models.
4. Evaluation of gender and inclusion impacts in informal settlement programs.
5. Comparative cost-benefit analysis of relocation versus in-situ upgrading.

6.6 Conclusion

The findings underscore that informal settlements in Kathmandu Valley are not merely a byproduct of poverty but a structural manifestation of uneven urbanization, governance fragmentation, and housing market exclusion. Addressing informality demands a multi-dimensional policy response balancing social equity, environmental resilience, and institutional coherence. Strengthening data systems, securing tenure, and financing inclusive upgrading are central to transforming squatter communities from marginal spaces into integral components of Kathmandu's urban future.



7: Conclusion

7.1 Synthesis of key arguments and findings

This study examined how rapid urban growth in Kathmandu Valley has produced and shaped informal (squatter) settlements, and how those settlements interact with socio-economic processes, environmental risk, and governance arrangements. The evidence presented across chapters indicates that:

1. Informality is structural, not incidental. Squatter settlements are a direct outcome of unequal urbanization, driven by concentrated economic opportunities, rural-urban migration, land-market pressures, and an insufficient supply of affordable housing (Thapa & Murayama, 2008); (Roy, 2005). Spatial analyses confirm persistent clustering of informal settlements along river corridors and peripheral urban fringes (ICIMOD, 2018); (Lumanti, 2010).
2. Heterogeneity and dynamism. Informal settlements are heterogeneous in tenure, housing quality, livelihoods, and risk exposure. Riverbank settlements differ markedly from peri-urban clusters in terms of vulnerability, tenure complexity, and interaction with municipal services (Lumanti, 2021); (UN-Habitat, 2010).
3. Tenure insecurity is a central constraint. Lack of secure, practicable tenure instruments discourage household investment, undermine incremental upgrading, and leave communities exposed to eviction and displacement (MoUD, 2017); (Rai, 2019).
4. Service deficits and environmental exposure compound deprivation. Inadequate water, sanitation, drainage, and waste management combined with siting on floodplains or polluted corridors—produce substantial public-health and disaster risks (ENPHO, 2018); (Gautam, 2019).
5. Fragmented governance and limited scale of participatory solutions. Multi-level institutional fragmentation and weak municipal capacity hinder coherent policy implementation. At the same time, NGOs and community organizations have demonstrated effective participatory upgrading models, albeit at localized scales and without consistent municipal mainstreaming (Paudal & Shrestha, 2018); (Lumanti, 2021).

These findings corroborate broader theoretical framings that treat informality as an integral logic of urbanization in the Global South (Roy, 2005) and echo empirical work on Kathmandu's particular patterns of expansion and social exclusion (Thapa & Murayama, 2008); (ICIMOD, 2018).

7.2 Theoretical and practical contributions

The study contributes both theoretically and practically:

- **Theoretically**, it reinforces a processual view of informality framing squatter settlements as evolving responses to structural urban pressures rather than solely as illegalities to be eradicated (Roy, 2005). By linking spatial expansion, livelihood strategies, and tenure politics, the research offers an integrated lens for understanding how informal communities adapt and reproduce within formalizing cities.
- **Practically**, the research highlights actionable entry points: (a) tenure instruments that are incremental and conditional; (b) in-situ upgrading paired with livelihood support; (c) integrated river basin restoration with social safeguards; and (d) municipal capacity building for GIS, cadastral systems, and participatory planning. These approaches align with observed successes and challenges identified in NGO-led pilots and policy documents (Lumanti, 2021) (MoUD, 2017).



7.3 Policy implications (recap)

Based on the evidence, the study emphasizes five priority policy directions:

1. **Prioritize participatory in-situ upgrading + pragmatic tenure:** adopt conditional leases or community tenure where full title is infeasible, linking tenure recognition to service provision and incremental investments (Lumanti, 2021); (Roy, 2005).
2. **Mainstream social safeguards into environmental programs:** ensure river restoration and floodplain remediation incorporate negotiated, livelihood-sensitive resettlement and co-benefits for affected communities (Gautam, 2019).
3. **Strengthen municipal systems and interagency coordination:** invest in cadastral modernization, GIS mapping, and clear mandates among KVDA, MoUD, and municipalities (MoUD, 2017); (Rai, 2019).
4. **Innovate financing for scale:** develop blended instruments (municipal matching grants, revolving funds, land-value capture, and community savings) to mobilize resources for upgrading and affordable rental housing (Paudal & Shrestha, 2018).
5. **Institutionalize inclusion and monitoring:** require gender-sensitive approaches, social impact assessments, and longitudinal monitoring to ensure equitable outcomes (UN-Habitat, 2015).

7.4 Final statement

Squatter settlements in Kathmandu Valley embody both vulnerability and resourcefulness. They are symptoms of structural inequality in urbanization but also sites of social capital, livelihood innovation, and political negotiation. Transforming these settlements into resilient, inclusive urban neighborhoods will require policy mixes that secure tenure pragmatically, scale participatory upgrading, integrate environmental restoration with social protection, and strengthen municipal capacity. Doing so is not only a technical challenge but a political and ethical imperative: to make Kathmandu's urban future more equitable and sustainable for all residents.

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