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**ECONOMIC SHIFT AND URBAN TRANSFORMATION OF
SIDDHIPUR**

by

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THESIS

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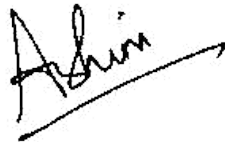
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ABSTRACT

This study investigates the economic and spatial transformation of Siddhipur, a traditional Newar settlement in the Kathmandu Valley, as it shifts from an agrarian village to a diversified economy driven by remittances and enterprises. The study focuses on land use, housing patterns and infrastructure development, along with changes in livelihood patterns, and source of income.

Results shift in income sources has led to lifestyle changes and higher living standards. The rising cost of living with stagnant income drives the need for better economic security and personal development cycles influence the transformation of the urban landscape.

The study enhances knowledge of how small towns, like Siddhipur, seek a balance between historical preservation and economic growth with recommendations based on socio-economic and spatial transformations observed and suggests to preserve agricultural roots while accommodating urban needs.

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LIST OF ABBREVIATIONS

Abbreviation	Full Form
AD	Anno Domini
BS	Bikram Sambat
CBS	Central Bureau of Statistics
CBD	Central Business District
CLC	Community Learning Center
FGD	Focus Group Discussion
FY	Fiscal Year
GGGI_GMD	Global Green Growth Institute_Green Municipal Development
GIS	Geographic Information System
LMC	Lalitpur Metropolitan City
n.d.	No Date
RCC	Reinforced Cement Concrete
TU	Tribhuvan University
UNESCO	United Nations Educational, Scientific and Cultural Organization
UN-HABITAT	United Nations Human Settlements Program
VDC	Village Development Committee
WATSAN	Water and Sanitation
WHO	World Health Organization

GLOSSARY

Local Nepali or Newari Words	Meanings
Aana	A unit of area used in Nepal, particularly in the hilly regions.
Appa	Brick
Baiga	Kitchen or Kitchen Floor; usually Top Floor in Newari House
Bhwe: Suku:	Long Straw Mat Used for Feast
Chheli	Ground Floor
Chhen	House
Chota	Second Floor
Dachi Appa	Tapered or specialized shape, often used for the finished exterior layer of walls, exposed to the elements.
Dya: Chhen / Dyo Chhen	God's House
Jho: Chhen	Houses built in linear - Horizontal alignment
Ka: si	Terrace
Ma: Appa	Rectangular-shaped bricks used for the core or structural part of the walls.
Matan	First Floor
Pa: Suku	Small Straw mats used like Cushions or place mats
Pati / Falcha	Public Rest House or Open Space
Pukhu	Pond
Suku / Sukul	Mat woven from Rice Straw
Ta: Pa: Suku	Big Rectangular Straw Mats used like a carpet

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1. Introduction

1.1. Background

Economic Shift is known to be a significant and sustained change in the structure or dynamics of an economy. Economic shifts can also be described in terms of changes in the economy over time, such as the transition from an agrarian to an industrial economy. An Economic evolution refers to the process of societal development over time, focusing on the changes in economic structures, property ownership, social inequality, and the transitions to new economic stages within societies.

Urbanization is the concentration of population and activities in specific regions or locations, driven by the pursuit of shared benefits such as economic, social, and political advancements. **Urban transformation** emerges from the expansion of built environments and socio-economic activities, allowing humans to utilize shared facilities over time and space (Bhattarai & Lal, 2021). It is a multifaceted process involving systemic changes across social, institutional, cultural, political, economic, technological, and ecological dimensions (Hölscher & Frantzeskaki, 2021). The process of urban transition is characterized by dynamic shifts in land use and settlement patterns, frequently brought about by economic development, migration, and insufficient urban planning frameworks. Understanding these spatial dynamics is critical for formulating sustainable development policies, particularly in regions experiencing rapid urbanization and ecological sensitivity. The focus on Siddhipur aims to bridge the gap in contextual research about periurban areas in the Kathmandu Valley, where rapid urbanization intersects with traditional livelihoods and cultural landscapes (Bhattarai & Lal, 2021).

While urbanization fosters growth, it also brings challenges such as urban blight, gentrification, poverty, and sprawl. These issues trigger spatial and functional changes, displacing local residents into isolated, less supportive environments (Shrestha & Joshi, 2022).

Urban sprawl refers to low-density, car-dependent suburban development marked by outward expansion, fragmented land use, and segregated activity zones, often following leapfrog-style patterns. It is a phenomenon characterized by unplanned and scattered development, often occurring on the peripheries of rapidly growing urban areas. This process impacts both economic activities and spatial organization, influencing the transformation of periurban settlements. In the Kathmandu Valley, areas like Imadol have witnessed significant sprawl due to physical, economic, and social drivers such as land speculation, road availability, population growth, and private vehicle ownership (Giri & Lal, 2021). Similarly, Siddhipur, a periurban settlement in the Valley, is experiencing shifts in land use and socio-economic dynamics, requiring a focused analysis of its economic evolution and spatial dynamics.

Gentrification involves the upgrading of urban neighborhoods by relatively disadvantaged residents, attracting businesses but frequently displacing long-term residents in the process (A. Shrestha & Uprety, 2022). Meanwhile, urban morphology focuses on the spatial organization of urban elements such as buildings, streets, and open spaces (Miller, 2013).

Siddhipur, a historic town in Nepal's Lalitpur District (Siddhipur, 2024), offers a unique lens to study these dynamics. Renowned for its rich Newar traditions, cultural heritage, and artisanal craftsmanship, Siddhipur has undergone significant economic and spatial transformations. Historically, the weaving of Sukul (straw mats) integral to Newar culture; served as a prominent livelihood. Over time, the decline in traditional practices has been offset by modern innovations, with the production shifting to steel-reinforced and decorative items. While traditional mats served functional purposes, these contemporary additions cater to aesthetic demands and contribute to employment and economic growth. This evolution not only sustains livelihoods but also preserves the town's cultural identity.

Siddhipur, a peri-urban settlement in the southeastern Kathmandu Valley, offers a unique case to study socio-economic and spatial transformations in a rapidly urbanizing context. Historically, reliant on agriculture, Siddhipur is transitioning toward diversified economic activities, reflecting broader patterns of urban expansion and peri-urban integration (van Rooij, 2009).

This study aims to investigate the economic drivers of Siddhipur's transformations and their implications for the town's spatial development. Through this exploration, it seeks to understand the interplay between economic evolution and urban form, contributing to the discourse on urban transformation in culturally significant historic towns.

1.2. Rationale of Research

1.2.1. Need for Research

Several studies have been conducted on the neighboring areas, including Siddhipur (Mahalxmi Ward 06), notable works by (ENPHO, 2007), (van Rooij, 2009), (Grimminck, 2009), (Shakya, 2009) and (S. Maharjan, 2011). Among these, first three have primarily have primarily focused on water and sanitation issues and (S. Maharjan, 2011) have focused on the business potential of traditional Newari feasts. Only (Shakya, 2009), stands out by addressing the social, cultural, and economic aspects of Siddhipur, with a focus on community revitalization. However, this research was conducted over 15 years ago, when Siddhipur was still classified as a peri-urban area (Etter & Kohn, 2009). Since then, the area has been officially declared an urban zone by (DEGURBA, 2021), marking significant changes that need to be revisited and updated through new research.

In comparison, similar studies on the neighboring municipality of Lubhu, conducted by (Bajracharya, 2017), examine its traditional characteristics, yet the larger area and population density make its dynamics somewhat different. While studies have explored

the economic and spatial transformations in nearby municipalities such as Imadol (Giri & Lal, 2021) and Harisiddhi (Shrestha & Joshi, 2022); Siddhipur, remains relatively underrepresented in academic literature. Despite sharing similar socio-economic dynamics, Siddhipur's unique trajectory, particularly its slow urban growth compared to other parts of Lalitpur and Lubhu, presents a distinctive research opportunity.

This research gap becomes even more compelling when considering Siddhipur's recent transformation from a peri-urban settlement to an urbanized area. The pace of growth and infill development in Siddhipur provides an interesting case study in urbanization, especially when compared to faster-growing neighboring areas. Investigating these local dynamics can shed light on how Siddhipur's local livelihoods, land use patterns, and traditional practices are adapting to urban pressures.

Addressing this gap is critical for generating context-specific insights that can inform more inclusive, sustainable, and relevant urban planning strategies for settlements like Siddhipur.

1.2.2. Importance of the research

This study is valuable because it has the potential to close the gap between spatial changes and economic shifts in small towns that are rapidly becoming more urbanized. By focusing on Siddhipur, the study will offer insights that are directly relevant to urban planning and local level policy development in similar settings.

Urban transformation in peripheral towns brings challenges such as gentrification, displacement of lower-income residents, and the erosion of cultural heritage (Shrestha & Joshi, 2022). By investigating these issues, the study will provide policy recommendations to address the negative impacts of urban growth, such as the loss of community cohesion and the decline of local traditions (Giri & Lal, 2021). Additionally, the research will explore how economic factors influence urban outcomes, enabling the creation of more informed, targeted planning interventions that promote long-term resilience and inclusivity (Acharya, 2023).

Siddhipur serves as a microcosm for understanding the dynamics of small towns undergoing rapid urbanization. This study is significant because it examines how people's lives from fluctuating sources of income to evolving social roles directly impact a community's overall economic and physical environment. These personal transformations, often overlooked in other studies, play a crucial role in shaping the future of small urban areas. This study intends to provide a way for the community to embrace its agricultural and cultural history while also adjusting to the demands of urban life by extensively examining Siddhipur. It's about finding a way to balance tradition with progress, and this work will help guide local authorities and policymakers in making decisions that honor both.

1.3. Problem Statement

Siddhipur is undergoing rapid urbanization, leading to profound transformations in land use, infrastructure, and the local economy. This shift has reduced reliance on traditional livelihoods such as agriculture and handicrafts, with many residents increasingly depending on non-agricultural employment. Once-thriving occupations like straw mat weaving, which were integral to Siddhipur's economic identity, have declined significantly under pressure from market competition and the availability of cheaper, mass-produced alternatives like synthetic carpets and foam mats.

Urban expansion has disrupted local industries and created challenges for sustainable development. The rise of economic migration—both national and international—has reshaped household income patterns, with many families now relying on remittances sent by members working abroad, particularly in the Gulf countries and Europe. This remittance-based economy has brought financial stability to some households but has also contributed to a detachment from traditional economic practices and further market disruptions.

Formerly a peri-urban agrarian community, Siddhipur has evolved into a more urbanized settlement. This transformation is visible in the changing economic base, land use patterns, and the functions of buildings. Traditional agricultural land has increasingly given way to mixed-use developments that blend residential and commercial activities. Unplanned urbanization has led to a boom in small-scale businesses and informal economic practices, further reinforcing the shift from an agriculture-based economy to one supported by commerce and external income sources.

At the same time, Siddhipur's built environment is undergoing a noticeable architectural transformation. Contemporary construction materials and methods are increasingly replacing the traditional Newari architectural style, once a hallmark of the town's cultural heritage. Building facades, skylines, and functions are changing to accommodate urban demands, often without a cohesive design or planning strategy. This juxtaposition of historic and modern elements within an uncoordinated urban fabric is reshaping not just the physical appearance of Siddhipur, but also its social and cultural character. The community now faces the challenge of navigating urban growth while maintaining its identity and heritage in the middle of rapid change.

1.4. Research Question

The proposed research question for this thesis is:

1. How has Siddhipur's economy changed over time?
2. What effects have these economic changes had on the community?
3. How have these effects influenced urban development in Siddhipur?
4. What measures should be taken to address these urban changes?

This study aims to explore how shift in income source that directly relates to economy influence spatial dynamics and what the implications of these transformations are for urban planning and the well-being of the community.

By investigating how shifts in economic structures and activities have shaped the town’s urban form, infrastructure, and socio-economic conditions, this study seeks to understand the broader implications of economic transformations on urban landscapes. The economic transformation of Siddhipur, as a microcosm of urban development in Kathmandu, provides an insightful case to analyze the dynamic interactions between economic growth, urban morphology, and the socio-economic outcomes of local populations. A key focus will be on finding a balance between economic development and preserving the cultural identity and social cohesion of the town.

1.5. Limitation of the study

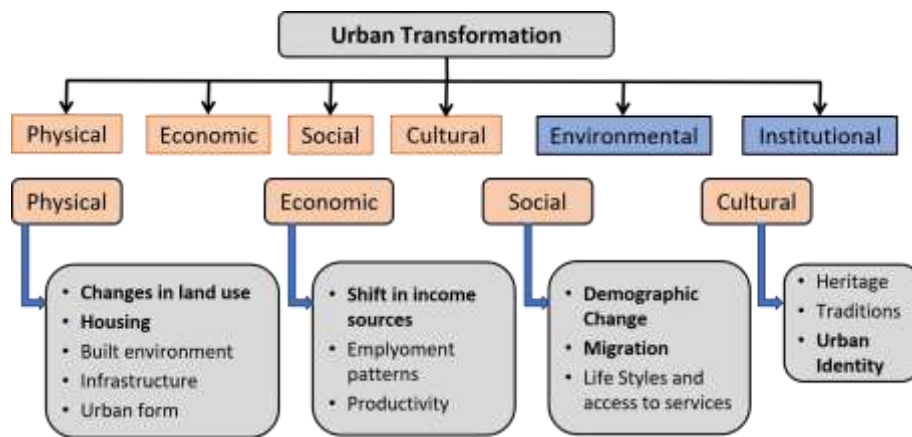


Figure 1: Dimensions of Urban Transformation

Urban transformation encompasses a wide range of factors including institutional, cultural, social, economic, physical and environmental aspects.

The study limits as below:

Physical dimension: Change in land use and Housing (Built Forms)

Economic dimension: Shift in Income Sources

Social dimension: Demographic Change and Migration

Cultural dimension: Urban Identity

2. Theoretical Framework

2.1. Literature Review

Urban and rural characteristics are blended in peri-urban areas, which are defined by their transitory character. Siddhipur was an example to these dynamics, with its traditional agrarian base intersecting with urbanization pressures. Theoretical frameworks identify such regions as sites of social compression and intensification, where migration, land-use changes, and economic diversification drive both conflict and innovation.

Economic diversification is a hallmark of peri-urban areas. In Siddhipur, the shift from agriculture to secondary and tertiary activities mirrors broader regional trends. Remittances have grown to be a substantial source of income, changing the economic structures and spending patterns of households. Such changes have implications for community cohesion and traditional socio-economic hierarchies.

Urban expansion influences land use, housing typologies, and public spaces in peri-urban settlements. Siddhipur's evolving spatial patterns reflect a tension between preserving traditional forms and adapting to urban demands. The influx of new residents and changes in land ownership have reshaped the community, fostering both opportunities and challenges for spatial planning and development (van Rooij, 2009)

Many studies have been conducted on urban sprawl and its effects, especially in the Kathmandu Valley. (Giri & Lal, 2021) highlighted a number of drivers, including social (closeness to educational and medical institutions), physical (road access and open spaces), and economic (land speculation and job proximity). In addition to influencing land use and urban form, these factors also influence changes in occupation and the development of new markets. Unplanned development, however, causes inefficiencies in infrastructure and transportation services in places like Imadol, underscoring the significance of construction bylaws and land-use planning. For Siddhipur, similar socio-economic and physical drivers are at play, influencing its urban transformation. The findings from Imadol suggest that agricultural land conservation and land taxation could serve as effective measures to control unregulated sprawl, ensuring the sustainable development of periurban settlements. These lessons provide a comparative framework for analyzing Siddhipur's economic evolution and spatial dynamics.

In Siddhipur, handicrafts like sukul mats exemplify this diversification. The production and sale of these mats have enabled many households to improve their financial stability and reduce dependency on farming. However, the reliance on remittances has its own challenges. (Grimminck, 2009) notes that while remittances can alleviate poverty in the short term, they can create dependency and limit local economic development if not reinvested in the community. Sukul mats and other handicrafts are prime examples of this diversification in Siddhipur. Many households have been able to increase their financial security and lessen their reliance on farming thanks to the production and sale of these mats. But there are drawbacks to depending so heavily on remittances.

(Grimminck, 2009) states that while remittances might help reduce poverty in the short term, they can also cause dependency and hinder local economic growth if they are not reinvested in the community.

The traditional craft of *Sukul* production in the Newar community plays a significant role in both cultural preservation and sustainable rural development. *Sukuls*, woven mats made from rice straw, represent a longstanding practice within Newar communities, contributing not only to cultural identity but also to ecological and economic sustainability. This research will investigate the production and use of *Sukuls* in Siddhipur, focusing on the economic benefits, environmental impact, and the role of this traditional craft in supporting rural livelihoods. With the rise of modern synthetic products, the role of *Sukuls* is diminishing, making it vital to assess their current relevance and the potential for their revitalization (Ghimire & Timsina, 2017).

Urban peripheries are increasingly affected by spatial transformations due to rapid urbanization and modernization. (Bajracharya, 2017) highlights how urban expansion targets peripheral towns, leading to significant changes in their spatial structures and cultural integrity. Her study of Lubhu, a traditional settlement in the Kathmandu Valley, provides a valuable framework for analyzing similar dynamics in Siddhipur. The research examines both intensive transformations within traditional settlements and extensive transformations in agricultural lands surrounding these settlements. This dual approach offers insights into the interplay between urbanization and traditional spatial layouts.

According to Bajracharya's research, traditional towns on the outskirts of cities are particularly vulnerable because of the unavoidable changes in settlement patterns, such as the replacement of outdated spatial forms with more contemporary ones. The division of Lubhu between an agricultural fringe and a traditional core reflects the spatial contradiction found in Siddhipur. This comparison highlights the significance of examining both the central urban changes and the outlying shifts in agricultural land use, offering a theoretical and methodological basis for researching the economic development and spatial dynamics of Siddhipur.

Furthermore, the study underlines the role of modernization in altering not only physical spaces but also cultural and social structures. Siddhipur, like Lubhu, faces pressures from urban expansion, which reshape its traditional economy and spatial organization. By building on the theoretical framework established by (Bajracharya, 2017), the proposed research can explore Siddhipur's unique trajectory of urban transformation while contributing to broader discussions on peri-urban development in the Kathmandu Valley.

2.1.1. Role of Community Learning Center, CLC



Figure 2: Store of CLC with Siddhipur's traditional craft, Suku

Siddhipur started restoring its traditional craft of weaving straw mats around 20 years ago. The practice had waned because of economic difficulties and competition from synthetic imports. Many families sent their children to work elsewhere, especially in the Gulf countries, when the craft became unsustainable. The erosion was particularly noticeable in Newar communities, where women, who had historically been the custodians of this knowledge, had ceased to transmit the talents from one generation to the next.

But this pattern is turning around. In addition to restoring an environmentally responsible custom, women in Siddhipur have started to weave straw again, expressing their cultural identity and advancing sustainability. Through product storage, artist training, and the creation of a market for these handcrafted goods, the Siddhipur Community Learning Center (CLC) has been instrumental in this revitalization. The creativity and broader appeal of the products which now encompass home décor and fashion items have inspired younger generations to take an interest in the trade.

Exhibitions like those in Lalitpur and its application in environmentally concerned establishments like eateries that value traditional design have increased the craft's visibility. These initiatives have spurred a bio-cultural revival, improved community pride, and raised the economic and social standing of local women. The history of Siddhipur shows that the resurgence of Indigenous crafts can result in both economic opportunity and cultural preservation, with product values surpassing expectations and motivating the following generation to continue the tradition. (Vaidya et al., 2023)

2.1.2. Theoretical Models

2.1.2.1. Thünen's Model:

Johann Heinrich von Thünen, a German economist and landowner, developed a model of agricultural land use in the early 19th century, known as Thünen's Model. Thünen's work aimed to explain the spatial organization of agricultural activities based on economic principles. His model is particularly relevant to understanding the distribution of agricultural land uses and land values in a concentric pattern around a central market or town. The key factors in Thünen's Model include transportation costs, land rent, and the perishability of goods.

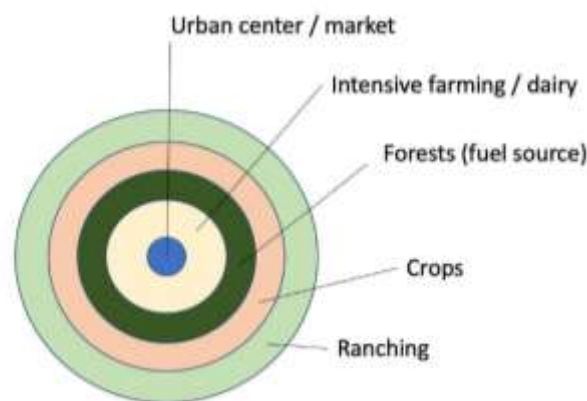


Figure 3: Thünen's Model

Here are the main components and assumptions of Thünen's Model:

1. **Isolated State:** Thünen assumed an isolated state with a single market center. This implies that there is only one city or market where agricultural goods are sold.
2. **Central City (Market):** The central city is located at the center of the isolated state. Agricultural goods are transported to this market for sale.
3. **Transportation Costs:** Thünen considered transportation costs as a significant factor influencing land use patterns. Transportation costs increase with the distance from the central market.
4. **Land Rent Gradient:** Thünen assumed that land rent decreases with distance from the market. While farmers farther away can only afford lower land rents, those closer to the market may afford higher rents.
5. **Homogeneous Land:** The land is assumed to be uniform and homogeneous in quality across the entire state (Mark, 2020).

Thünen's Model of Agricultural Land Use is closely tied to the concept of land value and land rent. The model suggests a relationship between the distance from a central market, transportation costs, and the economic rent that farmers are willing to pay for land. Thünen's model proposes that land rent decreases with distance from the central market. As we move away from the market, transportation costs increase, making it less profitable for farmers to cultivate land in those areas. Therefore, land rents are lower in

the outer rings of the model. Due to their close proximity to the central market, farmers in the innermost ring where market gardening or intensive agriculture is practiced are able to pay higher land rents. The high-value, perishable nature of the crops justifies the higher costs of land. So, land rents are higher in the inner rings of the model.

In summary, Thünen's Model illustrates a spatial pattern of land use and land values based on economic principles. While the model was developed before the industrial era, it still offers a fundamental understanding of the relationship between land use and market forces. The model reflects the trade-off between the advantages of proximity to the market (higher land rents due to reduced transportation costs for perishable goods) and the disadvantages of distance from the market (lower land rents due to higher transportation costs for less perishable goods). Although the model oversimplifies reality, it offers a theoretical foundation for comprehending how market proximity and transportation costs affect how land values are distributed throughout a landscape in various agricultural operations.

2.1.3. Bid Rent Theory:

The bid rent hypothesis, sometimes referred to as the land rent theory, describes how real estate prices and demand fluctuate with increasing distance from the central business area. This idea states that the ability of various economic activity, including retail, industry, and residential, to pay rent determines how land is used.

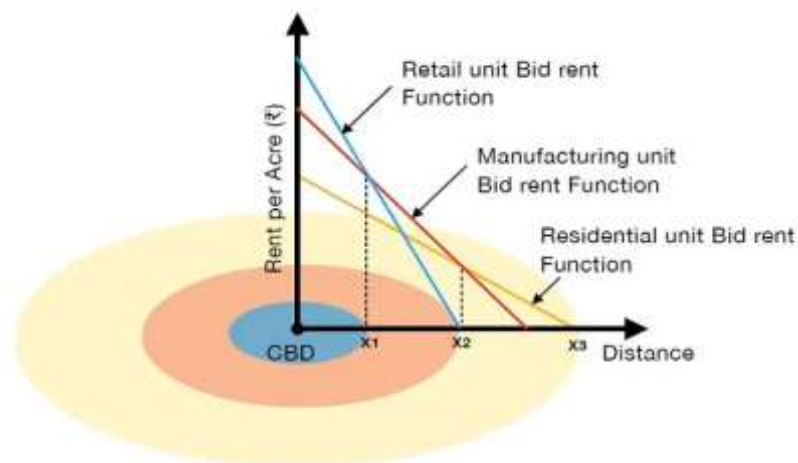


Figure 4: Effects of Land Use

The theory is based on the idea that the more accessible an area is, the higher the rent prices will be. It makes the assumption that in a market economy where land can be bought or sold, the distribution of economic activity is determined by each party's capacity to pay rent rather than being random. The bid rent hypothesis sheds light on how property values, which in turn depend on accessibility and transportation costs, shape land use patterns (Khan, 2021).

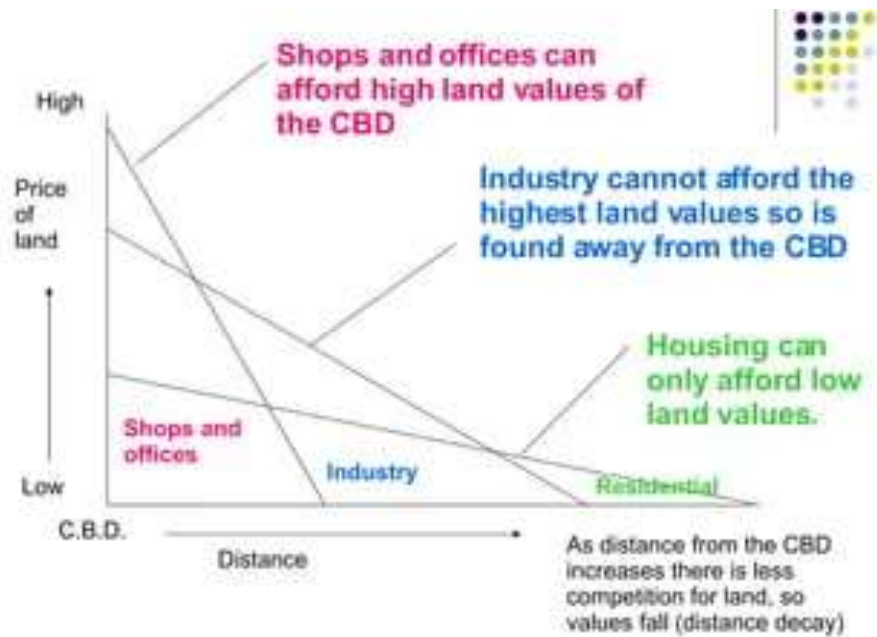


Figure 5: Simplified Distance Decay Model

According to the theory different types of land uses have different bid rent curves.

1. Retail and commercial activities often have steeper bid rent curves because proximity to customers is crucial.
2. Industrial activities may have flatter bid rent curves, as they can tolerate being farther from the market.
3. Residential areas may fall somewhere in between, with varying bid rent curves based on factors like housing density and accessibility (“Bid Rent Theory,” n.d.).

The Bid Rent Theory explains how different land users bid for the most accessible land, leading to a spatial distribution of land uses and corresponding land values. It underscores the importance of location and accessibility in determining the economic rent that different activities are willing to pay for land. Based on the idea that various land users are ready to pay varying rents for access to desirable sites, it draws attention to the spatial distribution of economic activity. On the other hand, people are more prepared to pay for land close to the central business district and less for land remote from it. This theory provides insights into the observed patterns of urban and rural land use and helps explain the variation in land values across different zones within a city or region. The theory assumes that the more accessible an area is, the higher the rent prices will be. Transportation costs also plays a pivotal role in this relationship, with lower costs near the center influencing higher land values.

2.1.4. Gentrification:

A complex urban process known as "gentrification" is defined by the influx of wealthier people into neighborhoods that were previously home to lower-class residents. This phenomenon sets off a housing revolution that frequently results in rising property values and the eviction of current occupants who might not be able to keep up with the rising expenses. Gentrification is accompanied by cultural changes that may result in

the loss of neighborhood businesses and character. Although the process can also bring safety, better infrastructure, and economic development to neglected places, it also raises concerns about socioeconomic inequity, the erasing of local culture, and the displacement of vulnerable populations. Gentrification is a divisive topic that calls for careful public policies that take into account the needs of both new and current residents. It also sparks discussions about how to strike a balance between urban revitalization and the preservation of community identity (“Gentrification,” n.d.).

It is usually influenced by a number of things, such as:

1. Economic changes: Areas undergoing revival or renovation are frequently the sites of gentrification, which can draw middle-class or affluent inhabitants and raise property values and rents.
2. Population migration and displacement: As more affluent residents move into a neighborhood, the original residents may be displaced due to higher rents, property values, and other factors.
3. Real estate speculation and investment: Gentrification can be fueled by real estate speculation, with investors purchasing properties in the area to flip them for large profits or to rent out at higher rates
4. Increased attraction to a community: Gentrification can result from increased investments in a community, such as improvements in infrastructure, public spaces, and public safety, which can attract more affluent residents.
5. Changing demographic composition: Gentrification often leads to shifts in a neighborhood's demographic composition, as new residents may have different cultural, economic, and social characteristics than the original residents (“Gentrification,” n.d.).

Gentrification can have a significant impact on land values. As neighborhoods undergo revitalization and attract more affluent residents, the overall appeal and desirability of the area increase, leading to higher property prices and increased property values (Koren, 2021).

Numerous studies have shown that gentrifying neighborhoods have higher property values and that this has an impact on nearby home costs (Wilhelmsson et al., 2022).

This rise in property values can benefit homeowners and increase their net worth, but it can also make it harder for existing residents, particularly low-income households, to afford housing, potentially leading to displacement. Additionally, the influx of more affluent residents and real estate speculation can contribute to the gradual increase in property values, making the area more attractive for investment and development (Koren, 2021). Therefore, while gentrification can lead to increased land and property values, it can also have implications for housing affordability and the socioeconomic makeup of the neighborhood.

2.1.5. Land Speculation:

The financial practice of buying real estate with the expectation that its value will rise is known as land speculation, or "land banking." Purchasing undeveloped land and hanging onto it until development interest and the total real estate market value rise in the ("Land Speculation," n.d.). It involves purchasing undeveloped land with the expectation that its value will increase due to future development or demand. It's a high-risk, high-reward venture that can yield significant profits but also carries the potential for loss (Laukkonen, 2024).

Land values can be significantly impacted by land speculation. The practice of land speculation involves purchasing land with the expectation that its value will increase over time, allowing the speculator to profit from future price appreciation. This can lead to a speculative rise in land prices, which can have several economic and social consequences.

1. **Rise in Land Values:** Land speculation can lead to a speculative rise in land prices, as speculators aim to capitalize on growing demand and anticipate future price appreciation ("Land Speculation," n.d.; Lowe, 1975)
2. **Housing Market Impact:** As land prices rise, extensive land speculation may result in less affordable homes, which could exacerbate urban housing shortages (Land Speculation, n.d.).
3. **Economic Consequences:** Speculative booms in property values, driven by land speculation, can have complex economic consequences. While they may lead to a transfer of resources, the real economic implications are multifaceted and depend on the underlying features of specific economies (Lowe, 1975).
4. **Global Perspectives:** The impact of land speculation is not limited to a single country or region. It is a worldwide occurrence, with examples of speculative increases in real estate prices taking place in both industrialized and developing nations (Lowe, 1975).

In summary, land speculation can lead to a speculative rise in land prices, impact housing affordability, and have complex economic consequences. It is a multifaceted issue with both proponents and critics, and its effects are influenced by various factors, including the specific economic and social context in which it occurs.

2.1.6. Factors affecting Land Value:

Numerous factors influence the value of land, making it a complex metric with wide-ranging effects. The location of the land itself is the most important of these factors. Land values are fundamentally influenced by a property's proximity to urban centers, essential amenities, transportation hubs, and coveted neighborhoods. In urban environments, a city's exact location can have a big influence; some neighborhoods or districts may be worth more because of their strategic placement. Local governments impose zoning and land use regulations, which add a regulatory element to the appraisal process by specifying acceptable uses, density restrictions, and building limitations. These regulations further shape the value equation. Essentially, the location creates the

conditions for the numerous elements that add up to the economic value establishing the foundation for subsequent considerations in the valuation process.

The land's geographic location is the most important of these factors. One important factor influencing land values is proximity to amenities, transportation hubs, urban centers, and desirable neighborhoods. In cities, the exact location of the land can have a big impact on how desirable and economically viable it is, which in turn affects how much it is worth. Local governments' zoning and land use regulations, which specify allowed uses, densities, and building limitations—all of which are factors in determining the land's value—add even more complexity to the complex field of land valuation (Thrall, 2002). Economic trends are another important factor that has a big impact on land values. Key factors to take into account are the general economic conditions of a region, which include employment opportunities, business growth, and economic stability. Land values tend to rise in tandem with strong economic growth in those regions. A significant factor in determining land values is also infrastructure and utilities. A piece of land's desirability and value can be increased by the quantity and quality of its infrastructure, which includes its public services, utilities, and roads (Wendt, 1957). Natural features inherent to a parcel of land contribute to its value as well. Factors such as topography, views, waterfront access, and environmental considerations play a role in determining its worth. Land shape and size are intrinsic variables that affect value; irregularly shaped lots may be less valuable because of usage restrictions, while larger parcels may have more development potential. Market dynamics are significant determinants that are shaped by supply and demand concepts. When there is a high demand and a limited supply, Land values can rise. Fertility and productivity of the land are critical in agricultural contexts. Higher prices are usually obtained for rich soil that has the potential to provide more crops. Easements, limitations, and encumbrances are examples of legal factors that can increase or decrease the value of land (Mark, 2020). Proper titles and few legal restrictions frequently add value to a property. Land valuation also takes into account environmental factors, including soil quality, vulnerability to natural disasters, and compliance with environmental regulations. The demand for land is influenced by demographic trends, which include changes in the makeup of local communities, migration patterns, and population growth. Interest rates and financing availability constitute additional variables in the land value equation. The cost and accessibility of financing can impact demand, thereby affecting land values. In essence, the complex interplay of these diverse factors, often unique to specific regions, dictates the intricate process of determining land value. Successful assessment necessitates a comprehensive understanding of the local market conditions and the distinctive characteristics of the land under consideration (Wendt, 1957).

2.2. Conceptual Framework

The research framework described aligns with post-positivism. Post-positivism recognizes that knowledge is not purely objective but is influenced by context, perspectives, and the inherent limitations of observation and measurement. It acknowledges the existence of an objective reality but understands that our knowledge of it is always partial, fallible, and influenced by social and cultural contexts.

Post-Positivism Research Paradigm

Ontology: The ontological stance of post-positivism is critical realism. Critical realism asserts that an objective reality exists independently of human perceptions, but our understanding of it is always mediated by our observations, theories, and cultural contexts. In the context of this research, the transformations in Siddhipur such as the loss of agricultural land, shifts in economic activities, and urban expansion are objective phenomena. However, how these changes are perceived and interpreted by the community, policymakers, and urban planners is subjective and influenced by cultural, economic, and historical contexts.

This perspective acknowledges that while the urban and economic transformations in Siddhipur can be quantified (for example, by land use changes, migration statistics, or economic data), various stakeholders such as new migrants vs long-term residents may have different understandings of the underlying causes and effects.

Epistemology: The post-positivist epistemological viewpoint emphasizes the tentative character of knowledge by fusing elements of positivism and interpretative methodologies. All knowledge is tentative and liable to change when new information and viewpoints become available, according to post-positivism.

In this research, post-positivism will guide the collection and analysis of both quantitative and qualitative data:

Quantitative methods (e.g., surveys, aerial imagery analysis, and statistical evaluation of economic data) will be used to identify measurable trends in urbanization, economic transformation, and spatial dynamics. These methods align with the post-positivist emphasis on systematic observation and analysis.

Qualitative methods (e.g., interviews, focus groups, and historical analysis) will provide insights into the lived experiences, perceptions, and values of the Siddhipur community. This acknowledges that human understanding is interpretative and that socio-cultural contexts play a significant role in shaping perceptions of urban change.

Post-positivism bridges the gap between objective measurements and subjective experiences, allowing for a nuanced understanding of complex issues like urban and economic transformation.

The post-positivist paradigm is particularly suited for studying Siddhipur's transformation because it provides a balanced framework for understanding the objective and subjective dimensions of urban and economic change. While quantitative data can reveal measurable changes (e.g., land conversion, population growth, or

economic diversification), qualitative insights are essential to understand the lived experiences and socio-cultural impacts of these changes.

By integrating these approaches, the post-positivist paradigm ensures a holistic understanding of Siddhipur's transformation, recognizing both the measurable realities of urbanization and the subjective experiences of its community members. This balanced perspective is critical for developing practical, culturally sensitive, and sustainable urban planning recommendations.

3. Methodology

A mixed-methods approach will be employed, aligning with the post-positivist paradigm. This approach integrates quantitative data to identify general patterns and trends with qualitative insights to contextualize and interpret those patterns:

Quantitative analysis:

- Land use changes over time, derived from aerial imagery and GIS analysis.
- Socio-economic data from household surveys, focusing on employment changes, remittance contributions, and economic diversification.
- Statistical evaluation of population growth and migration trends.

Qualitative analysis:

- Semi-structured interviews to learn about the opinions of important stakeholders on urbanization and economic changes, including local government representatives, community leaders, and long-term residents.
- Visual surveys and field observations are valuable for obtaining firsthand information about participants and recording data as it is observed.
- Focus group discussions to explore how various demographic groups (e.g., farmers, women, and youth) perceive and experience these changes.
- Historical and cultural analysis of Siddhipur's socio-economic evolution and its impact on community identity.

Axiology (Values in Research): Values are acknowledged in study by post-positivism. The researcher's role is to strive for objectivity while being transparent about potential biases and the influence of their perspectives. In this study:

- Ethical considerations will ensure that all participants' voices are heard, particularly marginalized groups such as low-income households and women.
- The researcher will reflect critically on how their positionality may influence the research process and interpretations.

This approach will provide a comprehensive view of the economic and spatial transformations in Siddhipur, integrating both statistical analysis and qualitative insights.

Sampling Method

For this study, a simple random sampling technique was utilized. This method involves selecting a small, random subset of the population to represent the broader dataset. The following parameters were considered: drivers, economic impacts, employment impacts, spatial effects, land use, and occupational changes. With a 10% margin of error, the necessary sample size was determined using Slovin's formula (Equation 1), yielding 73 samples in total. The selected sample consisted of 73 homeowners, and in

addition, 6 key informants were surveyed using both open-ended and close-ended questionnaires. The formula used for the sample size calculation is as follows:

$$n = \frac{N}{1+Ne^2} \dots\dots\dots (1)$$

Where:

n = total number of samples,

N = total population,

e = margin of error.

Adapted from (*Giri & Lal, 2021*)

The same sample region provided the data for the spatial mapping and questionnaire survey. This region is equivalent to Ward No. 6 of Mahalaxmi Municipality, which includes Siddhipur in the whole. There found evidence of land fragmentation in both the sample area and the neighboring areas.

4. Study Area

4.1. Introduction to Study Area

Administrative Division of the study area

Province: Bagmati

District: Lalitpur

Municipality: Mahalaxmi

Ward: Mahalaxmi Ward no. 6, Siddhipur

Neighboring Municipalities

East: Panauti, Kavre

West: Lalitpur Metropolitan City

North: Suryabinayak Municipality

South: Godawari Municipality

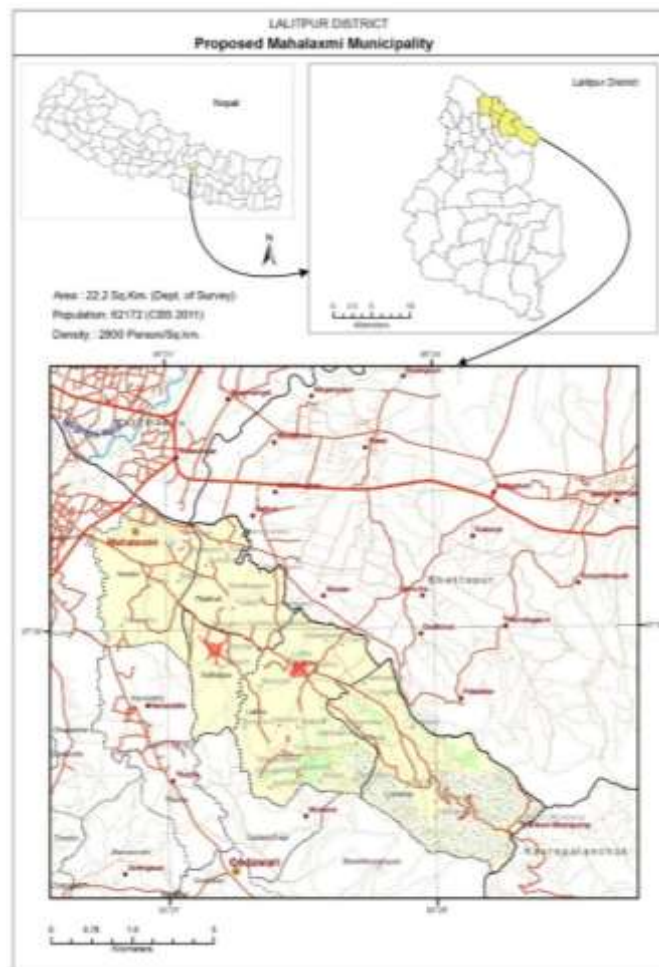


Figure 6: Map of Mahalaxmi Municipality

Source:(GIS 61 New Municipality Map, n.d.)



Figure 7: New Local Level Map of Kathmandu Valley

Source:(2017)

In the Bagmati Province of central Nepal, Siddhipur is a village and the site of a former Village Development Committee. Today, it is a part of Mahalaxmi Municipality. Although Siddhipur is approximately 2.01 km² in size, it encompasses the whole Mahalaxmi Ward No. 6 area.

The area has three names and that are *Thasi*, Sanagau and Siddhipur. “*Thasi*” refers to the "SAL" tree, while Sanagau means "Small Village" and Siddhipur, named after Siddheshwor Temple of Siddhipur.

The village is situated 7.5 km from Kathmandu, the capital city, approximately 6 km from Mangal Bazaar, Patan (Lalitpur), and 3.8 km from Gwarko, Ring Road. Positioned at an altitude of 2500 feet above sea level. It is bordered by Harsiddhi to the south, Lubhoo to the east, Tikathali to the north, and Imadol to the west.(*SiddhipurThasi*, n.d.)

4.1.1. Historical Importance of Siddhipur



Figure 8: Jatra Palanquins of Siddhipur



Figure 9: Jatra Palanquins in Ta:Nani, Siddhipur

Siddhipur, one of the old settlements of Newars. The study area has history of around 482 years old town which is a Malla era 1599 B.S. (Ne. Sa. 662). An inscription in the temple area indicates that the settlement's essence dates back to the Malla era.

Siddhipur's cultural festivals (Jatras) indicate historical connections with Chobhar, Kirtipur, Balambu, Balkhu, Thimi, and Dhumbarahi.

The one of the festival called “Siddhipur Jatra (Local Jatra)” falls in Chaitra last day till 4th of Baishakh (falls in mid of April) in which local worship Ganesh, Bhairabh & Balkumari.(N. Bd. Maharjan, 2010)



Figure 10: Courtyard of Dev Nani: in Jatra time

The courtyards in Newari settlements serve multiple purposes, such as being used for festivals, drying grains, sunbathing, and other daily activities, making them essential open spaces for the Newari community. The arrangement of mass and void in these communities is thoughtfully planned. In the figure above, we observe the courtyard of Devnani, where people are engaged in the morning ritual of Jatra in front of the Mahankal Temple. These courtyards have traditionally remained intact, fully designated as public spaces with no encroachment.

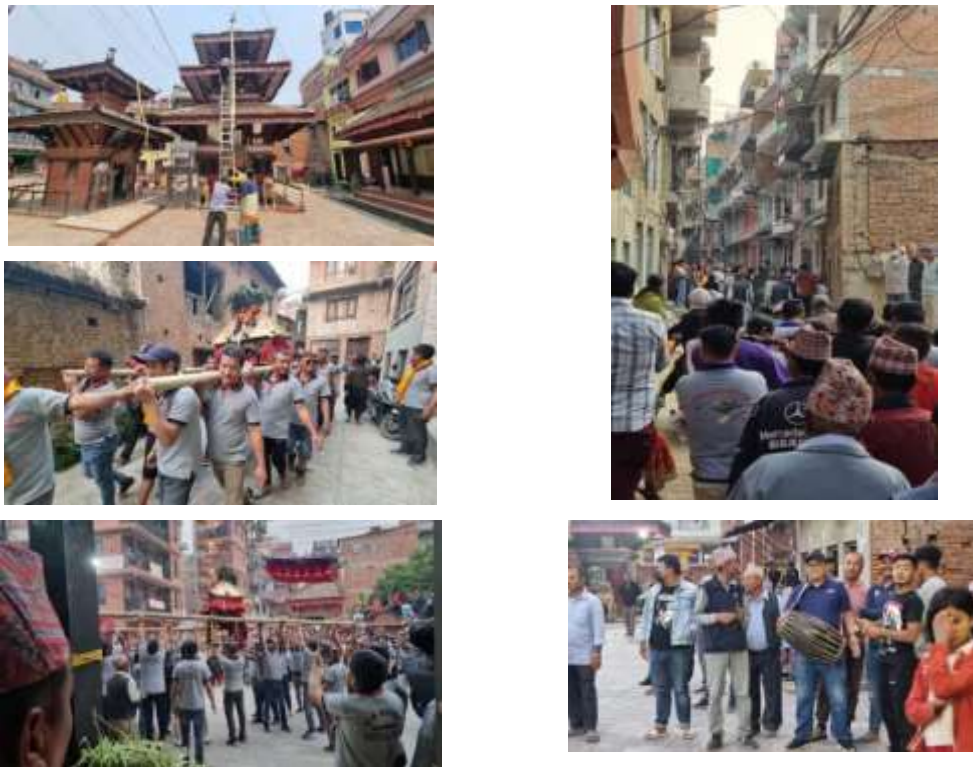


Figure 11: Different areas of Siddhipur in Jatra Time

Cooperative work is evident in the Jatra preparation and celebration in Newari communities. The entire community comes together to organize the event, from decorating the streets to preparing offerings and coordinating the rituals. During each Newari Jatra, close relatives, friends, and even distant acquaintances are invited to participate, creating a lively and communal atmosphere. As a result, the area sees an influx of local visitors, adding to the festive energy. The internal roads are often filled with people, as they carry palanquins along the designated Jatra route, playing traditional music, and participating in the procession. The spirit of unity and collective effort is reflected in the smooth execution of the Jatra, with everyone playing their part to ensure the celebration is a success. This communal engagement not only strengthens social bonds but also promotes a sense of shared cultural heritage.

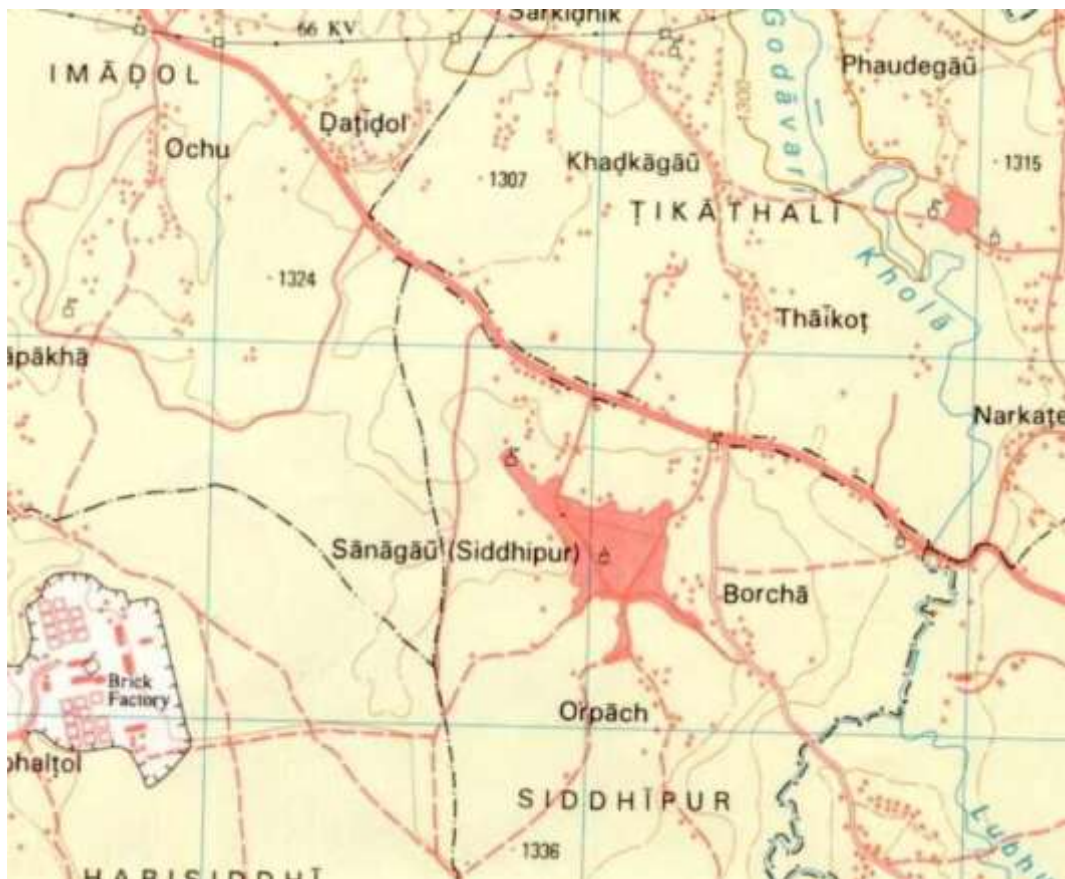


Figure 12: Old map of Siddhipur, 2022

Source: (Mahalakshmi Ward No. 6 (Siddhipur), 2022)

The old map of Siddhipur published in *(Mahalakshmi Ward No. 6 (Siddhipur), 2022)*, also depicts the same area as the 2024 Google Earth image. This suggests that the core traditional area of Siddhipur was historically the smallest.



Figure 13: Jatra Route

Source: (Siddhipur Map Brochure, 2022)

Jatra route as noted by (N. Bd. Maharjan, 2010) aligns with the old settlement area. The procession begins at *Pi:Nani:*, moves through *Ta:Nani:*, Temple of Kumar & Kumari then continues from *Aa:La:* to *Yangal*, followed by *Dha:Si:* and finally from *Simako* to *DevNani:*. Initially (2004–2010), the settlements appear to be concentrated in specific areas.

The settlement combines elements of rural agricultural landscapes with increasing urban influences. As a peri-urban interface, Siddhipur is a space where traditional practices coexist with emerging urban dynamics. Its proximity to Kathmandu has contributed to its socio-economic evolution, influenced by in-migration, remittance-driven incomes, and diversification of livelihoods (van Rooij, 2009).

Historically a rural settlement, Siddhipur has seen increased migration driven by the search for economic opportunities and urban amenities. These shifts are reflected in the town's evolving land use patterns, where agricultural lands are increasingly converted into residential and commercial areas, spurred by the growth of industries and services.

The rapid urbanization in Siddhipur is accompanied by the development of infrastructure such as roads, utilities, and public services, contributing to the town's economic expansion. However, this growth has also created challenges related to urban planning, including issues of spatial inequality, land use conflicts, and the preservation of cultural heritage. Siddhipur's transformation thus provides an insightful context for exploring how economic changes influence spatial dynamics and the socio-economic outcomes for its residents, particularly in relation to sustainability and community integrity.

4.1.2. Overall Profile of Mahalaxmi Municipality and Ward6

Between 2010/11 and 2022/23, the mean per capita income in Kathmandu Valley Urban (KVU) increased from NPR 98,084 to NPR 2,35,285, reflecting a growth of approximately 140%. This indicates significant economic improvement and rising living standards in the urban region. However, it also suggests a rising cost of living and potential issues related to income inequality and affordability. (CBS, 2011; NSO, 2024)

At the time of the [Nepal Census 1991], Mahalaxmi Municipality had a total population of 29,626 with 5,532 households, in [Nepal Census 2001], it had a total population of 35,802 with 7,262 households and in [Nepal Census 2011], it had a total population of 62,172 with 14,930 households (GGGI, 2018). This pattern shows the gradual growth of the population as well as rapid growth of households. Meanwhile in particular ward no. 6, i.e. Siddhipur, has 0.99% change in annual population. According to CBS, Nepal Census (2001): total population is 5566, by Nepal Census (2011) is 6147. And according to NSO, Nepal Census (2021): total population is 8194, Old Aged Group (40 to 95+): 2617 out of 8194 i.e. 31.9% and Youth (16 to 40): 4053 out of 8194 i.e. 49.4%.

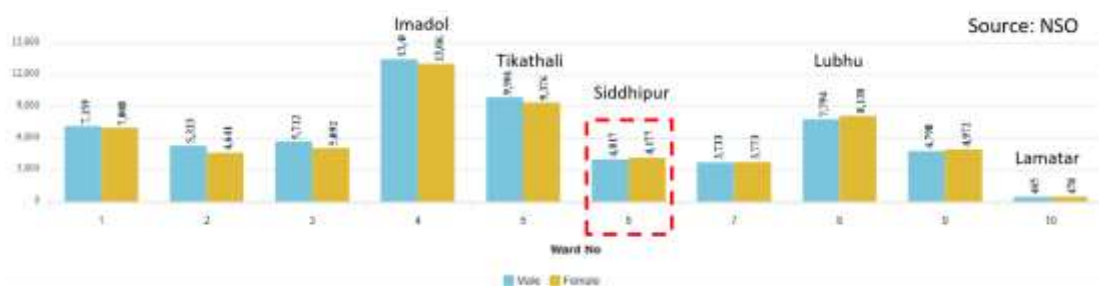


Figure 14: Population of Mahalaxmi Municipality

Source: (Census Nepal, 2021)

Within the Mahalaxmi Municipality, Imadol has the highest population that follows Tikathali, Lubhu. The study area, Siddhipur has mild population. Connecting to the models, Siddhipur is acting as infill development in the area which can also be seen in figure 8 below.

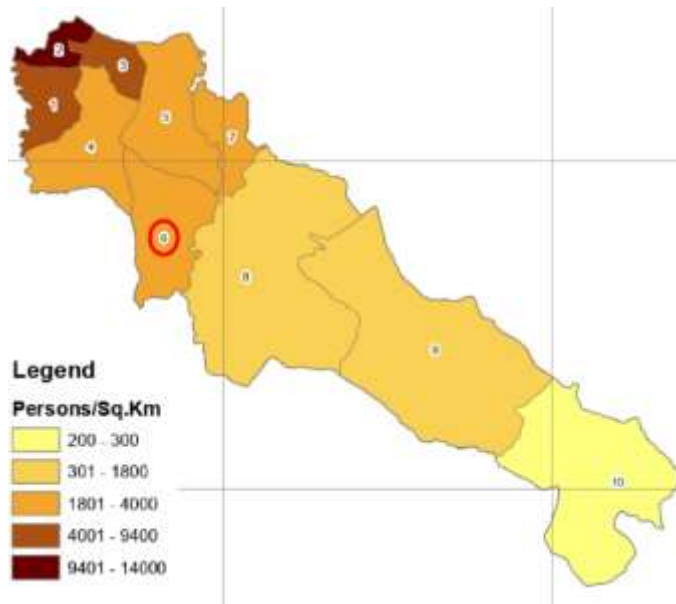


Figure 15: Population Density of Mahalaxmi Municipality

The map illustrates the population density across a specific municipality, with varying shades corresponding to different population densities measured in persons per square kilometer. The lightest yellow areas represent the lowest population densities, while darker shades indicate higher densities, with the darkest brown areas denoting the highest population density. The northwestern region exhibits the highest density, likely due to its proximity to the Gwarko Ringroad, a key urban and commercial hub. This area may require enhanced urban infrastructure, transportation, and public services to accommodate its dense population. Conversely, the southeastern region shows the lowest density, indicating rural or undeveloped zones. These low-density areas could be considered for future development or conservation, depending on planning objectives. The overall settlement pattern of the municipality reflects a concentration of urban areas in certain zones, while other parts remain sparsely populated. The circled region, the study area, is characterized by medium-density.

There are few factors contributing to the population density pattern and can be seen via land suitability map, slope map, risk maps published by IUDP and municipality.

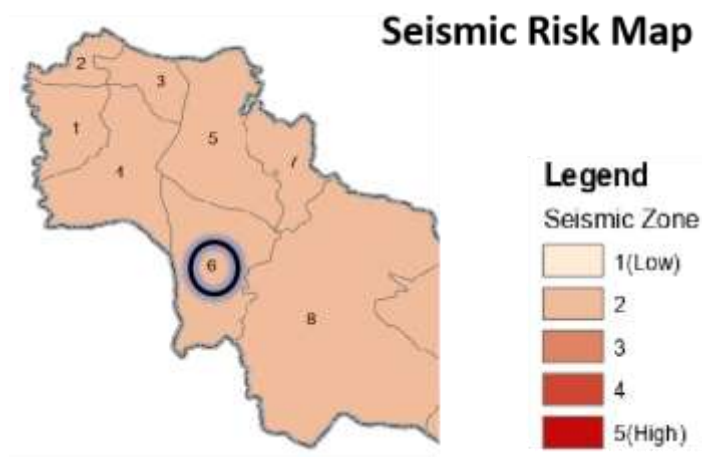


Figure 16: Seismic Risk Map of Mahalaxmi Municipality

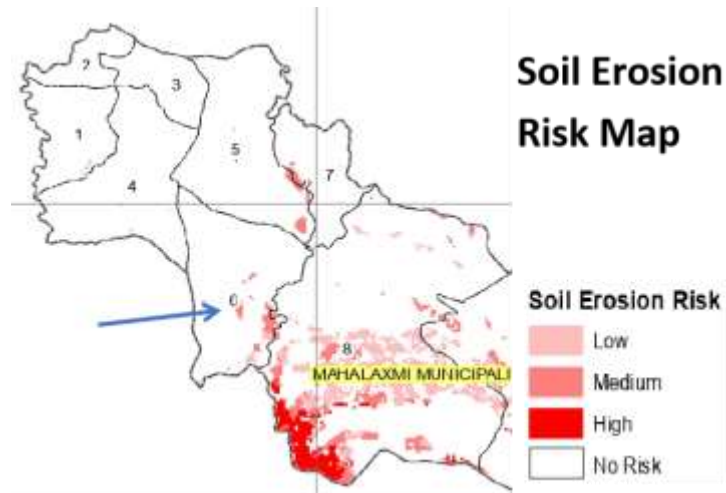


Figure 17: Soil Erosion Risk Map of Mahalaxmi Municipality

These Risk Map shows the area being suitable to reside according to the seismic and Soil erosion risk as the study area has lower risk of earthquake and very less chance of soil erosion.

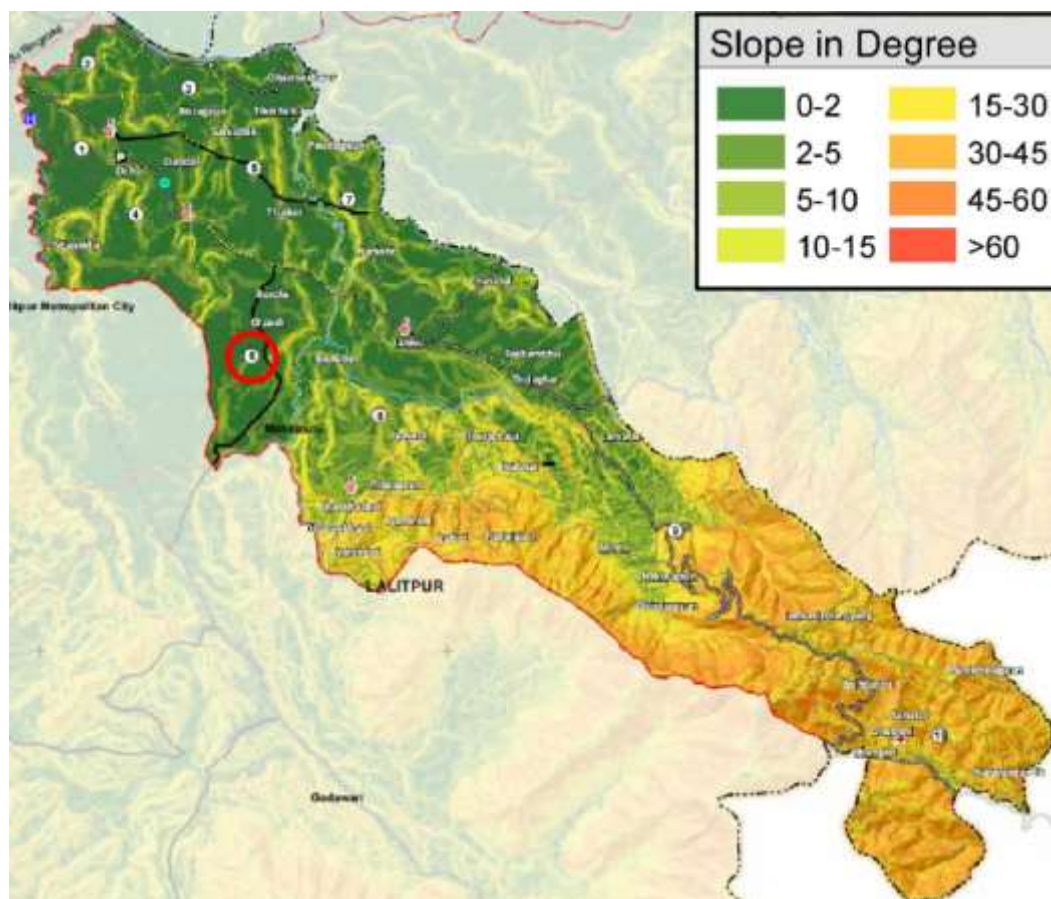


Figure 18: Slope Map of Mahalaxmi Municipality

In the slope map above, Northwestern part has low slope. Slope gradually steepens to the southern east part. Lamatar, Lakhuri Vanjyang with higher slope. We can also identify low slope in study area making it more suitable to reside.

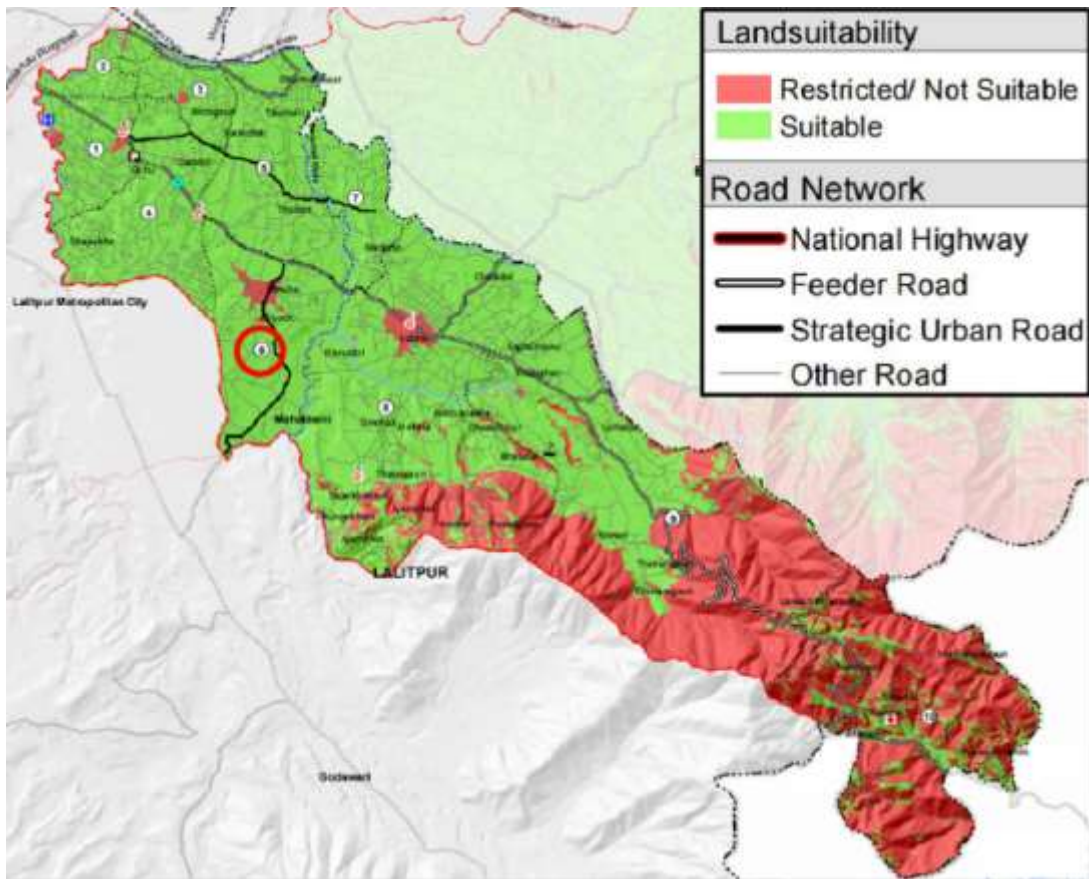


Figure 19: Land Suitability map of Mahalaxmi Municipality

This land suitability map makes it even more evident that the northwestern part of Mahalaxmi municipality including study area is suitable to reside and the southern east is the restricted area.

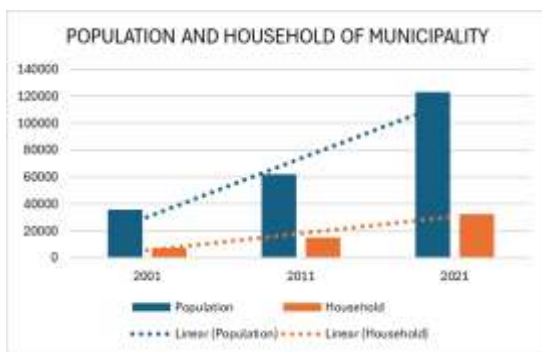


Figure 20: Population and Household of Municipality

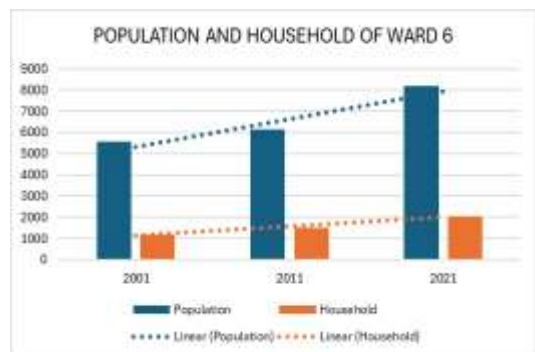


Figure 21: Population and Household of Ward-6, Siddhipur

Source: (Census Nepal, 2021)

In Siddhipur, the study region, both the population and the number of households are growing more slowly than in Mahalaxmi Municipality, where both are growing dramatically in Figures 20 and 21.mahalaxmi

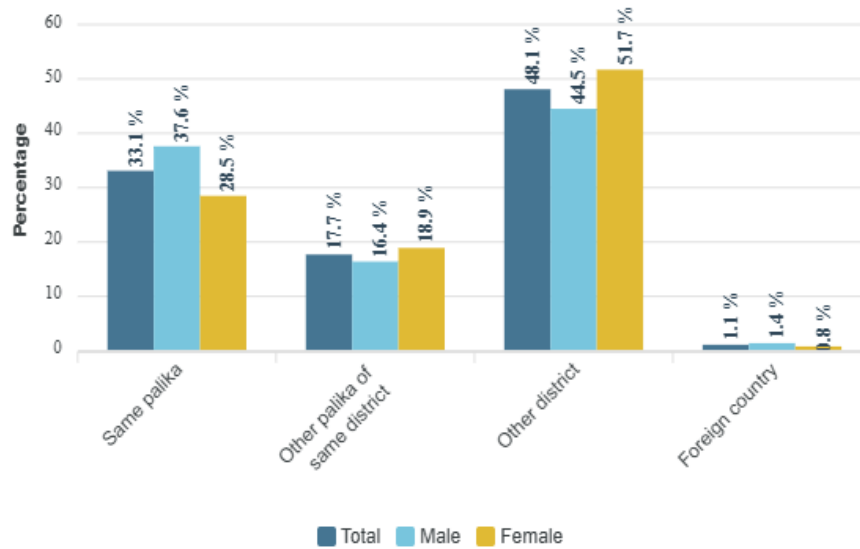


Figure 22: Population by former place of residence

Source: (Census Nepal, 2021)

Analyzing the population based on former place of residence reveals that the majority have migrated from other districts, followed by individuals from within the same municipality, and then from other municipalities within the same district. A minimal portion of the population has migrated from foreign countries. This trend indicates significant migration into the municipality.

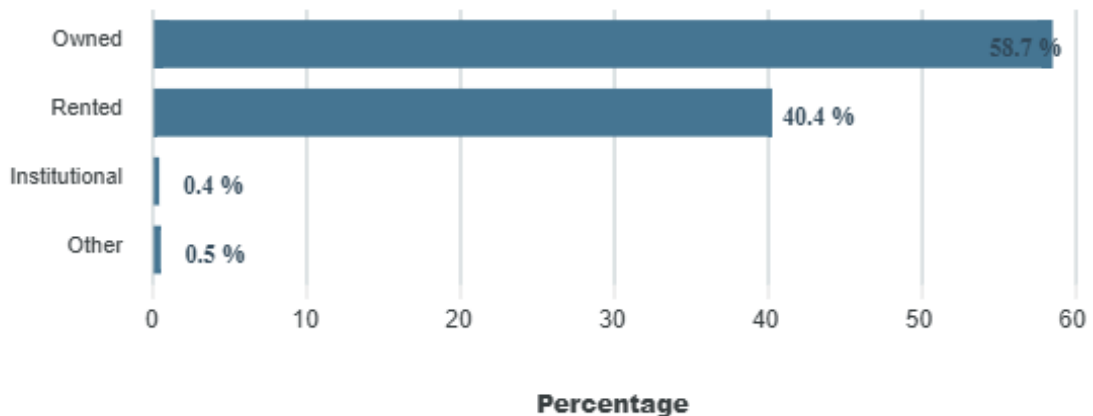


Figure 23: Households by ownership of housing unit

Source: (Census Nepal, 2021)

An analysis of household ownership patterns indicates a relatively high level of home ownership in the area, with a notable proportion of the population residing in rented accommodations. The difference between owned and rented housing units is approximately 18%, highlighting a significant demand for rental properties, potentially driven by factors such as urban migration and affordability constraints. Institutional housing accounts for only 0.4% of the total, representing a minimal share of the overall housing landscape. The prevalence of owned housing suggests a stable residential base,

while the substantial percentage of rented housing reflects ongoing urbanization and migration dynamics. Institutional and other housing categories play a marginal role in the broader housing scenario. These findings underscore the need for housing policies that balance home ownership opportunities with rental affordability to address the diverse housing requirements of the population.

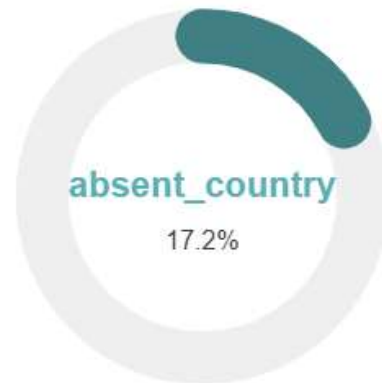


Figure 24: Absent population living abroad

Source: (Census Nepal, 2021)

The municipality's absentee ratio stands at 17.2%, indicating that a significant portion of the population is primarily residing in foreign countries. This also emphasizes a significant trend of migration, likely for employment, education, or other opportunities abroad. This statistic underscores the municipality's reliance on remittances and potential socio-economic impacts due to labor migration.

5. Data collection and Findings

5.1. Spatial Transformation

5.1.1. Urban Growth and Land use Patterns

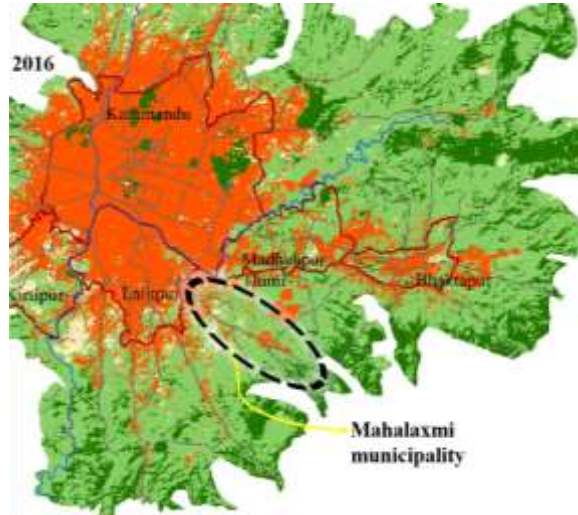


Figure 25: Land Use Map of Kathmandu Valley

Source: (Ishtiaque et al., 2017)

This figure can be linked to “Figure 1: Thünen’s Model”; where the model focuses on how land use changes based on distance from the central city and agricultural land use in urbanizing regions. The concentric circles of land use with a central market and agricultural land in periphery (Mark, 2020).

Also, we can relate this with “Figure 3: Simplified Distance Decay Model”; where the model describes how land value varies with proximity to urban centers and how it drives land use changes in urban and peri-urban areas. Different land uses (e.g., commercial, residential, and industrial) vary in their willingness to pay for land closer to the CBD, Central Business District (Khan, 2021).

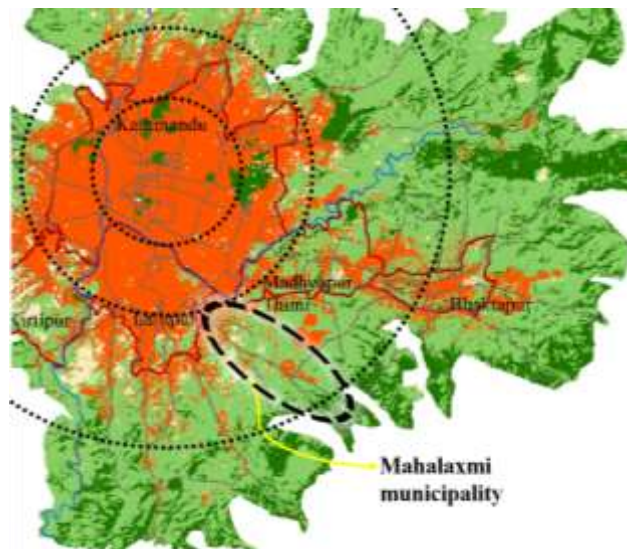


Figure 26: Concentric Circle around Kathmandu Valley

Aligned with the study area, Kathmandu functions as the urban center within the concentric land-use pattern and CBD while Lalitpur, Kritipur, Madhyapur Thimi and Bhaktapur serve as peripheral areas dominated by agricultural land use and have low land values. The figure also shows that Kathmandu is entirely covered with built-up areas, Lalitpur is becoming increasingly dense, whereas Madhyapur Thimi, Bhaktapur and Kritipur have comparatively less development. Mahalaxmi Municipality in Lalitpur is one of the peripheral areas where some built-up areas are emerging with lower land values in comparison.



Figure 27: Clash between Cadastral and Administrative boundaries of Siddhipur

Legend	
-----	Boundary given by Cadastral Map
-----	Boundary from Administrative Map

There is a significant difference between the ward boundaries in the administrative map and the cadastral (Napi) map. However, since the boundary used by the administration closely aligns with the OSM data from GIS, the administrative map is used to analyze spatial transformations in the aerial view.

5.1.2. Aerial Images of Siddhipur

The following provides a detailed illustration of the transformations in Siddhipur as seen from an aerial perspective. Over time, significant changes have occurred in the landscape, particularly with the expansion of urban development.

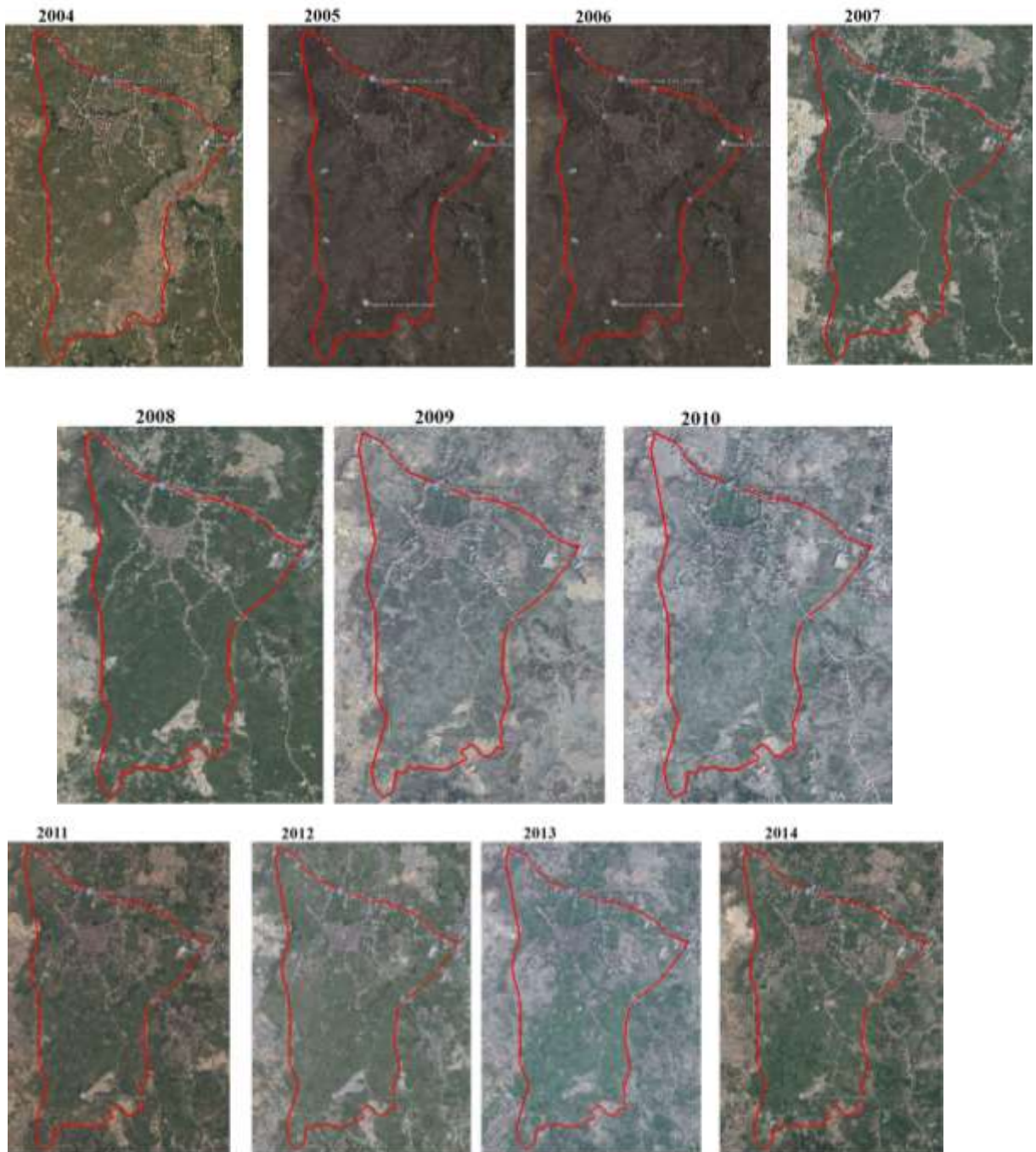


Figure 28: Aerial view of Siddhipur (2004 A.D. to 2014 A.D.)

Source: (Google Earth Pro, n.d.)

Examining the aerial view of Siddhipur from 2004 to 2014 (*Google Earth Pro, n.d.*), there appear to be no significant changes in the area, and the built environment remains largely consistent.

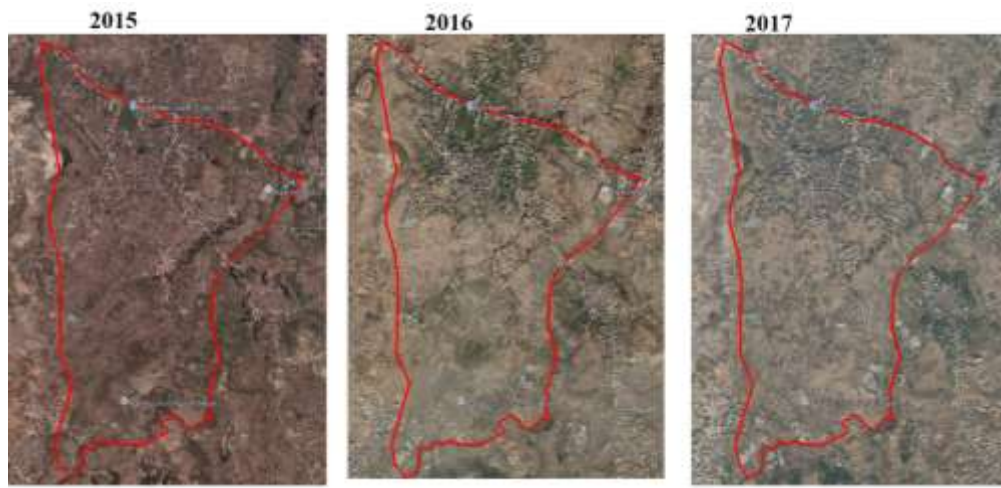


Figure 29: Aerial view of Siddhipur (2015 A.D. - 2017 A.D.)



Figure 30: Aerial view of Siddhipur (2018 A.D. – 2021 A.D.)



Figure 31: Aerial view of Siddhipur (2022 A.D. – 2024 A.D.)

Urban Transformation of Siddhipur (2004–2024) Through Aerial Analysis

The year 2015 marked one of the most devastating earthquakes in Nepal’s history, bringing significant changes to Siddhipur as well. Before the earthquake, most houses in the area followed traditional construction styles.

Urbanization Trends over Time

2004–2010: Settlements were concentrated in specific areas, with a predominantly rural and agricultural landscape.

2011–2015: Urbanization became more noticeable, with increasing built-up areas and early signs of expansion.

Post-2015: A significant spread of structures indicates settlement growth and infrastructure development, likely influenced by reconstruction efforts.

2020–2024: Built-up areas expanded further, with noticeable reductions in vegetation, marking a shift towards urban dominance.

Green cover fluctuated over the years, with noticeable declines during rapid urbanization (2015–2020). Some patches of greenery remained, possibly due to conservation efforts or agricultural retention. The 2023–2024 images show a mix of built-up land and green spaces, suggesting attempts to balance urban growth with environmental preservation.

Road networks and connectivity improved over time, with clearer and more defined pathways visible in later years. The expansion suggests increased accessibility, better transportation, and enhanced infrastructure development.

Overall Urban Transformation

Between 2003 and 2016, the area under observation did not experience any major transformations in terms of urban development or housing expansion. During this period, the growth was relatively stable, with no significant shifts in land use or infrastructure changes. However, from 2016 to 2020, a noticeable shift occurred, particularly in the development of Imadol, where new housing areas began to emerge. This period saw increased construction activity, indicating a transition towards urbanization in this region. Following this, the same trend of housing development and urban expansion was observed in the nearby Siddhipur area, suggesting that the growth patterns in Imadol were likely influencing or spreading to neighboring regions. This progression highlights the gradual extension of urban development from one area to another as population pressures and demand for housing increase.

The aerial analysis reveals a gradual shift from a predominantly rural/agricultural landscape to a more urbanized area over two decades. The trends highlight urban expansion, densification, and changing land use patterns, with implications for economic activities, infrastructure, and environmental sustainability.

Currently, Siddhipur is experiencing a rapid increase in the construction of buildings, leading to a significant reduction in the available agricultural land. As urban development continues to grow, much of the land once used for farming is being replaced by residential and commercial structures. This shift is transforming Siddhipur from a predominantly agricultural village into a more urbanized area, leaving less space for traditional farming practices and gradually altering the village's landscape.

5.1.3. Land Fragmentation



Figure 32: Land Use Change in Siddhipur



Figure 33: Land Use Change in the eastern part of Siddhipur

The eastern part of Siddhipur has undergone significant land use changes between 2014 and 2018. In 2011, aerial imagery primarily depicts roads and vegetated areas. By 2014, scattered plot developments began to emerge along the roads. This trend continued, and by 2018, a considerable number of houses had been constructed, indicating rapid urban expansion in the area.



Figure 34: Vertical Division of Buildings

The shift toward a nuclear family structure has also contributed to land fragmentation, as ancestral properties are increasingly divided among family members. This trend, alongside rising land values and urban expansion, has intensified unplanned development and reduced agricultural land in Siddhipur.

5.2. Municipal Registration Documents

5.2.1. Building Registrations

The data of New Registered Buildings over the Last 3 Fiscal Years was taken from the Mahalaxmi Municipality. This data shows that each fiscal year there is (2079/2080 to 2081/2082) reveals significant variations in construction trends.

Table 1: New Registered Buildings over Last 3 Fiscal Years

महालक्ष्मी नगरपालिका आ. व. म. नवी दुर्ग भएको भवन प्रयोजनको विवरण	Ward / वार्ड - 6	Shrawan श्रवण	Bhadra भाद्र	Aswin अश्वि	Kartik कार्तिक	Mangsir मंसिर	Poush पौष	Magh मघ	Falgun फाल्गुण	Chaitra चैत्र	Baisakh बैशाख	Jestha जेठ	Asadh आषाढ	Total कुल
2079/2080		0	0	0	2	2	8	5	3	5	7	15	12	59
2080/2081		11	19	25	17	26	39	38	11	25	20	27	18	276
2081/2082		15	21	28	20	23	21	16	0	0	0	0	0	144
Total Buildings in Last 3 Fiscal Years														479

Source: (Mahalaxmi Municipality - 06, 2024)

There was a massive 367.8% growth in building registrations from 2079/2080 to 2080/2081, indicating a construction boom in Mahalaxmi Municipality. This sharp rise could be attributed to increased urban expansion, improved infrastructure, or new development incentives in the area.

The substantial rise in building registrations between these two fiscal years reflects high growth potential in the urban development sector. If similar trends continue, Mahalaxmi Municipality could see increasing investments in housing and commercial spaces.

Table 2: New Buildings in F.Y. 2081/82 B.S. till current time

महालक्ष्मी नगरपालिका 2081/2082 मा नयाँ दर्ता भएको भवन प्रयोजनको विवरण	
Building Purpose in Ward 6	
Residential	137
Commercial	4
Industrial	0
Institution	0
Total	144

Source: (Mahalaxmi Municipality - 06, 2024)

According to classified data of Fiscal year 2081/82 B.S. which includes data till Magh 15, 2081 is the area is primarily residential (97.8%) and it shows minimal commercial (2.9%) presence according to the registration. There seems no industrial or institutional developments.

Based on on-site observations, there are numerous mixed-use buildings along the highway stretch from Gwarko to Lamatar, and many of the traditional core areas also feature mixed-use buildings.

5.2.2. Migration Registration

Figure 35: Annual migration data (2076/4/3 to 2081/8/25 B.S.) of Mahalaxmi Municipality – 06

Source: (Mahalaxmi Municipality - 06, 2024)

The ward of Mahalaxmi Municipality-06 provided the annual migration data registration, which was observed between 2076/4/3 and 2081/8/25. According to the data, Migration to Mahalaxmi-06 is predominantly from outside the Kathmandu Valley, with 80-87% of migrants annually coming from rural districts like Jhapa, Morang,

Taplejung, and Dhanusha. In contrast, movement within the valley, from areas like Kathmandu, Bhaktapur, and Lalitpur, remains relatively low at 13-20% each year. The migration rate saw a significant surge in 2078, marking the highest influx, followed by a slight decline and stabilization in recent years. This trend indicates Mahalaxmi-06's growing role as an urban hub, attracting people seeking better opportunities and infrastructure. While migration growth has fluctuated, the continuous inflow suggests the need for improved housing, services, and economic planning to accommodate the expanding population.

From the migration data, 10 individuals were originally from Mahalaxmi-06 or Siddhipur, indicating they are indigenous residents who either migrated within the area or returned after moving elsewhere.

5.2.3. Business Registration



Figure 36: No. of Business Registered in Municipality F.Y. 2073/74 B.S. to till date

The data, covering the period from 2073/12/03 to 2081/12/05, was collected from Mahalaxmi Municipality Ward-6. The analysis indicates a significant upward trend in business registrations, highlighting rapid economic expansion. Initially, business registration remained minimal, with only 28 businesses recorded in F.Y. 2073/74. However, from 2076/77 onwards, a sharp increase is observed. Registrations rose from 98 in 2075/76 to 250 in 2076/77, followed by a consistent rise, reaching 841 in 2081/82. The first two years (2073/74 - 2075/76) exhibited sluggish growth, likely due to weak economic conditions, regulatory constraints, or low entrepreneurial activity. 2076/77 - 2078/79 saw a sharp increase in registrations, driven by policy reforms, economic incentives, and local initiatives promoting business formalization. The steepest rise occurred in recent years, with registrations surging from 635 in 2079/80 to 841 in 2081/82. This suggests a thriving economic environment supported by increased investments, improved business policies, and a more favorable regulatory landscape.

Several factors have contributed to this growth trajectory, including improved business policies, urbanization, market expansion, and economic development initiatives. A shift in livelihood patterns from agriculture to diversified business activities has also played a crucial role.

Siddhipur, like other peri-urban and urban settlements, is transitioning from an agrarian economy to a mixed economy, incorporating trade, services, and manufacturing. A cultural shift towards business ownership, coupled with increased remittances and capital inflows, has provided financial support for new ventures. Additionally, urban infrastructure improvements and population growth have created new entrepreneurial opportunities, further accelerating the transition from agriculture to commercial enterprises.

The upward trend in business registrations reflects the municipality's evolving economic landscape, signaling continued growth potential. To sustain this momentum, supportive policies and strategic planning will be essential in fostering long-term economic development.

According to Mahalaxmi Municipality - 06, a significant proportion of the buildings, approximately 70% of total enterprises, are rented. This highlights a strong demand for rental properties in the area, as many businesses operate within rented spaces rather than privately owned premises. Interestingly, only a small percentage of individuals are running businesses from their own homes, suggesting that home-based enterprises are less common in this particular locality. With many property owners depending on rental income to sustain their livelihoods, this trend further emphasizes how important rental properties are as a source of income for many people in the neighborhood. The demand for rented spaces is indicative of the ongoing urban growth and the need for accessible commercial spaces within Mahalaxmi Municipality 06. This suggests a growing entrepreneurial environment, where rental properties are becoming essential for business operations, highlighting the need for accessible commercial spaces as the region continues to develop economically.

5.3. Findings from Survey

The questionnaire survey of (Thapa, 2009), (Raghubanshi, 2024), (Shakya, 2009), was reviewed, and the necessary references were gathered and implemented. Additionally, a focus group discussion was conducted with six participants, and another random focus group discussion was held with individuals involved in Sukul weaving.

5.3.1. General Information

Gender Distribution

The survey results show a gender distribution of 56.16% male and 43.84% female.

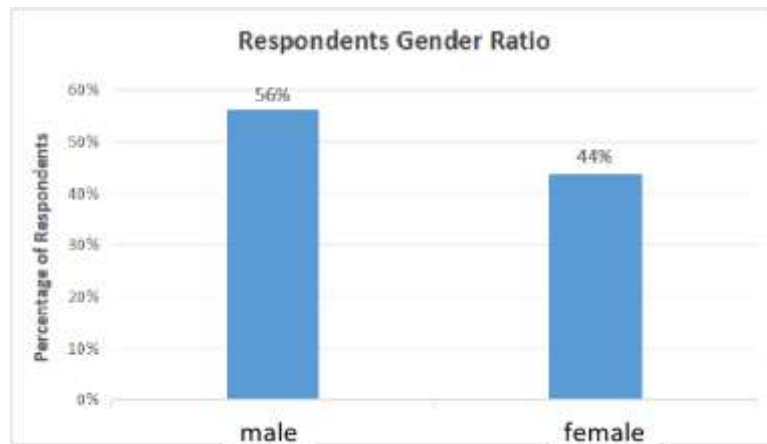


Figure 37: Gender distribution

(Source: Kobo Tool Box)

Age Distribution

A majority of respondents (65.75%) fall within the prime working age group of 25-54 years, indicating an active labor force. Smaller groups are represented in the early working age (15-24) at 15.07%, the mature working age group (55-64) at 13.7%, and only 4.11% are elderly (65+).

Migration and Employment Abroad

32.88% of families have members abroad. Mainly people go abroad for employment (19.18%) and for both study and work (12.33%). This highlights the importance of migration in improving household income, with remittances likely contributing to local economic growth.

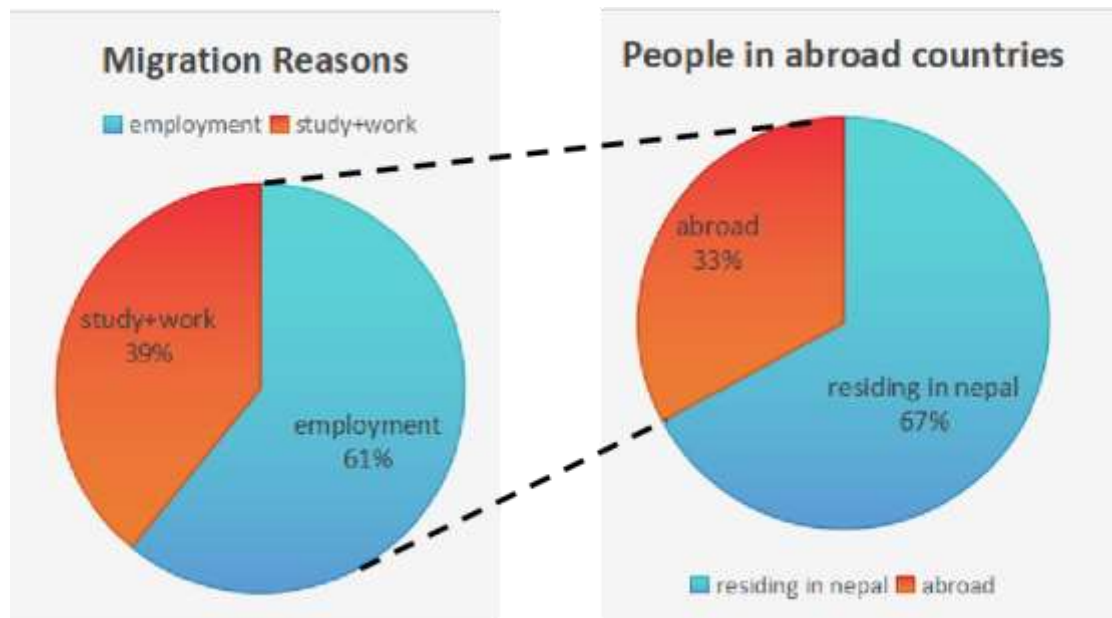


Figure 38: Migratory Population Data by the respondents

Elderly Members and Migration Intentions

Among families with members abroad, 24.66% of elderly members (65+) remain in Nepal, and only 2.74% live abroad. This suggests a preference among the elderly to

stay in their home country. Additionally, 17.81% of respondents with family abroad intend to settle permanently, potentially indicating a shift in the socio-economic landscape, with families becoming more reliant on remittances.

Ethnicity of Respondents

The majority of respondents (84.93%) identify as Newar, with smaller proportions identifying as Brahmin (4.11%), Chettri (4.11%), and other ethnic groups (2.74%). This suggests a predominantly Newar community with some ethnic diversity, which may shape social and economic practices, including migration trends.

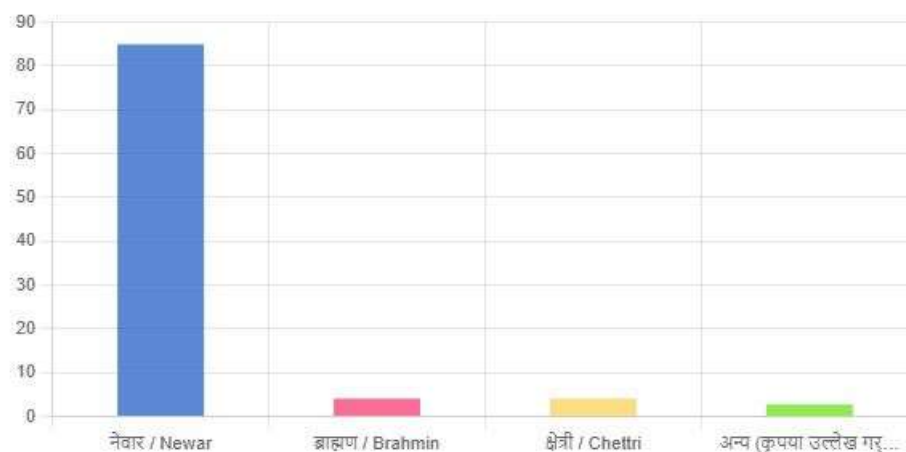


Figure 39: Ethnicity Distribution

(Source: Kobo Tool Box)

Analysis

The survey reveals that Siddhipur has an active workforce with a significant number of individuals engaged in migration for work and study. The predominance of the Newar ethnic group suggests a tight-knit cultural identity. The trend of elderly members staying in Nepal while younger generations migrate reflects broader patterns of migration, with a potential long-term shift in the community's demographic and economic structure.

5.3.2. Migratory Information

Residency Information in Siddhipur: The majority (75.34%) of respondents are local to Siddhipur. 24.66% include those residing in rented accommodations or who have migrated from other areas. Most migrants come from within the Kathmandu Valley, including Lalitpur, Kathmandu, and other locations.

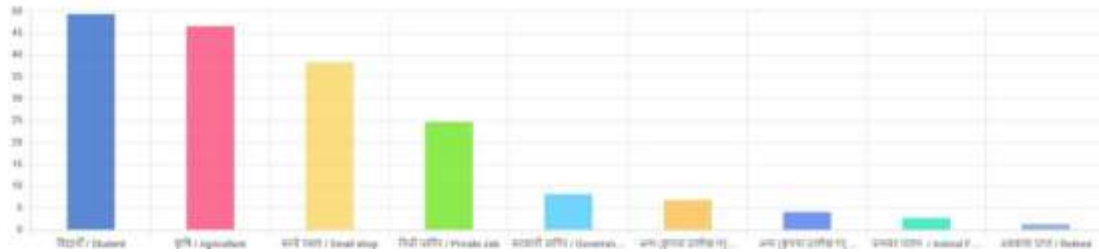
Migration and Rental Trends: Respondents' migration timelines vary from 2-10 years, with some moving to Siddhipur as recently as two years ago. Among renters, most come from outside the valley, signaling an influx into Siddhipur. Rental durations also vary, with some respondents renting for over 16 years.

Analysis on Indigenous People:

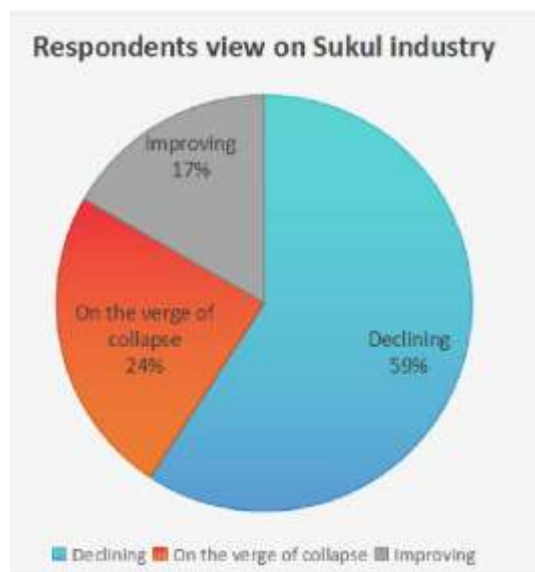
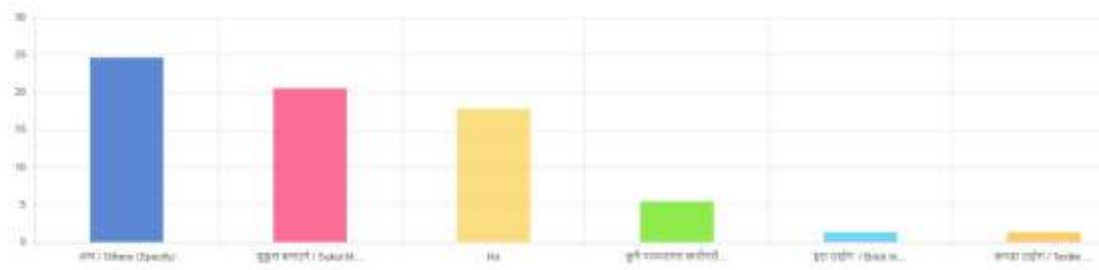
Siddhipur retains a predominantly local population, though there is a growing presence of migrants, especially from surrounding areas. The varying rental durations suggest that while the population is stable, Siddhipur is experiencing some degree of urbanization and migration pressure.

5.3.3. Economic Profile

Occupation Distribution in the Community: Among the 73 respondents, 49.32% have students, 46.58% are engaged in agriculture, and 38.36% run small shops. Private jobs and government employment are held by 24.66% and 8.22%, respectively.

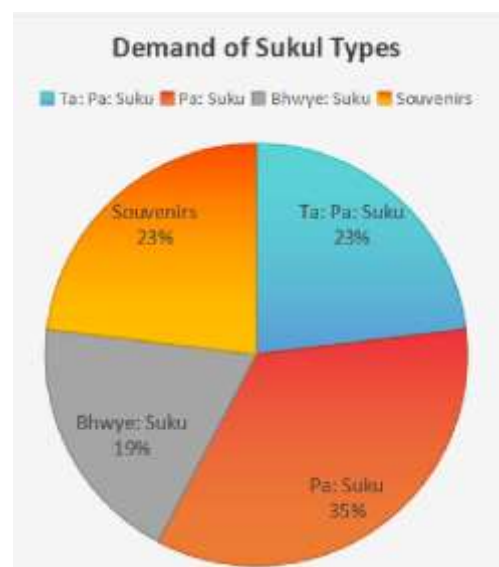


20.55% of families are specifically involved in the production of sukul, or straw mats, as part of traditional industries. Other traditional crafts like bamboo work and statue or metal souvenir item making are less common and those were noted to be done by people from Godawari and Patan respectively.



State of Sukul Industry: 43.84% of respondents view the Sukul industry as declining, with some indicating it is on

the verge of collapse (17.81%). However, a minority (12.33%) believes it is improving.



Demand for Sukul: According to the respondents who have been engaged in the weaving work, there is varied demand for different types of Sukul. “Ta: Pa: Suku” has a moderate demand

(8.22%), “Pa: Suku” has high demand (12.33%), and “Bhwe: Suku” sees both high and low demand. Interest in aesthetic straw souvenirs is also evident (8.22%).

Preservation of Sukul Tradition: 68.49% of respondents believe preserving Sukul production is essential. Suggested preservation methods include awareness programs, better marketing strategies, and encouraging youth involvement.

Tourism: 34.25% of respondents report increased tourism in the area, while 23.29% notice no change. 9.59% reported a decrease, suggesting mixed perceptions of tourism's impact.

Increased	Notice no Change	Decrease
34.25%	23.29%	9.59%

The most popular tourist-attracting event in this area is the Mahotsab program, which draws a significant number of domestic visitors. According to key informant Binod Maharjan, the sole operator of a homestay in the area, guests not only stay during events like weddings but also opt for long-term stays when they need rental accommodations. Those looking for temporary housing for a few months, who prefer not to stay in hotels or motels, also choose the homestay. Maharjan notes that if more households offered homestay services, the potential income could be substantial. Additionally, with a collective effort, the area could attract international tourists as well.

With a substantial student population, the community's economy is mostly dependent on small enterprises and agriculture. Traditional industries like Sukul making remain important but are in decline. Efforts to preserve traditional crafts and expand tourism are seen as key to economic diversification. However, tourism’s impact is mixed, with some respondents seeing growth, while others perceive stagnation or decline.

5.3.4. Household Profile

Year of Construction: Most houses were built in the mid-2070s, with notable construction in 2073 and 2075 BS.

Land Prior to Construction: 53.42% of respondents had old houses on their land, while 27.4% had agricultural land.

Reasons for Location: 57.53% of respondents chose their location due to inherited land, while others cited proximity to urban facilities or business opportunities.

Land Purchase Method: Few respondents purchased land through local agents or real estate, and most had inherited land

House Type: RCC houses (72.6%) are most common, with some opting for traditional Newari facades.

Additional Land Ownership: 56.16% of respondents own land on the outskirts of Siddhipur, with land in the core area being less common (16.44%).

Land Use: In the outskirts, land is mainly used for agriculture, while the core area sees a mix of agriculture and rental properties.

Analysis on Household Profile

The data indicates a trend of house construction in the mid-2070s, primarily on inherited land, with a preference for RCC buildings. The expansion of rental properties on the outskirts reflects the area's growth, while traditional agricultural practices remain prevalent.

5.3.5. Infrastructure Profile

Ease of Commute Due to Roads: 52.05% of respondents rate commute ease as extremely high, while 32.88% consider it high.

Analysis on Infrastructure Profile: The majority of respondents recognize the roads as a significant factor contributing to ease of commute.

5.3.6. Impact of Urbanization

Engagement in Communal Spaces: Among 43 respondents, 19.18% engage moderately with communal spaces, while 16.44% report high engagement. Other respondents describe low to very low involvement.

Usage of Communal Spaces in Daily Life: The most frequent use of communal spaces includes sunbathing (41.1%), participation in festivals (39.73%), drying grains (27.4%), and parking (13.7%).

Changes in Settlement: Key changes observed include urbanization, population growth, and infrastructure development. Traditional houses are being replaced by RCC buildings, and improvements in water supply and sanitation have been noted.

Challenges in Preserving Sukul: Because younger people are not learning the trade, respondents note that the primary obstacle to Sukul preservation is the lack of generational transmission.

Perception of Urbanization: The perception of urbanization is mixed, with some viewing it positively due to increased opportunities and development, while others are concerned about unmanaged growth and overcrowding.



Figure 40: Cultural Continuity and the Role of Public Space and Traditional Crafts in Siddhipur

The figure above illustrates that public spaces in Siddhipur remain largely intact, continuing to serve as communal areas where traditional activities take place. One notable example is the enduring use of Sukul, a traditional straw mat, which remains an integral part of daily life. Despite significant urban transformations, including modernized buildings, improved road pavements, and evolving lifestyles, the Newar community in Siddhipur continues to uphold its cultural heritage by maintaining traditional crafts and practices.

Survey findings indicate that many respondents mentioned that they engage in weaving for personal consumption rather than as a source of income. This suggests that while modernization has influenced economic activities, certain cultural traditions persist within domestic spheres rather than transitioning into larger commercial enterprises.

Analysis on Impact of Urbanization

Urbanization in Siddhipur is creating a dynamic mix of traditional and modern influences. The decline in traditional practices like Sukul-making reflects broader trends of modernization, while infrastructure improvements are creating new opportunities. However, overpopulation and unregulated growth remain as the challenges.



Figure 41: Agricultural Lands turned as Residential Use



Figure 42: Road Pavements Transformation

The figure above demonstrates how land use has evolved over time, with the majority of land now being dedicated to residential purposes. This also suggests the increment in housing demand and as the demand for housing has increased, agricultural and undeveloped land has been transformed into residential zones, leading to the expansion of urban areas. Along with this shift, the infrastructure has also changed. The kind of road pavements that are utilized has also changed noticeably. In the past, pavements were primarily made of bricks; however, in recent years, the majority of roads have transitioned to using block pavements and concrete surfaces. This change reflects a broader trend toward modernizing infrastructure to accommodate growing urbanization and improve durability and maintenance of road networks.



Figure 43: Various Pavements across different locations

A range of pavement types can be seen in various locations, even if some still have classic brick and stone pavements. This variation in pavement types highlights the diverse approaches to road construction across the area, with some places maintaining the older, traditional styles while others have opted for different materials depending on local needs or historical preferences.

5.3.7. Miscellaneous

Local Government's Efforts to Preserve Traditional Culture: 52.05% of respondents feel the local government has not done enough to preserve traditional culture, with some mentioning efforts like renovations and cultural programs. However, many believe these efforts are insufficient.

Reasons for Insufficient Effort: Respondents cite lack of community involvement and prioritization of profit-driven developments as key reasons for insufficient efforts.

Real Estate Benefits and Opinions on Promotion: 43.84% of respondents feel they have not benefited from the real estate business. A majority (39.73%) believes that land fragmentation and real estate promotion should not be encouraged.

This summary of survey results offers insights into household and infrastructure profiles, economic activities, migration trends, urbanization impacts, and community demographics. The data reflects a blend of traditional practices and modern influences, with particular attention to preserving cultural heritage and addressing challenges posed by urbanization.

5.4. Focus Group Discussion Summary



Participants

The focus group discussion was conducted with six key stakeholders:

Ward Chair, Ward Members, Chairman of Community Learning Center (CLC), Representative from Ta: Guthi and Community Member

5.4.1. Key Findings

- The settlement is estimated to be 300–400 years old, with reference to the use of traditional construction materials (Dachi Appa and Ma Appa) discovered during excavation for drainage and storage tanks. While with references to historical inscriptions, we can find the settlement to have a linkage Malla period indicating it being older than 400 years.
- The local population has migrated from Patan in considerable numbers.
- The village has potential for national and international tourism due to its rich historical significance.
- Preservation efforts could include restoring building facades with Dachi Appa and Surkhi, promoting homestays through public-private partnerships, and organizing traditional music and dance performances.
- The Community Learning Center (CLC) actively promotes traditional crafts such as Sukul weaving.
- It receives funding primarily from UNESCO and provides training in various skills, including tailoring.

- The center facilitates both the promotion of traditional crafts and the coordination of orders for Sukul weaving among artisans.

5.4.2. Traditional Economy and Shift in Livelihoods

- Historically, Siddhipur was an agrarian village, with widespread use of rice straw for Sukul weaving.
- About 30 years ago, nearly every household was involved in Sukul weaving, predominantly carried out by women, including housewives.
- Infrastructure improvements, the growth of private schools, and employment shifts toward service-oriented jobs and foreign employment have led to a decline in Sukul weaving.
- In the past, a large Sukul was sold for NPR 100–200, whereas today, Sukul weaving is paid at NPR 150 per square foot, enabling freelancers to earn NPR 15,000–25,000 per month.

5.4.3. Water Supply and Sanitation Concerns

- In 2062/63 B.S., residents relied on unfiltered well and tap water, prompting WHO to introduce cleanliness programs to address the issue.



Figure 44: Siddhipur's own Water Supply

5.4.4. Urbanization and Land Use Changes

- Land fragmentation and real estate development have significantly increased.
- Foreign employment, small enterprises, and self-service jobs have become the primary sources of income
- After the earthquake, 99% of homes required reconstruction, leading to a surge in RCC buildings.
- Foreign employment has played a key role in local development.

- Challenges such as political instability, a high number of unskilled and uneducated individuals, and a preference for risk-averse employment options have reinforced the trend of foreign employment.

5.4.5. Land Value and Socioeconomic Changes

- In 2062 B.S., the land value was NPR 12–13 lakh per aana; today, it has risen to NPR 59–60 lakh per aana.
- Exposure to foreign lifestyles has increased aspirations for luxury and higher living standards.
- Currently, an estimated 700–800 residents are working abroad.
- In the past, foreign employment was primarily sought in India and Gulf countries, whereas today, individuals are also migrating to European nations for both employment and education.
- Dissatisfaction with job opportunities and inadequate returns on educational investment have also contributed to increase out migration.

5.4.6. Challenges in Sukul Weaving Industry

- The lack of quality control has hindered market expansion and prevented the industry from entering mainstream advertising and marketing.
- Efforts are being made to enhance product quality, including dust-free straw treatment, improved stuffing techniques, and longevity enhancements.
- There is a reluctance to share Sukul weaving knowledge with non-indigenous groups due to a conservative mindset.
- Limited support from higher authorities restricts large-scale preservation and promotion efforts.

5.4.7. Land Use Drivers and Urban Development Factors

- Urban facilities, accessibility, and economic opportunities are driving land use changes.
- Key factors influencing urbanization include:
 - Increased land sales
 - Favorable geographical conditions (higher elevation and good water supply under local management)
 - Easy commute to Kathmandu
 - Presence of major banks and supermarkets, Bhat-bhateni
 - Improved availability of daily supplies
 - Strong cooperative culture among residents

The focus group discussion provided valuable insights into Siddhipur’s historical evolution, cultural significance, economic transformation, and urbanization trends. Foreign employment, education, and infrastructure development have brought about significant changes to the village, but in order to balance modernization and historical preservation, strategic planning is becoming increasingly important. Efforts to promote

Sukul weaving, tourism, and traditional architecture should be prioritized alongside sustainable urban development initiatives.

5.5. Site Observation

Field observations were conducted to assess the current status of Siddhipur, focusing on its social, economic, and spatial aspects.



Figure 45: Main Street, 1998



Figure 46: Yangal Road, 2024

Source: ("Sidhipur," 1998)

Source: Self

Late 1990s to the present. To accurately compare them as the same location, input from local residents was gathered. Notable changes include the transition from mud-mortar houses to concrete buildings. The resting house in the front left has been altered, while the one in the background has been recently restored with a traditional façade. The skyline has also changed significantly. One striking difference is the absence of rice straws on the streets today, which were once a common sight in the past.



Figure 47: *Chi: Bale*, 1998

Source: (“*Sidhipur*,” 1998)



Figure 48: *Chi: Bale*, 2024

Source: *Self*

Again in these comparative images, illustrates that the area has gone through a lot of urban transformation. In comparative image of *Chi: Bale*: we can see that the public tap has been removed, which can lead to the indication that water is now supplied to each household. The pavements have been changed from brick pavement to the stone pavement and telia tiles.



Figure 49: *Dha: Si Road section*

Source: (“*Sidhipur*,” 1998)

Another section of Dha: Si: showcases the newly restored brick pavement, reflecting the local government's efforts to preserve the historical aesthetic. However, both the local government and residents appear to have been less successful or less concerned with maintaining the traditional building facades and skylines, which are integral to the identity of a historic Newari settlement.



Figure 50: Scenario in School Chowk and Gwarko Lamatar Highway Stretch, 2024

The 2024 scenario at School Chowk and along the Gwarko-Lamatar Highway stretch depicts a highly urbanized area of Siddhipur, where nearly all buildings serve mixed-use or commercial purposes. Numerous small enterprises have been established, and roadside spaces are primarily used for parking. Traditional façade houses are no longer visible, making the area feel like an entirely different world.



Figure 51: Present Scenario of Chi: Bale: - Dha: si:

Observations at the site reveal that *Sukul* remains an integral part of daily life, commonly used in *Falcha* (the front space of homes) and public *Bhajan* spaces. Additionally, locals continue to use *Chwa:li:* (straw) for preparing *Choi: La:* (smoked meat), preserving traditional culinary practices.

5.6. GIS Map

5.6.1. Land Use Map

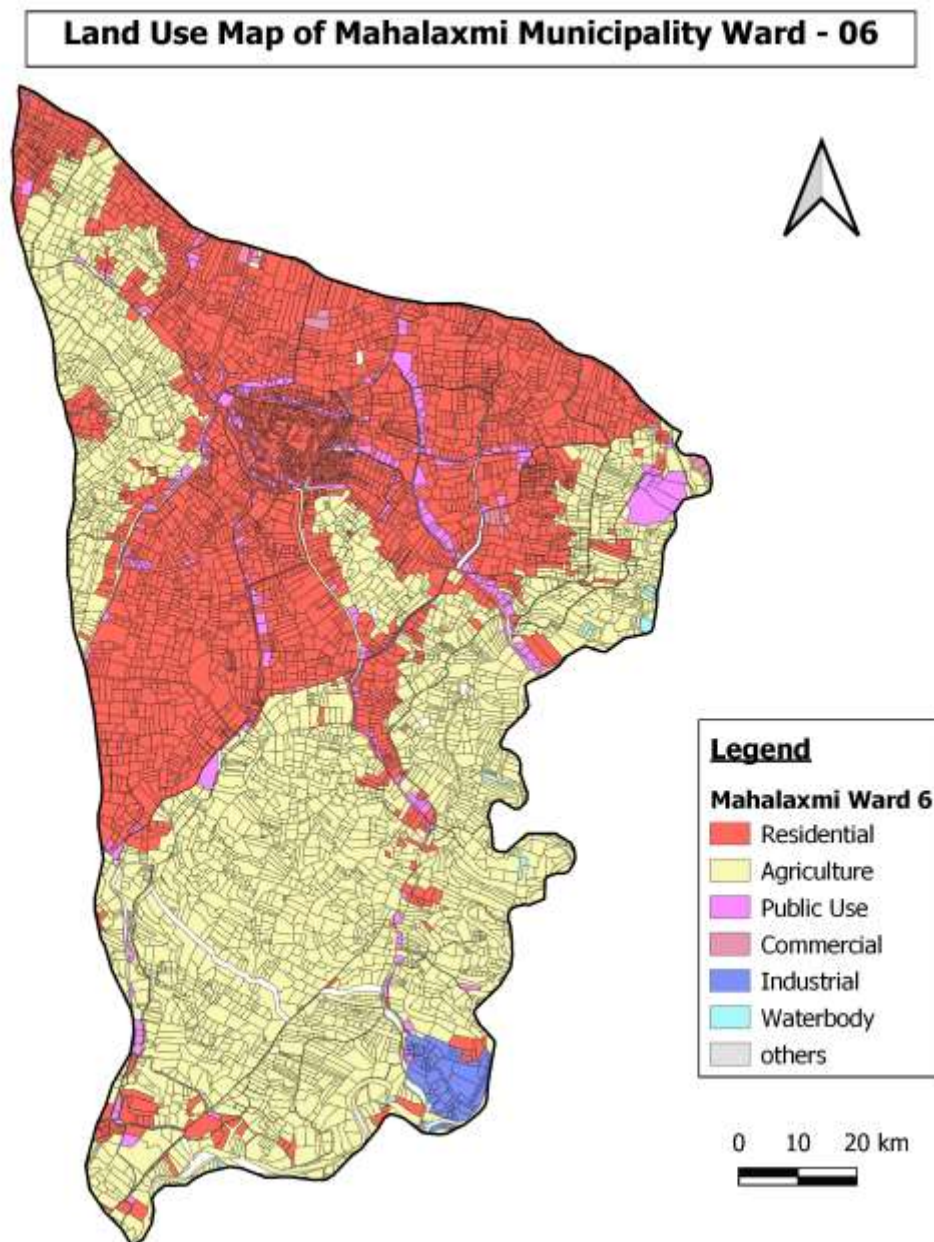


Figure 52: Current Land use map of Mahalaxmi Municipality Ward 6

The land use map of Mahalaxmi Municipality Ward 6 highlights the spatial distribution of various land uses within the area. The dominant land use appears to be residential (red), covering a significant portion of the northern and central parts of the ward, indicating urban expansion and densification. Agricultural land (yellow) is prominent in the southern and peripheral areas, showing that traditional farming activities still persist despite urban growth. There are scattered zones of public use (purple), commercial areas (pink), and industrial zones (blue), suggesting a mix of services, businesses, and economic activities supporting the local economy. Water bodies (light blue) are visible but limited, indicating the presence of small ponds or streams. The

map also depicts a network of roads and infrastructure, emphasizing connectivity within the ward. The spatial transformation seen in this ward reflects a transition from rural to urban land use, which aligns with broader trends of urbanization in the Kathmandu Valley.

5.6.2. Building Classification Map

Three types of maps have been created for Mahalaxmi Municipality Ward 6, categorizing buildings based on Building Typology, Construction Typology, and Building Height Classification. The Building Typology map classifies structures according to their primary function, including residential, commercial, mixed-use (both residential and commercial), and industrial. Additionally, some buildings remain unused or abandoned, primarily due to damage from past earthquakes, and are marked as vacant homes on the map. Public buildings include Guthi structures and Paatis, while temples and stupas are categorized under religious sites.

This classification provides a comprehensive understanding of the built environment, showcasing the diversity of building uses and their current conditions.

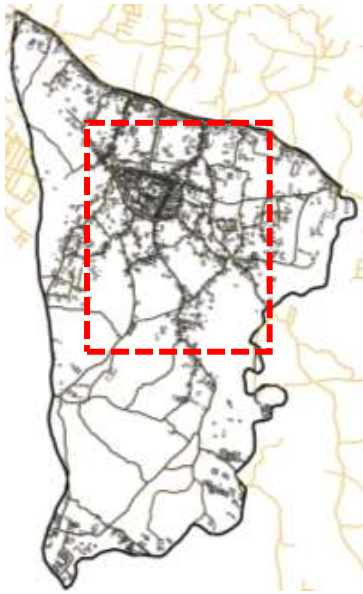


Key map

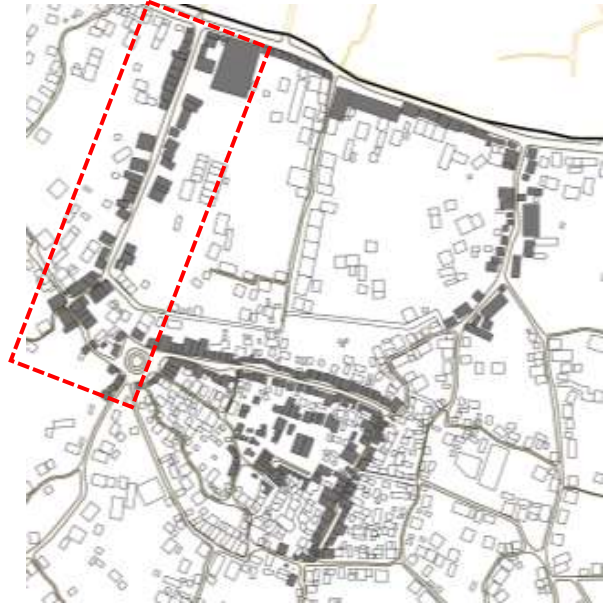
Inset Map

For the classification map, four alignments were further detailed. The first alignment, located to the north, is the Main Road, which connects to the Gwarko Lamatar Highway and is locally known as mu: la: in Newari. The second alignment runs from Fonga Pukhu to Yangal Road, while the third alignment, situated in the central area of the traditional core, connects Devnani Tole and Tanani Tole. The final alignment, on the eastern side, is the road that links Dhasi to Yangal Road.

5.6.2.1. Alignment 1: Main Road



Key map



Inset Map



Figure 53: Building Typology Map of Main Road



Figure 54: Construction Typology Map of Main Road



Figure 55: Building Height Classification Map of Main Road

The numbers above make it abundantly evident that Reinforced Cement Concrete (RCC) is the most common construction method in the area along the Main Road (*Mu: La:*), with just a small percentage of structures using traditional load-bearing construction. RCC structures are typically preferred due to their durability and earthquake resistance, making them the dominant choice in the region. The majority of buildings along the alignment serve mixed-use purposes, combining residential and commercial functions. This reflects a growing trend toward urban development that caters to both living and business needs within the same space, optimizing land use in a densely populated area. However, a smaller proportion of buildings are designated for solely commercial or residential use, highlighting some separation of functions in certain areas.

In addition, the maps shows that along this alignment, only one home-stay exists in the entire Mahalaxmi Ward 6, indicating a limited presence of tourism-related accommodations in the area. This is notable as it could point to opportunities for development in tourism infrastructure.

5.6.2.2. Alignment 2: Yangal



Key Map



Inset Map

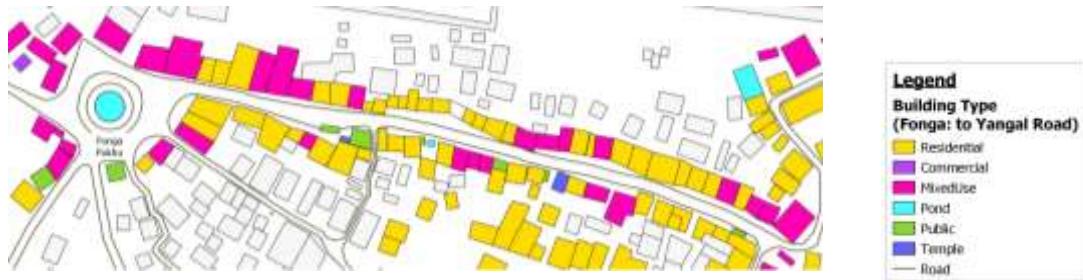


Figure 56: Building Typology Map of Yangal Road



Figure 57: Construction Typology Map of Yangal Road



Figure 58: Building Height Classification Map of Yangal Road

Along the stretch of Fonga: Pukhu, the figures above illustrate that the majority of buildings are mid-rise structures, typically 3.5 stories high, followed by a smaller number of buildings with 4 or more stories. However, almost all of these buildings are

composed of reinforced cement concrete (RCC), which is the most common building material in the area due to its durability and strength. Additionally, there is a significant number of mixed-use buildings, combining both residential and commercial functions, highlighting the trend of integrating living spaces with business activities in this urban setting.

5.6.2.3. Alignment 3: Dhasi Road



Key Map

Inset Map



Figure 59: Building Typology Map of Dhasi Road



Figure 60: Construction Typology Map of Dhasi to Road



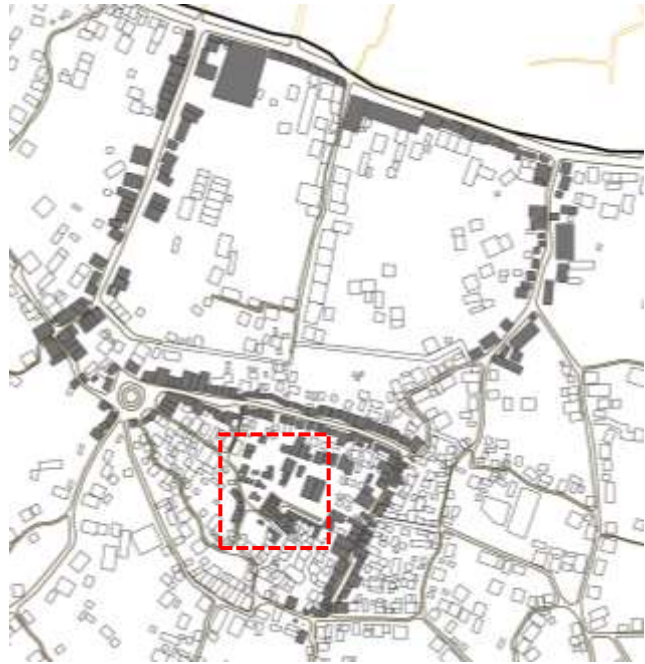
Figure 61: Building Height Classification Map of Dhasi Road

Along the stretch of Dhasi to Yangal Road, most of the buildings are primarily residential, with only a few serving mixed-use purposes. The majority of the buildings are constructed with Reinforced Cement Concrete (RCC), while only a few are load-bearing structures and of Mud Mortar. In terms of building height, the majority are mid-rise, typically around 3.5 stories, with a smaller number being low-rise or 4+ stories. This suggests a relatively low density of taller buildings along this road, with a focus on residential development in the area.

5.6.2.4. Alignment 4: Dev Nani: and Ta: Nani: Tole



Key Map



Insite Map



Figure 62: Building Typology Map of Devnani and Tanani Tole



Figure 63: Construction Typology Map of Devanani and Tanani Tole

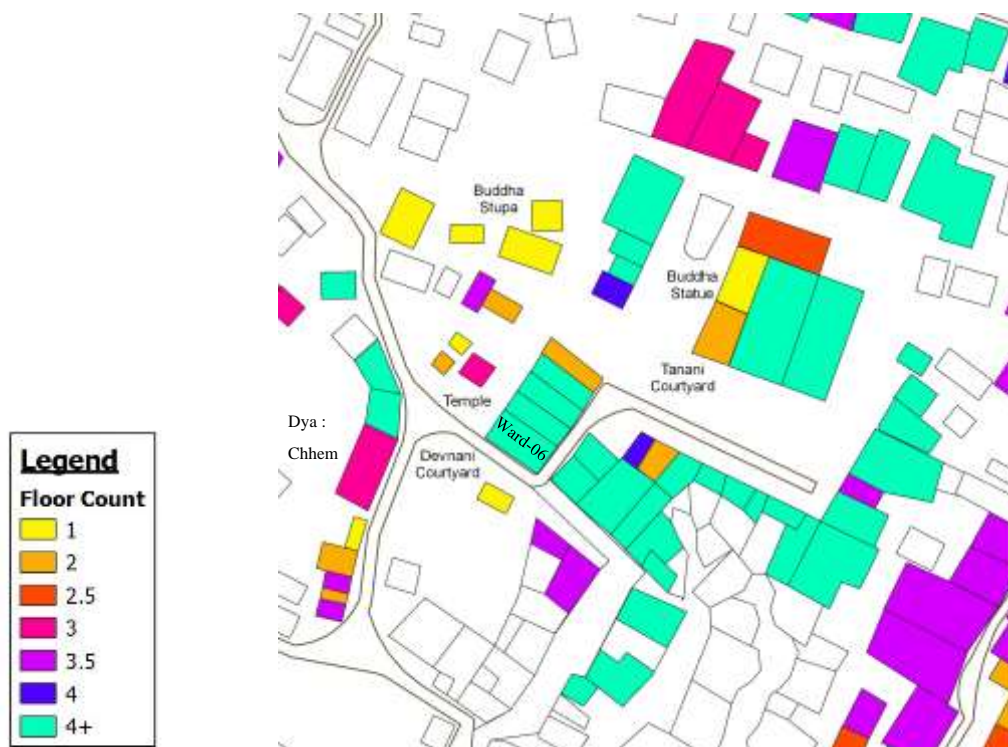


Figure 64: Building Height Classification Map of Devanani and Tanani Tole

Along the connecting stretch between Devnani and Tanani Tole, numerous temples and stupas are visible, underscoring the area's cultural and religious significance. The majority of the buildings here are residential, constructed with Reinforced Cement

Concrete (RCC), and are generally 4+ stories tall. Even the Dya: Chhen & Ward Building are of RCC and on top of that ward building is 4+ storey.



Figure 65: Public Buildings in Dev Nani: Tole

This suggests that the traditional character of the area has been altered, as the once predominantly low-rise, traditional fabric has given way to taller, modern constructions. This transformation calls for attention from the local government to preserve the skyline and outer facades of the buildings, especially given the cultural and historical importance of the area.

Additionally, a few public buildings, such as Patis and the Ward Building, are present, contributing to the area's community spaces. While most buildings are high-rise, there are some mid-rise and low-rise structures scattered throughout the area. Notably, this sector has a larger concentration of mud mortar constructions than other areas of the study area, suggesting a combination of traditional and modern building methods. This mix of architectural styles highlights the ongoing shifts within the urban landscape and the importance of balancing development with heritage preservation.

Therefore these maps offer a comprehensive overview of the urban fabric of Mahalaxmi Municipality Ward 6. They reveal a dynamic mix of residential, commercial, and mixed-use buildings, with a clear preference for Reinforced Cement Concrete (RCC) in construction. This trend reflects the region's need for durability and earthquake resistance, as well as the growing integration of residential and commercial spaces. The maps also highlight areas with significant cultural and religious value, such as temples and stupas, and emphasize the importance of preserving the traditional architectural character amidst modern developments. The analysis shows varied building heights across different alignments, with mid-rise structures dominating some areas and 4+ stories becoming more prominent in others. Additionally, the presence of mud mortar

structures in certain parts reflects a blend of traditional and contemporary construction practices but in fact in survey, there retrofitted and some vacant houses and only few has people residing in them. This comprehensive classification serves as a valuable tool for understanding the evolving urban landscape and the challenges and opportunities for sustainable development and heritage preservation in Mahalaxmi Ward 6.

5.7. Building Function Changes

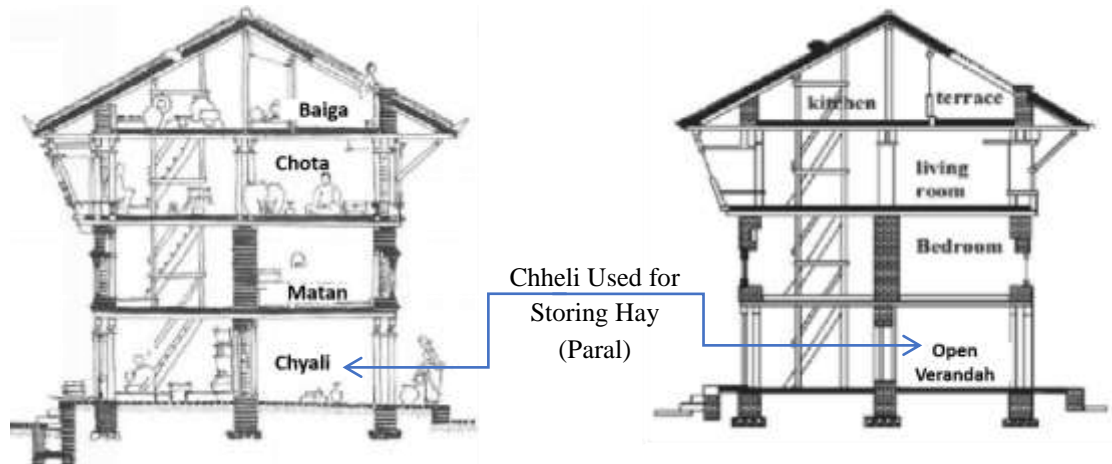


Figure 66: Typical Section of Traditional Houses in Siddhipur

In the traditional houses of Siddhipur, the typical layout included the Chheli (ground floor), Matan (1st floor), Chota (2nd floor), and Baiga & Ka:si (3rd floor). The ground floor was primarily used for storing hay (paral) in most homes. The first floor served as the bedroom, while the second floor was used as the living room and third floor was used as Kitchen and some used to have half terrace as well. Only few had terrace.

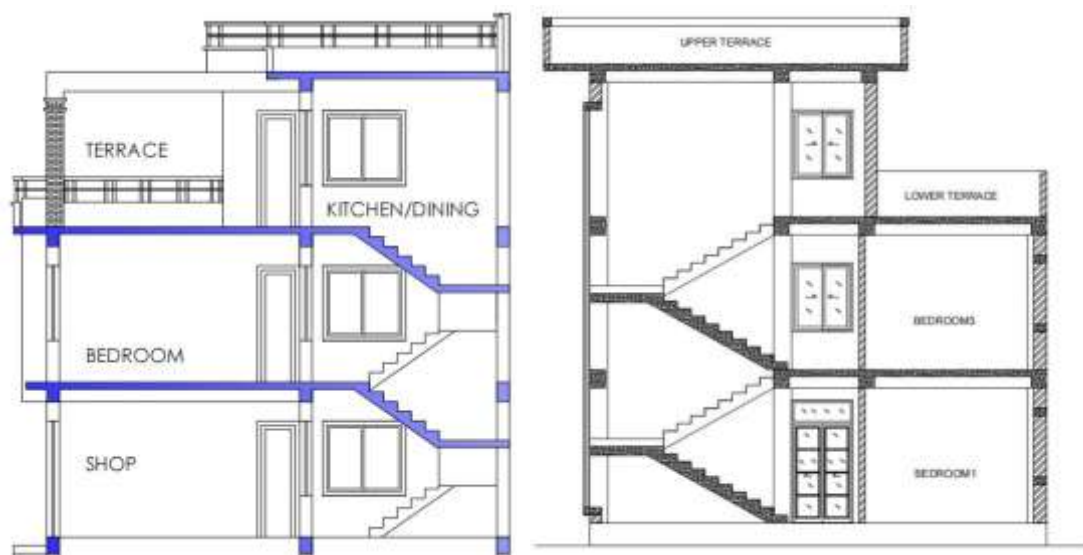


Figure 67: Typical Sections of Modern Houses in Siddhipur

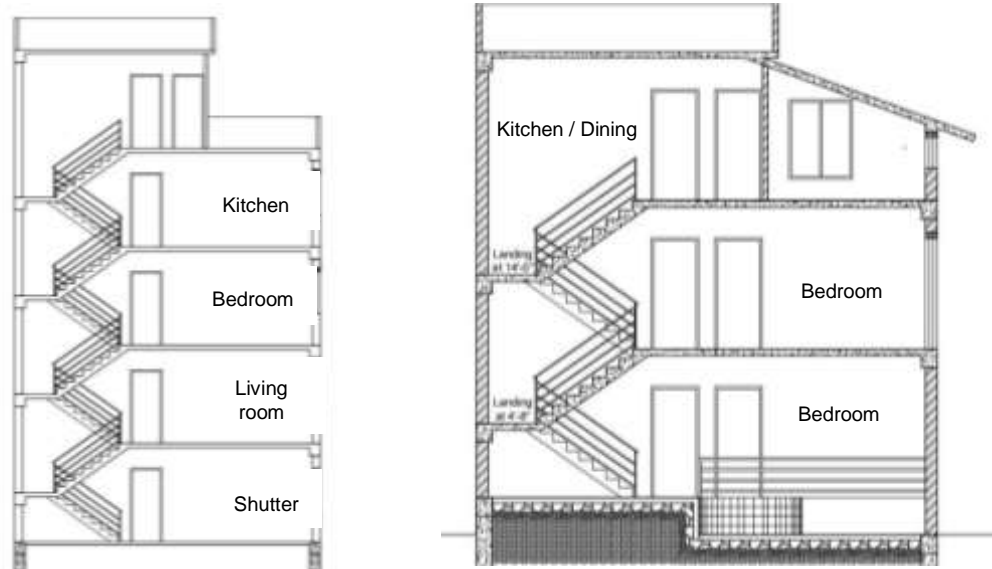


Figure 68: Typical Sections of Modern Houses in Siddhipur

In contrast, modern houses in Siddhipur generally use each floor for bedrooms. Some homeowners prefer to have the living room on the ground floor, while others place it on the first floor. Many houses follow a flat system, and in mixed-use buildings, the ground floor typically features shutters for commercial purposes. Traditionally, Newars place the kitchen on the top floor, but due to the preference of older residents for less vertical movement, kitchens are increasingly being located on the ground or first floor in modern homes.

This evolution in housing design indicates a broader societal shift towards practicality, comfort, and a blending of traditional and modern living needs.

5.7.1. Detailing of a single household



Figure 69: Household in Dhasi

To analyze the economic shift in more detail, a survey was conducted on a few houses. House 1, located in Dhasi, is one such example. Both buildings on the property belong to the same individual. Historically, the rear building was used for housing animals and storing straw, while the front building served as the residence. Both structures were originally built with mud mortar, but have since been upgraded to Load bearing but cement mortar construction after the damage in earthquake.

The family, which initially consisted of 8 members, has since expanded to 12 members. Over time, however, the family size reduced as a result of nuclear family trends, and now only 2 members remain in the household, with the remaining 10 members residing abroad.

In the past, the family's primary occupation was agriculture, but as time progressed, a rice and beaten rice mill was installed between the two houses, which was operated by the family. Additionally, females in the family were involved in weaving sukul during the agrarian period. However, the mill was destroyed during the 2015 earthquake and was subsequently removed.

The economic shift began with access to quality education, which led to family members securing jobs. The low wages in Nepal and the pursuit of better opportunities abroad prompted many family members to migrate. As a result, remittances have become the primary source of income for the household, with half of the family planning to settle abroad permanently.

5.8. Changes over Time: A Comparative Perspective

Shakya, 2009	Current Observation
Economic Decline - around 400 locals in Gulf Country.	Still intact but European countries Major reason being unsatisfactory income and job.
Less participation of youth in cultural activity.	Involvement of younger people learning and in cultural fests
Private investors both external and new entrants are looking for opportunity to start housing business in agricultural area and surroundings.	Significant areas >> changed from agricultural to commercial or housing However, the initiative of policy restricting land fragmentation and save agricultural lands.
Due to loss of traditional occupation-identity of Siddhipur as a straw mat city in jeopardy.	Still intact and only CLC is seen as one of the actively involved in saving of the Suku industry

A comparative analysis of Shakya's 2009 study, which concentrated on Siddhipur's revitalization, reveals how certain issues persist throughout time, including economic decline, dependency on foreign employment, the loss of traditional occupations and the declining significance of straw mat weaving. Positive developments have also surfaced, though, such as a rise in youth involvement and the housing sector's expansion as originally planned. Furthermore, policy initiatives have been introduced to preserve agricultural land and stop land fragmentation.

6. Conclusion and Recommendation

6.1. Conclusion

This research aimed to understand how Siddhipur's economy has transformed over the years. The findings of this research reveal that Siddhipur's economy has undergone a gradual yet significant transformation. Traditionally, agriculture was the mainstay of the local economy, with *sukul* weaving emerging as a complementary activity due to the ready availability of rice straw. However, as lifestyles shifted and *sukul* weaving became less profitable, a considerable portion of the population began seeking employment opportunities abroad. This led to a steady rise in remittance-based income, which now plays a central role in household economies. Today, Siddhipur's economy is primarily sustained by remittances and small-scale businesses, while service-based occupations have remained a consistent, though secondary, source of income over time.

The community's social and physical fabric has been significantly impacted by Siddhipur's economic change. There has been a noticeable change in the land's use, with residential and commercial constructions replacing agricultural areas. Visible changes to the physical environment, such as adjustments to building architecture, façade design, and the skyline as a whole, have coincided with this. Buildings' internal purposes have also changed; traditional residences are now frequently converted for mixed use, such as small companies or renting spaces. Building types and construction materials have also changed, reflecting contemporary influences and shifting financial capacities. Infrastructure has improved, with upgrades in roads and pavements, highlighting the community's response to both economic growth and urban influence. Collectively, these structural and geographical modifications show how closely economic developments are linked to the urban landscape transformation of Siddhipur.

Urban growth in Siddhipur has been impacted by economic transformation in both positive and negative ways. Positively, many households now enjoy higher living standards and a higher quality of life as a result of greater economic activity. A growing demand for land and services is indicated by the enhanced housing, infrastructure, and land values brought about by rising earnings and remittance flows.

These developments have brought about a number of difficulties, though. Traditional Newar architecture and cultural features are gradually disappearing as a result of the demand for modern living conditions. The community's demographic and cultural composition has changed as a result of the displacement of indigenous people brought on by in-migration and resulting population pressure. Unplanned urban sprawl has come from changes in land use, particularly the division of agricultural plots and their conversion into residential areas, which have decreased the amount of arable land. Additionally, speculative activities have been triggered by the substantial increase in land value, making land more and more unaffordable for residents and igniting concerns about sustainable development and equal access.

These opposing consequences show the complex relationship between Siddhipur's urban growth and economic transition, emphasizing the necessity for well-balanced planning that preserves cultural legacy while fostering contemporary development.

Changes in income sources have brought about noticeable shifts in lifestyle and improvements in overall living standards. However, the increasing cost of living, coupled with limited growth in income, highlights the ongoing need for enhanced economic stability. The evolving patterns of personal development within the community have also played a significant role in shaping the urban landscape. The recommendations presented in this study are grounded in the socio-economic and spatial transformations identified throughout the research.

6.2. Recommendation

There has been a significant shift in income sources, leading to changes in lifestyle and an overall improvement in living standards. However, with the rising cost of living and stagnant incomes, people find it increasingly difficult to manage, prompting them to seek better security. As individuals experience higher earnings, they are drawn to a higher standard of living. This cycle of personal development, which eventually contributes to the broader community, plays a key role in transforming the urban fabric.

The following recommendations are derived from this observation and analysis:

- The noticeable shift in architectural styles and construction materials highlights the need for the core areas with cultural significance to preserve their Newari traditional facades. In comparison, old houses 3 floors are equivalent to the 2 floors of new houses, also, the floor heights also differ even in new houses. We can see exemplary typical Newari façade houses and *Jho: chhen* style houses in the study area as well.



Figure 70: Reality of the Study area and exemplary recommendation



Figure 71: Example of homogeneity in 'Jho: Chhen'

Recommendation 1: To ensure the preservation of the region's artistic heritage while preserving the skyline, there shall be policy of Heritage code to be enforced like that in Bhaktapur (Suji et al., 2020) to maintain Newari facades as it is also an old settlement areas. Additionally, floor heights restrictions and the horizontal development, known as "*Jho: chhen*" in Newari shall be regulated, to retain a visually cohesive skylines and harmonious streetscapes.

- Prior to the middle of the 16th century, commoners utilized straw mats or loose straw for bedding, while samurai and the governing elite slept on tatami, or woven mats known as goza. By the end of the 17th century, tatami had become widely accepted and had entered the households of common people. (*Tatami*, n.d.) Tatami is very similar to Nepal's traditional *Gundri* (Gandharba, 2017). In a similar manner, *Sukul* was also historically used in royal palaces. It is still a national symbol of tradition and craftsmanship of Japan but in Nepal, *Sukul* is overshadowed by carpets, vinyl, and tile flooring.

Straw products have multi-functional uses like biofuel (briquettes), construction material (cob), insulation, thatching, packaging, rope-making, basketry, bedding, paper production and more making straw mat weaving a sustainable practice (ECONATION, n.d.). Straw mats can also be used for erosion control used on hills, slopes, banks and wetlands (*Straw Blankets*, n.d.).

Recommendation 2: Learning from Japan, Nepal should also value and preserve its traditional craft and promote straw products that reflects cultural pride and identity. Wide range of applications, the practice of weaving of straw mats will also remain viable and companies like One Clarion offer models Nepal could adapt for local development.

- *Sukul* has long been a defining identity of the study area. Weavers do not have a specific market location to sell in, but CLC is the only company actively involved in the market. Additionally, the focus group discussions came to the conclusion that quality control has been difficult to concentrate on and although training programs are available, their implementation remains weak.

Recommendation 3: In addition to ensuring quality control, marketing plans and sales networks should be created to channel the market. Training programs need to be

practical and hands-on to ensure real-world application and lasting impact. For long-term sustainability, local government should provide both policy and financial support.

- Transition from agricultural to residential and commercial land use is evident in the study area. Also, there is a land use regulation that restricts land fragmentation and preserve agricultural land.

Recommendation 4: Ward 6 should upheld to its objective to save agricultural land and avoid land fragmentation. At the same time, it should also promote mixed-use development that blends living, working, and recreational areas to preserve agricultural roots while accommodating urban needs. However, zoning should be ensured.

Recommendation 5: As remittances play a significant role in Siddhipur’s economy, developing programs that provide training or entrepreneurship support for returnees from abroad could help capitalize on the skills and capital brought back by migrants, further contributing to the area’s economic growth.

Further Study: By assisting small businesses and indirectly boosting a number of industries, tourism contributes significantly to the generation of income, which in turn boosts employment, foreign exchange profits and overall economic growth. The economic profile obtained from the focus group talks and sample questionnaire survey examined this component of income and also emphasized the region's potential for tourism.

The establishment of home-stay programs is one intriguing but untapped potential. These projects have the potential to generate a sizable income for the local population with the right preparation, encouragement, and support. Homestays are a sustainable way to support local economic growth because they not only give visitors a genuine cultural experience but also give homeowners financial advantages. This offers a crucial area for additional study and strategic planning.

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Annex 1: Questionnaire of Household Survey

Household Survey

कुन प्रकारको सर्वेक्षण? which kind of survey? <input type="radio"/> FGD (आधिकारिक प्रयोगको लागि) <input type="radio"/> घरपरिवार (Household)

A. General Information (सामान्य जानकारी)

1. उत्तरदाता नाम (Respondent Name)
2. लिंग (Gender) *
<input type="radio"/> पुरुष / Male <input type="radio"/> महिला / Female <input type="radio"/> अन्य / Others
3. उमेर (Age) *
<input type="radio"/> ० - १४ / 0 - 14 (Children) <input type="radio"/> १५ - २४ / 15 - 24 (Early working age) <input type="radio"/> २५ - ५४ / 25 - 54 (Prime working age) <input type="radio"/> ५५ - ६४ / 55 - 64 (Mature working age) <input type="radio"/> ६५+ / 65+ (Elderly)
4. परिवारका सदस्यहरूको संख्या (No. of Family members) *
5. तपाईंको परिवारका कुनै सदस्य विदेशमा हुनुहुन्छ? Is there anyone in Foreign Country from your family? <input type="radio"/> छ / Yes <input type="radio"/> छैन / No
5.1. विदेशमा रहेका सदस्यहरूको संख्या: No. of members abroad?

<p>5.2. उनीहरू कुन उद्देश्यले विदेश गएका छन्? For what purpose have they gone abroad?</p> <p><input type="checkbox"/> Study</p> <p><input type="checkbox"/> Employment</p> <p><input type="checkbox"/> Study + Employment</p>
<p>5.3. वृद्धहरू विदेशमा बसिरहेका छन् वा नेपालमा? Where are old age residing abroad or nepal?</p> <p><input type="radio"/> विदेशमा / Abroad</p> <p><input type="radio"/> नेपालमा / Nepal</p>
<p>5.4. विदेश गएका व्यक्तिहरू त्यहीँ बसाइँ सार्न गइरहेका छन्? Are the ones who have gone to abroad going to settle abroad? *</p> <p><input type="radio"/> बसुन्छ / Yes</p> <p><input type="radio"/> फर्किनु हुन्छ / No</p>
<p>6. जातीयता / Ethnicity *</p> <p><input type="radio"/> नेवार / Newar</p> <p><input type="radio"/> क्षेत्री / Chettri</p> <p><input type="radio"/> ब्राह्मण / Brahmin</p> <p><input type="radio"/> तामाङ / Tamang</p> <p><input type="radio"/> मगर / Magar</p> <p><input type="radio"/> गुरुङ / Gurung</p> <p><input type="radio"/> राई / Rai</p> <p><input type="radio"/> विश्वकर्मा / Bishwokarma</p> <p><input type="radio"/> थारु / Tharu</p> <p><input type="radio"/> यादव / Yadav</p> <p><input type="radio"/> याक्थुङ / लिम्बु (Yakthung / Limbu)</p> <p><input type="radio"/> अन्य (कृपया उल्लेख गर्नुहोस) / Others (Please Specify)</p>
<p>6.1. अन्य (कृपया उल्लेख गर्नुहोस) / Others (Please Specify)</p>

B. Migration Profile

1. तपाईं यहाँ कहि लेदेखि बसोबास गर्दै आउनुभएको छ? Since when are you residing here? *

- स्थानीय (सिद्धिपुरकै मूल निवासी) / Local (Originally From Siddhipur)
- बसाइँसराइ गरी आएका / Migrated
- डेरामा बस्ने / Staying in rent
- Others

1.1. यदि बसाइँसराइ गरिएको हो भने, कहाँबाट? If Migrated, from where?

- सिद्धिपुर / Siddhipur
- ललितपुर / Lalitpur
- काठमाडौं / Kathmandu
- भक्तपुर / Bhaktapur
- उपत्यका बाहिर / Out of Valley

1.1.1. तपाईं कहिले यहाँ सर्नुभएको हो? When did you migrated to here? *

1.3. यदि भाडामा बस्नुहुन्छ भने, कहाँबाट आउनुभएको हो? If in Rent, from where? *

- सिद्धिपुर / Siddhipur
- ललितपुर / Lalitpur
- काठमाडौं / Kathmandu
- भक्तपुर / Bhaktapur
- उपत्यका बाहिर / Out of Valley

1.2.1. तपाईं कहिलेदेखि यहाँ भाडामा बस्न थाल्नुभयो? Since when are you renting to here? *

C. आर्थिक स्थिति - रोजगारी (Economic Profile- Employment)

1. पेशा / Occupation

- विद्यार्थी / Student
- कृषि / Agriculture
- सानो पसल / Small shop
- सरकारी जागिर / Government Job
- निजी जागिर / Private Job
- चिउस मिल / Beaten Rice Mill
- तेल मिल / Oil Mill
- चामल मिल / Rice Mill
- जनावर पालन / Animal Farming
- तरकारी खेती / Vegetable Farming
- अन्य (कृपया उल्लेख गर्नुहोस्) / Others (Please Specify)
- अवकाश प्राप्त / Retired
- अन्य (कृपया उल्लेख गर्नुहोस्) / Others - Please Specify

1.1. अन्य (कृपया उल्लेख गर्नुहोस्) / Others (Please Specify):

2. यदि कार्यालयमा कार्यरत हुनुहुन्छ भने, कार्यस्थल कहाँ छ? If Office work, where is your work place?

- सिद्धिपुर / Siddhipur
- ललितपुर / Lalitpur
- काठमाडौं / Kathmandu
- भक्तपुर / Bhaktapur
- उपत्यका बाहिर / Outside Kathmandu Valley

3. तपाईंको परिवारका कुनै सदस्य निम्न स्थानहरूमा कार्यरत छन्? Any of your members working at any of following?

- सुकुल बनाउने / Sukul Making
- कुनै परम्परागत कारीगरी / Any Traditional Crafts
- भाट - भाटेनी / Bhat - Bhateni
- ईटा उद्योग / Brick Industry
- कपडा उद्योग / Textile Industry
- गमैन्ट उद्योग / Garment Industry
- अन्य / Others (Specify)
- No

3.1. कुन सुकुलको माग बढी छ? What is the demand rate?

- उच्च / High
- कम / Low
- अत्यन्तै कम / Very low

3.1.1. त: पा: सुकुल (सुकुल) को माग कति छ? Demand of Ta: Pa: Suku:

- उच्च / High
- मध्यम / Med
- कम / Low
- अत्यन्तै कम / Very low

3.1.2. पा: सुकुल (सुकुल) को माग कति छ? Demand of Pa: Suku:

- उच्च / High
- मध्यम / Med
- कम / Low
- अत्यन्तै कम / Very low

3.1.3. भव्ये: सुकुल को माग कति छ? Demand of Bhwye: Suku:

- उच्च / High
- मध्यम / Med
- कम / Low
- अत्यन्तै कम / Very low

Household Survey

<p>3.1.4. परालबाट बनेका सौन्दर्यात्मक उपहारहरूको माग कति छ? Demand of aesthetic souvenir of straw</p> <p><input type="radio"/> उच्च / High</p> <p><input type="radio"/> मध्यम / Med</p> <p><input type="radio"/> कम / Low</p> <p><input type="radio"/> अत्यन्तै कम / Very low</p>
<p>3.2. के तपाईंको परिवार परम्परागत हस्तकला उद्योगमा संलग्न छ? Any Traditional Crafts</p> <p>.....</p>
<p>3.3. अन्य (कृपया उल्लेख गर्नुहोस्) / Others (Specify)</p> <p>.....</p>
<p>4. सुकुल उद्योगको स्थिति / Status of Sukul Industry</p> <p><input type="radio"/> पहिला भन्दा सधैं हुँदैछ / Getting better than past days</p> <p><input type="radio"/> घट्दो / Declining</p> <p><input type="radio"/> सङ्कटको कगारमा / In the verge of collapsing</p>
<p>5. के तपाईंको विचारमा सुकुल संरक्षण गर्नुपर्छ? Do you think Sukul should be preserved?</p> <p><input type="radio"/> गर्नुपर्छ / Yes</p> <p><input type="radio"/> आवश्यक छैन / No</p>
<p>6. सिद्धिपुरलाई "कार्पेट-नगर" / "सुकुल - नगर" को पहिचान जोगाउन के गर्न सकिन्छ? What can be done to save the identity as "Carpet- City"?</p> <p>.....</p>
<p>7. तपाईंको जानकारी अनुसार, वैदेशिक रोजगार/रेमिट्यान्स दर उच्च हुनुको कारण के थियो यो हो? According to you knowledge, why do you think was the rate of remittance or foreign employment high in past days or till now?</p> <p>.....</p>

8. के तपाईं कहिल्यै आफ्नै ठाउँमा होमस्टे सञ्चालन गर्ने सोच्नुभएको छ? Have you ever thought of Home Stay at your place?

- छ / Yes
 छैन / No

9. के तपाईंको विचारमा सिद्धिपुरमा कीर्तिपुरको सा: सा:, लहना, पाटनको मंगल बजार, खोटा गल्लि, होनाचा, र हरिसिद्धिको नेवा सुली जस्तै नेवारी फुड हब हुन सक्छ? Do you think Siddhipur can have Newari Food Hub like Kirtipur's Sa: Sa:, Lahana, Patan's Mangal Bazar, Swotha Galli, Honacha and Harisiddhi's Newa Suli?

- हुन सक्छ / Yes
 नहोला / No

D. Spatial Analysis: D.1. Household Profile

1. तपाईंले कुन वर्षमा यो घर निर्माण गर्नुभयो? In which year did you build this house?

2. हालको घर निर्माण गर्नु अघि यस स्थानको अवस्था कस्तो थियो? State of land before the present house was built?

- पुरानो घर (Old House)
 कृषि भूमि (Agricultural Land)
 अन्य (कृपया उल्लेख गर्नुहोस्): Others

2.1. अन्य (कृपया उल्लेख गर्नुहोस्): Others

3. तपाईंले घर बनाउनका लागि यो स्थान किन रोज्नुभयो? Why did you choose this place for building house?

- वार्षिक विरासतको भूमि (Inherited Land)
 शहरी सेवाहरू (Urban Facilities)
 व्यवसाय (Business)
 रोजगारी (Employment)
 भूमि मूल्य (Land Value)
 सार्वजनिक सुरक्षा (Public Safety)
 सामाजिक नेटवर्क (Social Network)
 अन्य (कृपया उल्लेख गर्नुहोस्): Other

3.1. अन्य (कृपया उल्लेख गर्नुहोस्): Other

3.3. तपाईंले यो जग्गा कसरी खरिद गर्नुभयो? How did you buy?

- स्थानीय बासिन्दा (Local People)
- स्थानीय एजेन्ट (Local Agent)
- रियल इस्टेट (Real Estate)

4. घरको प्रकार: (House Type)

- ढलान (RCC)
- ढलान तर नेवारी शैलीको मुखौटा (RCC but Newari Facade)
- नेवारी शैलीको घर (Traditional House)

5. तपाईंको यो घरबाहेक सिद्धिपुरमा अन्य जग्गा छ? Do you have land other than this in Siddhipur?

- बाहिरी क्षेत्रमा छ (Yes, in Outskirts)
- कोर क्षेत्रमा छ (Yes, in Core)
- छैन (No)

5.1. सिद्धिपुरको परिधिमा (बाहिरी क्षेत्रमा) रहेको जग्गा अहिले के प्रयोजनका लागि प्रयोग भइरहेको छ? In Outskirts, what is land currently being used for?

- कृषि (Agriculture)
- बौझो (Barren Land)
- भाडामा दिइएको घर (Rental Home)
- अन्य (Others)

5.2. कोर क्षेत्रमा रहेको जग्गा अहिले के प्रयोजनका लागि प्रयोग भइरहेको छ? In Core, what is land currently being used for?

- कृषि (Agriculture)
- बौझो (Barren Land)
- भाडामा दिइएको घर (Rental Home)
- अन्य (Others)

घ. स्थानिक विश्लेषण: घ.२. पूर्वाधार स्थिति (D. Spatial Analysis: D.2. Infrastructure Profile)

<p>1. के यहाँ कुनै सामुदायिक पार्क वा खेलमैदान छ? Are there any Communal Parks or Playground? *</p> <p><input type="radio"/> छ / Yes</p> <p><input type="radio"/> छैन / No</p> <p><input type="radio"/> कहिल्यै थिएन / Was never there</p>
<p>1.1. यदि छैन भने, तपाईंको विचारमा वर्तमान वा भविष्यमा यसको आवश्यकता छ? If No, Do you think it is required for present or future context? *</p> <p><input type="radio"/> आवश्यकता छ / Yes</p> <p><input type="radio"/> आवश्यकता छैन / No</p>
<p>1.1.1. तपाईं किन सोच्नुहुन्छ कि वर्तमान वा भविष्यको सन्दर्भमा यसको आवश्यकता छ? Why do you think it is required for present or future context?</p> <p>.....</p>
<p>1.2. यदि पहिले कहिल्यै थिएन भने, तपाईंको विचारमा वर्तमान वा भविष्यमा यसको आवश्यकता छ? If it was never there, Do you think it is required for present or future context?</p> <p><input type="radio"/> आवश्यकता छ / Yes</p> <p><input type="radio"/> आवश्यकता छैन / No</p>
<p>2. सडकका कारण यात्रा सजिलो भएको छ कि छैन? Ease of commute due to roads</p> <p><input type="radio"/> अत्यन्तै उच्च / High</p> <p><input type="radio"/> उच्च / High</p> <p><input type="radio"/> कम / Low</p> <p><input type="radio"/> अत्यन्तै कम / Very low</p>

<p>3. सडक निर्माणले पर्यटनमा पारेको प्रभाव के छ? Effects of Road Construction in Tourism</p> <p><input type="radio"/> पर्यटन बृद्धि भयो / Increased Tourism</p> <p><input type="radio"/> पर्यटन घट्यो / Decreased Tourism</p> <p><input type="radio"/> कुनै असर परेन No effect</p> <p><input type="radio"/> अघिल्लो समयमा पर्यटन थिएन / No Tourism in Past days</p>
<p>4.1. अन्य (कृपया उल्लेख गर्नुहोस्): Others, Specify</p> <p>.....</p>

घ. स्थानिक विश्लेषण: घ.३. शहरीकरणको प्रभाव (D. Spatial Analysis: D.3. Impact of Urbanization)

<p>1. सामुदायिक स्थान (चौक/पाटी/ फल्चा) मा संलग्नता कति छ? Engagement in Communal Spaces (Courtyard/ Pati/ Falcha)</p> <p><input type="radio"/> उच्च / High</p> <p><input type="radio"/> मध्यम / Med</p> <p><input type="radio"/> कम / Low</p> <p><input type="radio"/> अत्यन्तै कम / Very low</p>
<p>2. दैनिक जीवनमा चौक/ पाटी/ फल्चाको प्रयोग कस्तो छ? Courtyard / Pati / Falcha in Daily Usage</p> <p><input type="checkbox"/> पार्किङ / Parking</p> <p><input type="checkbox"/> अन्न सुकाउने / Drying Grains</p> <p><input type="checkbox"/> घाम लाग्न / Sunbathing</p> <p><input type="checkbox"/> जात्रा वा ठूला कार्यक्रममा मात्र प्रयोग हुने / Only used in jatra or big events</p> <p><input type="checkbox"/> अन्य (कृपया उल्लेख गर्नुहोस्) / Others (Please Specify)</p>
<p>2.1. अन्य (कृपया उल्लेख गर्नुहोस्) / Others (Please Specify)</p> <p>.....</p>
<p>3. परम्परागत युगदेखि वर्तमानसम्म बसोबासमा के-कस्ता परिवर्तनहरू देख्नुभएको छ? ती कसरी विकसित भएका छन्? What changes have you noticed in Settlement from traditional era to present context? How have they evolved?</p> <p>.....</p>
<p>6. सुकुल जोगाउन कुनै चुनौती वा बाधाहरू आएका छन्? यदि छन् भने, ती के-के हुन्, र कसरी समाधान गरिएको छ? Have there been any challenges or obstacles in preserving Suku? If so, describe some and how were they addressed?</p> <p><input type="radio"/> छ / Yes</p> <p><input type="radio"/> छैन / No</p>
<p>6.1. If so, describe some and how were they addressed?</p> <p>.....</p>
<p>7. तपाईं हालको शहरीकरणलाई कसरी हेर्नुहुन्छ? How do you perceive current urbanization?</p> <p>.....</p>

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8. सिद्धिपुरमा प्रभावकारी भूम्योजन (Land Use) ड्राइभरहरू के-के छन्? What do you think is the most effective land use drivers in Siddhipur?

- भौतिक अवस्था (भू-अकृति, ढलान्, माटो, नदी, जलवायु, आदि) Physical condition (Topography, slopes, soils, rivers, climate, etc.)
- सार्वजनिक सेवामा पहुँच (यात्रा, बिजुली, सञ्चार, पानी, स्वास्थ्य, खुला स्थान, मनोरञ्जन सुविधाहरू) Access to public services (Transportation, electricity, communication, water, health, open spaces, recreation facilities)
- आर्थिक आसहरू (रोजगारी, व्यापार, उद्योगहरू, बजार) Economic Opportunities (employment, business, industries, market)
- भूमि बजार (भूमि मूल्य, स्थानीय तोग, भूमि दलाल, रिपल इस्टेट) Land market (Land Price, local People, Land broker, real Estate)
- राजनीतिक अवस्था (राजनीतिक अवसर, देशमा संघर्ष, विस्थापित व्यक्ति, सार्वजनिक सुरक्षा) Political Situation (political opportunity, conflict in country, displaced people, public security)
- सरकारी योजना र नीति (क्षेत्रनिर्धारण, भूमि सुधार, आर्थिक र लगानी योजनाहरू) Govt. Plans & Policies (Zoning, land reforms, economic and investment plans)
- माथि उल्लिखित सबै All of the above
- अन्य (यदि केही थप चाहनुहुन्छ भने) Others (If you want to add any)

8.1. अन्य (यदि थप चाहनुहुन्छ भने) / Others (If you want to add any)

ड. विविध विषयहरू (E. Miscellaneous)

1. तपाईंको जानकारी अनुसार, सिद्धिपुरको ऐतिहासिक वा सांस्कृतिक महत्व के हो? What is the historical or cultural significance of Siddhipur according to your knowledge?

2. यदि 'सुकु-सिटी' नभएमा, सिद्धिपुरको पहिचान के हुन सक्छ? If Not Suku - City, what can be identity of Siddhipur?

3. के तपाईंको विचारमा स्थानीय सरकारले परम्परागत संस्कृति र भवनहरू जोगाउन पर्याप्त प्रयास गरिरहेको छ? किन वा किन होइन? Do you think Local Government is doing enough to preserve and maintain traditional culture and buildings? Why or Why not?

- छ / Yes
- पुगेको छैन / No

3.1. कसरी? Why?

3.2. किन पुगेको छैन? Why not?

4. रियल स्टेट (घरजग्गा कारोबार) बाट तपाईंलाई कुनै लाभ पुगेको छ? Has Real estate business benefited you in any means?

- छ / Yes
- छैन / No
- अन्य (कृपया उल्लेख गर्नुहोस्) / Others, Specify

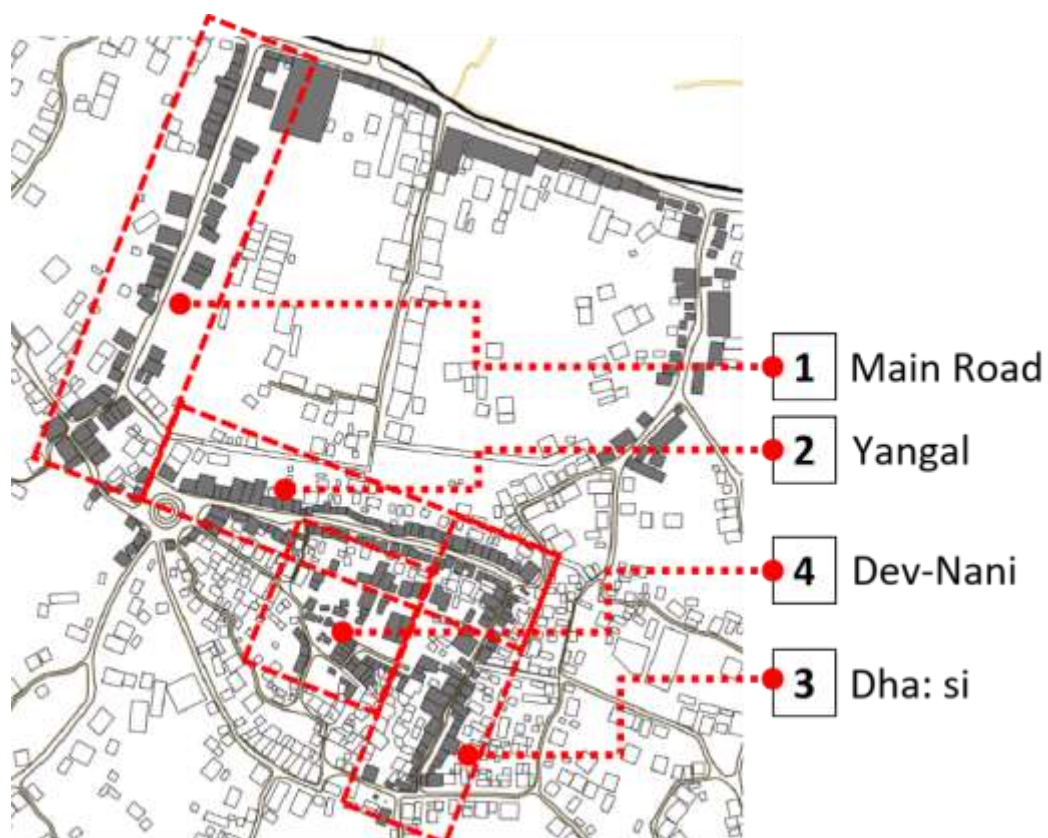
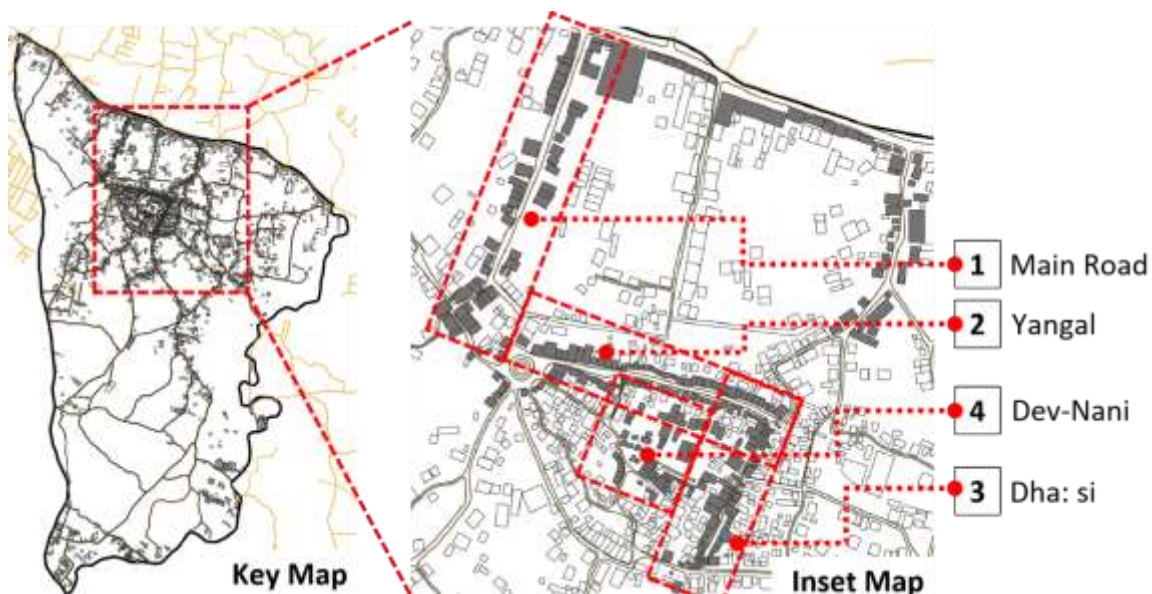
4. तपाईंको विचारमा जग्गा खण्डीकरण (Land Fragmentation)/ रियल स्टेट कारोबार / प्लटिङलाई प्रवर्द्धन गर्नुपर्छ? In your opinion should the land fragmentation/ Real Estate/Plotting be promoted?

- गर्नुपर्छ / Yes
- आवश्यक छैन / No
- No comment
- others

4. सुकुल बुने ऐतिहासिक संस्कृति र परम्परागत कोर क्षेत्रहरूलाई कायम राख्दै सिद्धिपुरलाई कसरी राम्रो योजनाबद्ध ठाउँ बनाउन सकिन्छ? How can Siddhipur be a better planned place sustaining the historic culture of Sukul-weaving and the traditional cores?

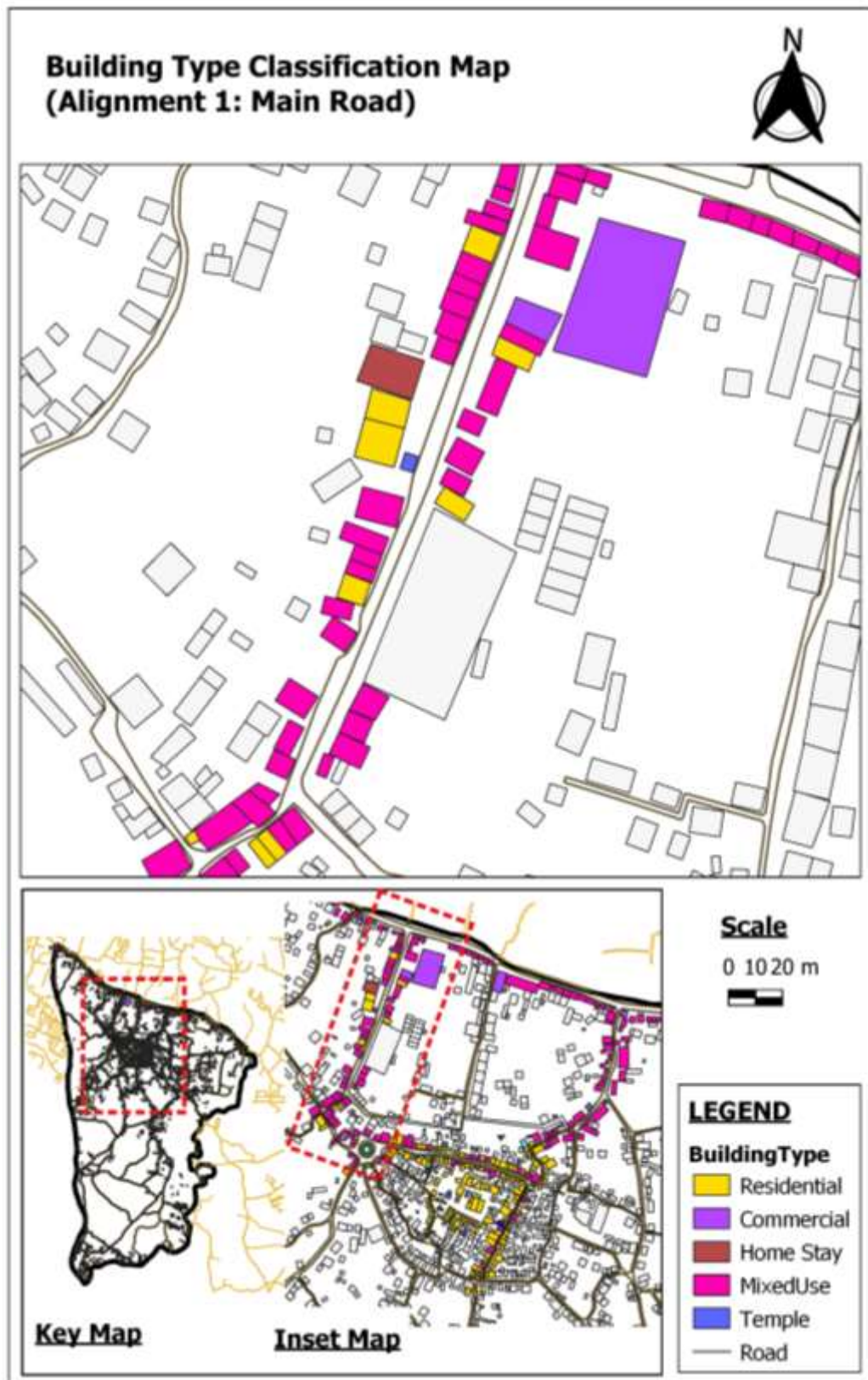
5. तपाईंको विचारमा तीव्र शहरीकरण, सुकु उद्योग, अर्थतन्त्र, वा सिद्धिपुरको पहिचानसम्बन्धी थप केही भन्न चाहनुहुन्छ? Is there anything you would like to add regarding rapid urbanization, Suku, Economy or Identity of Siddhipur?

Annex 2: Classification Maps



Inset Map

1. Building Type Classification Maps



Building Type Classification Map (Alignment 2: Yangal Tole)



Scale

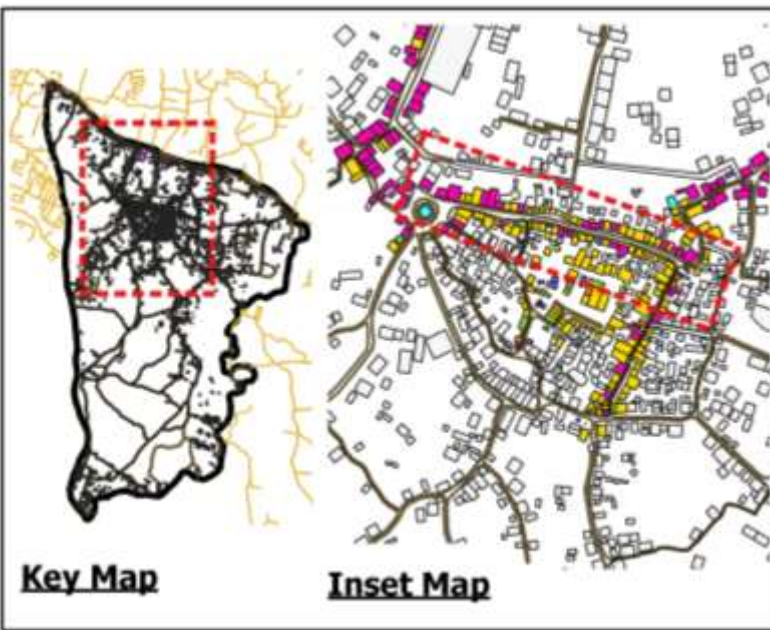
0 10 20 m



LEGEND

BuildingType

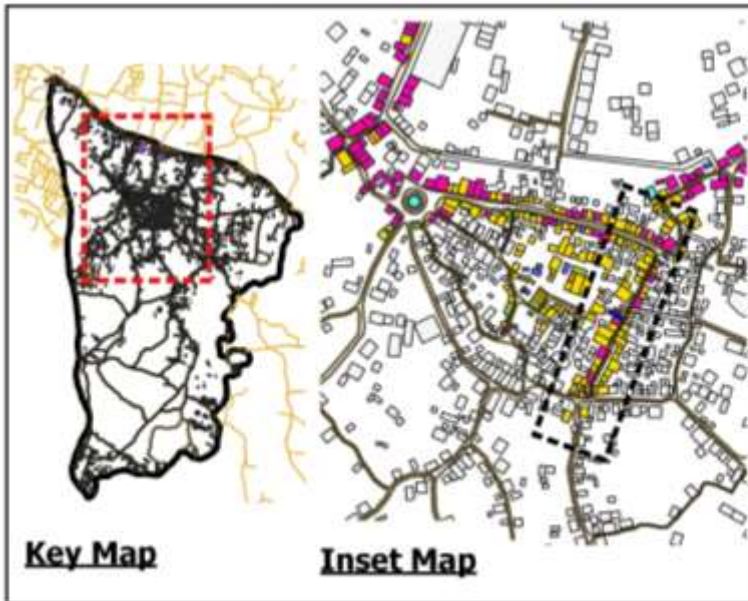
-  Residential
-  Vacant Home
-  MixedUse
-  Pond
-  Well
-  Public
-  Temple
-  Road



Key Map

Inset Map

**Building Type Classification Map
(Alignment 3: Dha: si)**



Scale

0 10 20 m

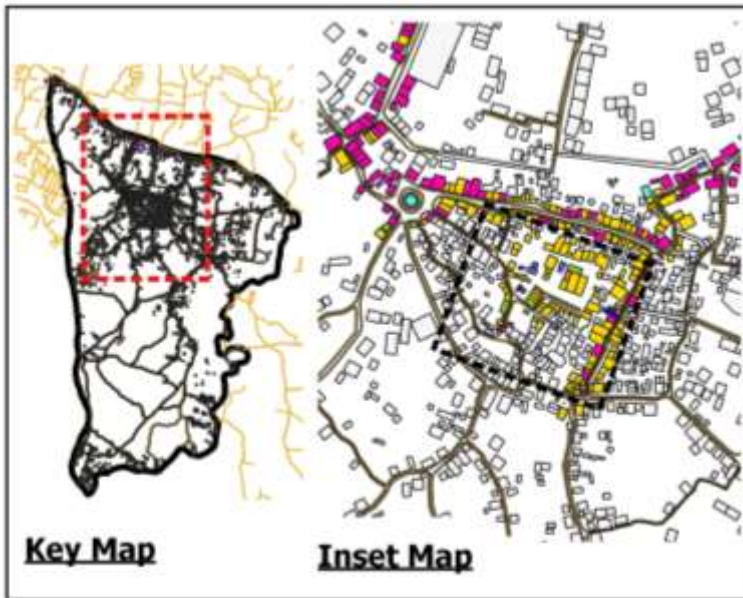


LEGEND

BuildingType

-  Residential
-  Vacant Home
-  MixedUse
-  Public
-  Temple
-  Industrial
-  Road

Building Type Classification Map (Alignment 4: Dev Nani: & Ta: Nani Tole)



Scale



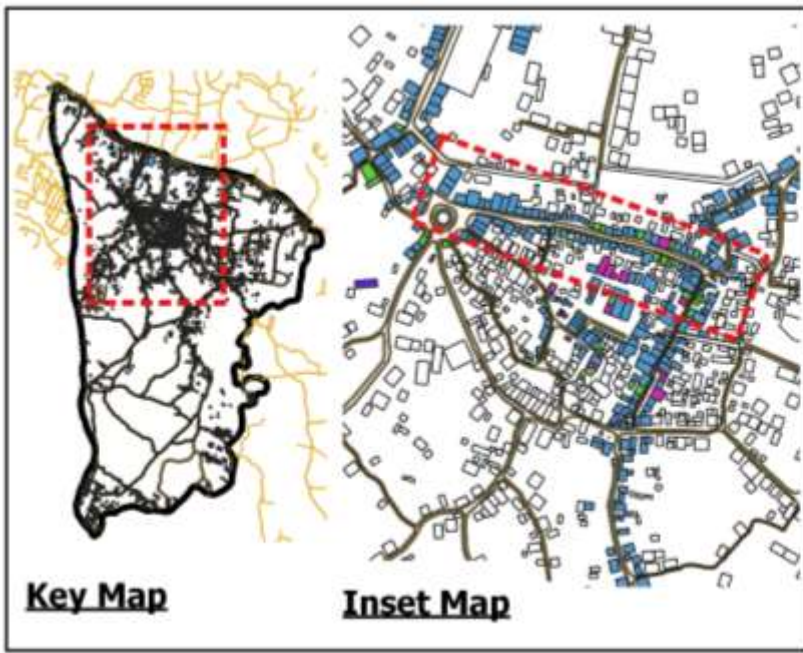
LEGEND

- BuildingType**
- Residential
 - Vacant Home
 - MixedUse
 - Public
 - Temple
 - Industrial
 - Road

2. Construction Type Classification Maps



Construction Type Classification Map (Alignment 2: Yangal Tole)



Key Map

Inset Map

Scale

0 10 20 m

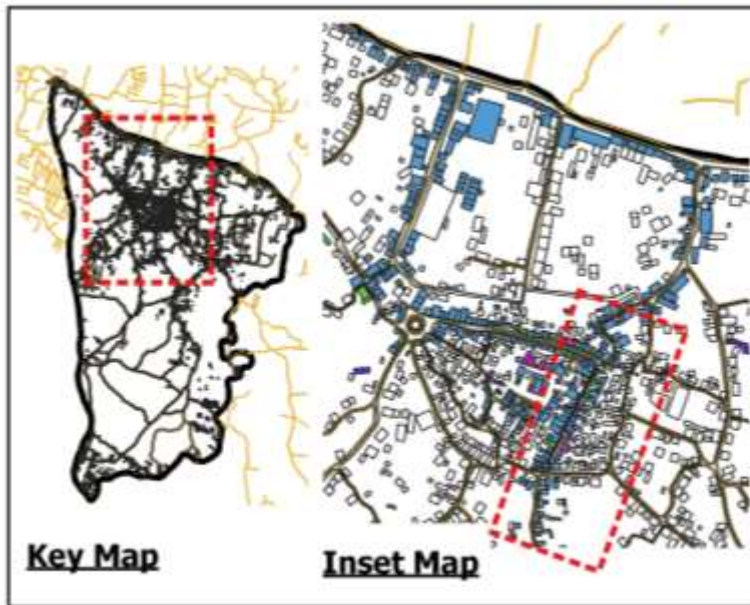


LEGEND

Construction Type

-  RCC
-  Mud Mortar
-  Load Bearing
Brick Wall in
Cement Mortar
-  Road

Construction Type Classification Map (Alignment 3: Dha: si Road)



Scale

0 10 20 m

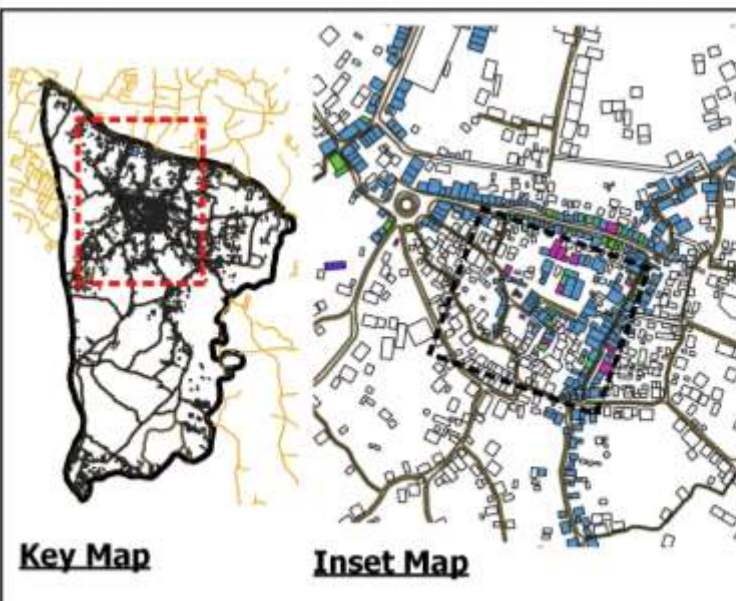


LEGEND

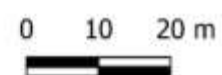
Construction Type

-  RCC
-  Mud Mortar
-  Load Bearing Brick Wall in Cement Mortar
- Road

Construction Type Classification Map (Alignment 4: Dev Nani: & Ta: Nani Tole)




Scale

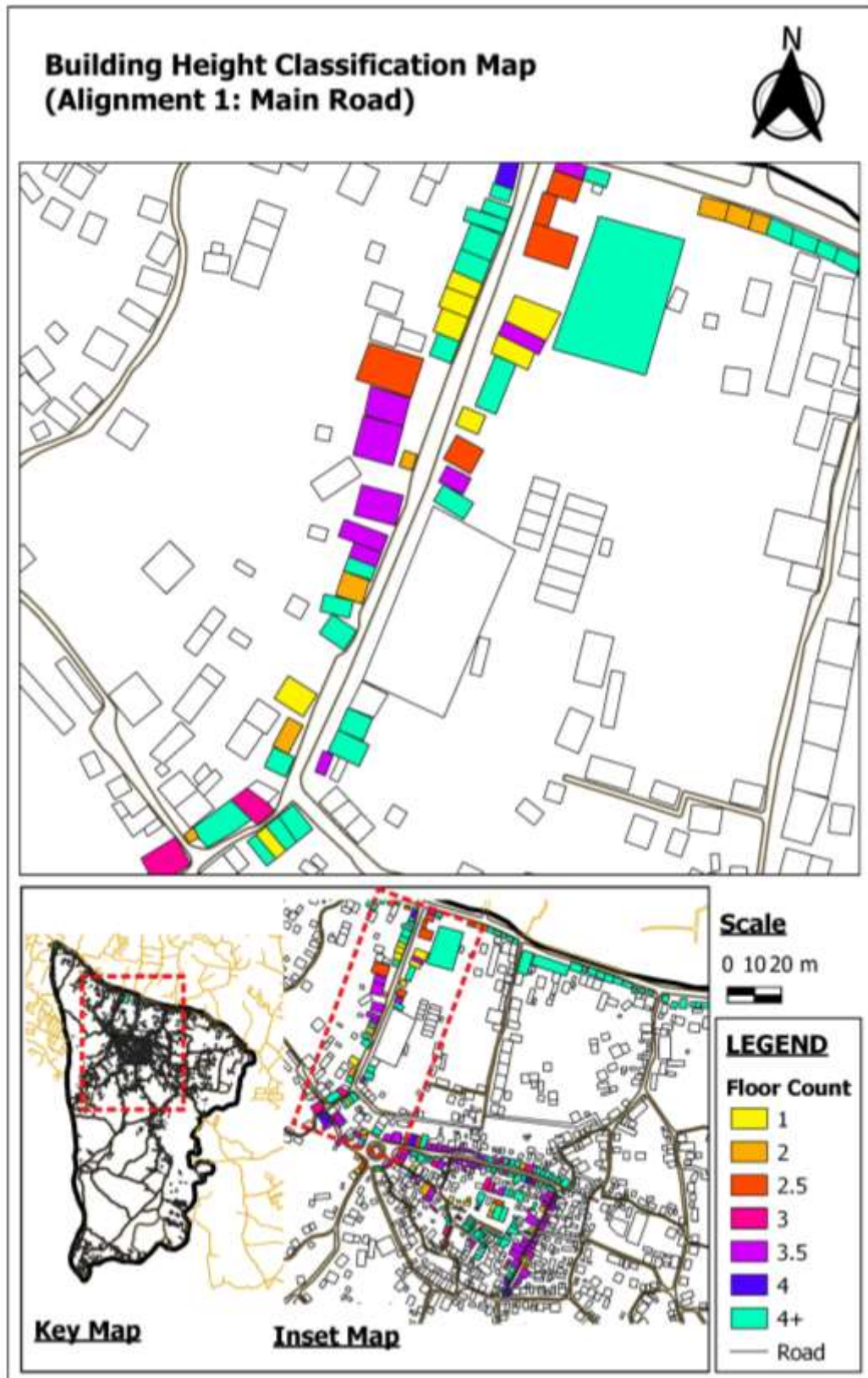


LEGEND

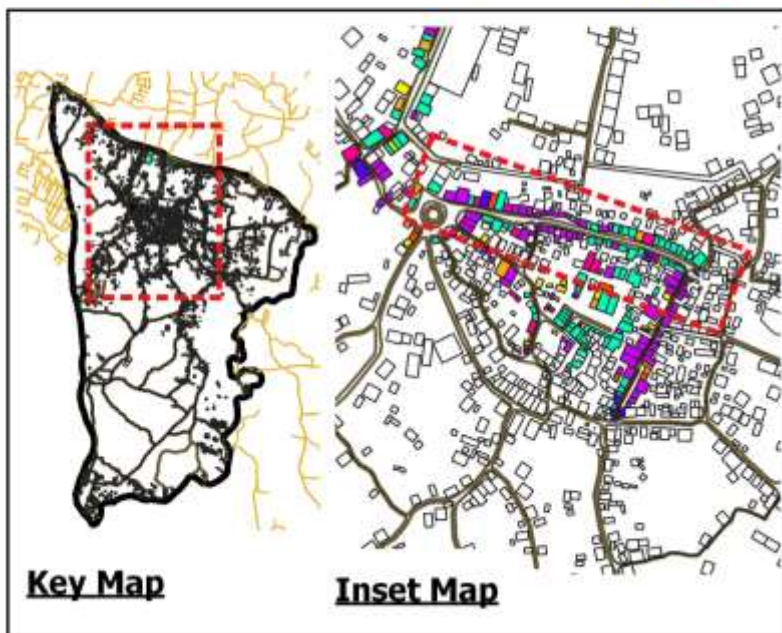
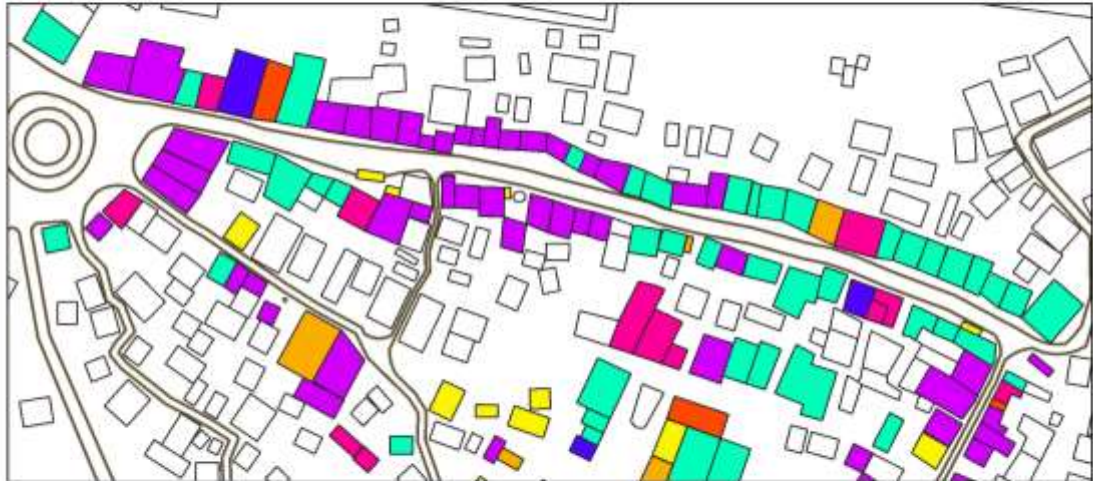
Construction Type

-  RCC
-  Mud Mortar
-  Load Bearing Brick Wall in Cement Mortar
-  RCC Framed
-  Road

3. Building Height Classification Maps



Building Height Classification Map (Alignment 2: Yangal Tole)



Scale

0 10 20 m



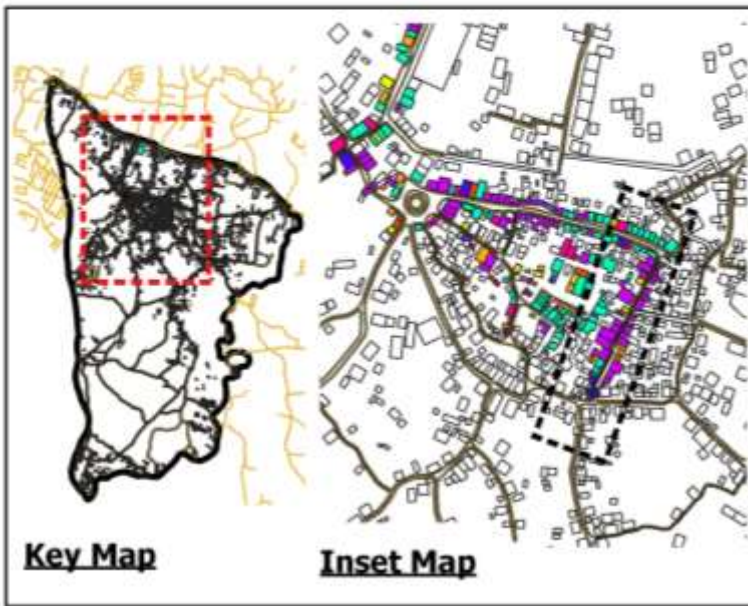
LEGEND

Floor Count

- 1
- 2
- 2.5
- 3
- 3.5
- 4
- 4+

— Road

Building Height Classification Map (Alignment 3: Dha: si)



Scale

0 10 20 m



LEGEND

Floor Count

1

2

2.5

3

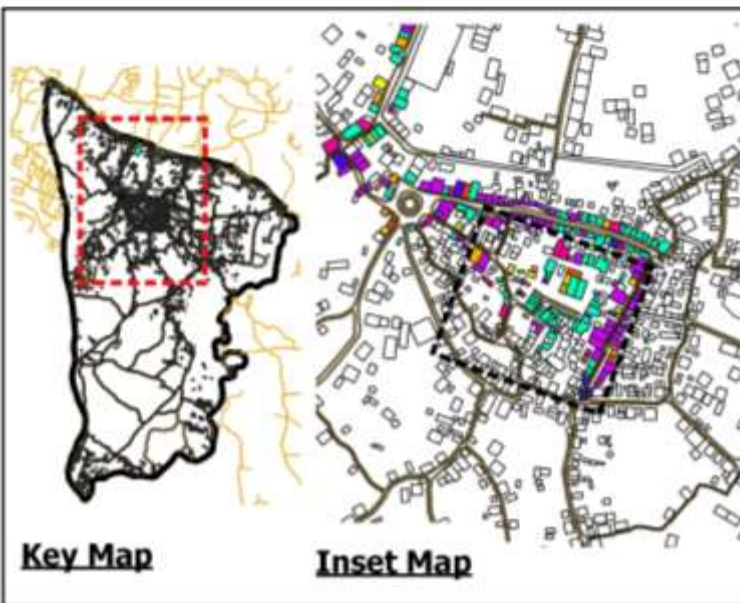
3.5

4

4+

— Road

Building Height Classification Map (Alignment 4: Dev Nani: & Ta: Nani: Tole)



Scale

0 10 20 m



LEGEND

Floor Count

1

2

2.5

3


3.5

4

4+

— Road

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Economic Shift and Urban Transformation of Siddhipur

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Abstract

This study investigates economic and urban transformation of Siddhipur, as it shifts from an agrarian village to a diversified economy driven by enterprises and remittances. Along with the settlement's spatial transformation, which includes land use, housing patterns, and infrastructure development, the study focuses at changes in livelihood patterns, employment structures, and source of income. Results show a significant decline in traditional agricultural practices and handicrafts like Sukul weaving, driven by reduced demand, changing labor preferences, and more profitable alternatives. Simultaneously, urbanization and infrastructure improvements have led to a rise in residential construction, intensifying land fragmentation and complicating efforts to preserve cultural assets in the face of rapid urban growth. Focus groups and surveys highlight the vital role of foreign employment and migration in the local economy, which has also accelerated urbanization in Siddhipur. This shift underscores the need for tourism-driven cultural preservation amid rapid growth. The study enhances knowledge of how small towns like Siddhipur, seek a balance between historical preservation and economic growth by making policy recommendations to control urban growth, support sustainable development, and foster local entrepreneurship. In order to meet the needs of growing urbanization while preserving Siddhipur's distinctive socioeconomic and cultural fabric, the results are essential for urban planning initiatives.

Keywords

Urban Economic Transformation, Urban Areas, Siddhipur, Economic Diversification, Remittance-driven Income, Spatial Transformation, Urbanization, Cultural Preservation

1. Introduction

Urban economic transformation is a complex and dynamic process influenced by various factors such as population growth, technological advancements, policy interventions, and sociocultural changes. Siddhipur, a traditional Newar settlement in the southeastern part of the Kathmandu Valley, has undergone significant economic and spatial transformations over the years. Historically an agrarian village, Siddhipur has seen a shift from subsistence agriculture to diversified economic activities, including handicrafts, trade and remittance-based income.

This research explores the economic transformation of Siddhipur by examining changes in livelihood patterns, employment structures, and income sources. In addition, it investigates how these economic shifts have influenced the spatial structure of settlement, affecting land use, housing patterns, and infrastructure development. Understanding these transformations is crucial for formulating policies that balance economic growth with the preservation of Siddhipur's cultural and spatial heritage.

1.1 Research Questions

This research aims to explore the economic shift i.e. income source shift of Siddhipur and its subsequent impacts on urban fabric.

The questions of this research are the following:

1. How has Siddhipur's economy changed over time?
2. What effects have these economic changes had on the

community?

3. How have these effects influenced urban development in Siddhipur?
4. What measures should be taken to address these urban changes?

2. Literature Review

2.1 Reclassification of Siddhipur: From Peri-Urban Transition to Urban Identity

The study area, Siddhipur is seen to have mentioned as a peri-urban area which serve as transitional spaces between urban and rural landscapes, often experiencing rapid socio-economic and spatial transformations [1]. Siddhipur exemplifies these dynamics, where traditional agrarian livelihoods are increasingly intersecting with urbanization pressures. However, DEGURBA now has categorized Siddhipur as a urban area [2].

2.2 Economic Diversification and Remittances

A defining feature of peri-urban economies is the shift from agriculture to secondary and tertiary activities. In Siddhipur, the decline of agriculture has been accompanied by the rise of small-scale industries, handicrafts, and remittance-driven income structures. The production of sukul mats represents an important aspect of economic diversification, providing alternative income sources while maintaining cultural heritage [3]. However, reliance on remittances poses challenges, as [4]argues that while they alleviate short-term

poverty, they can also foster economic dependency if not reinvested in sustainable local development.

2.3 Urban Expansion and Spatial Transformation

Urbanization influences land-use patterns, housing typologies, and public spaces in peri-urban settlements. Siddhipur’s evolving spatial landscape reflects the tension between preserving traditional built forms and adapting to urban demands. The influx of new residents and speculative land markets have reshaped the community, posing both opportunities and challenges for spatial planning [5]. Studies on urban sprawl in Kathmandu Valley highlight socio-economic and physical drivers, such as access to infrastructure, proximity to job centers, and land speculation, which similarly affect Siddhipur’s transformation[6]. Unregulated urban expansion, as observed in nearby Imadol, has led to inefficiencies in infrastructure, emphasizing the need for strategic land-use policies, agricultural land conservation, and taxation measures to control sprawl.

2.4 Theoretical Frameworks on Land Use and Spatial Economics

Thünen’s Model provides a foundational framework for understanding the spatial organization of agricultural land use based on economic principles. The model suggests that land rent decreases with distance from a central market due to rising transportation costs, influencing agricultural and peri-urban land-use patterns[7]. Similarly, **Bid Rent Theory** explains the economic competition for land, where different land uses are determined by their rent-paying ability and proximity to the central business district[8].

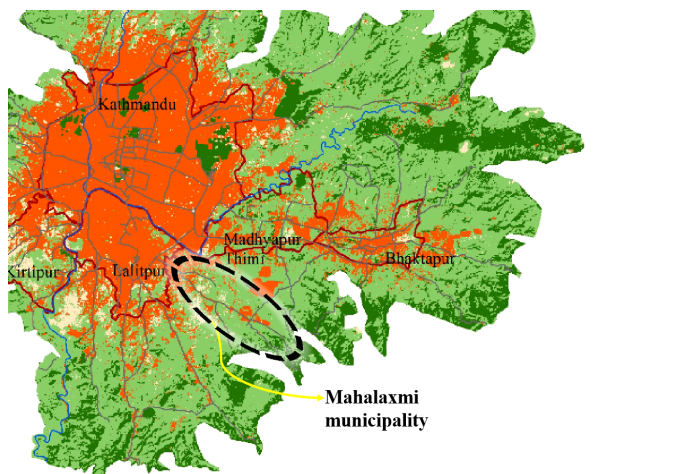


Figure 1: Concentric circles of Kathmandu Valley [9]

Aligning with the study area, Kathmandu serves as the Central Business District (CBD), with built-up areas expanding outward. Peripheral municipalities like Lalitpur, Kritipur, Madhyapur Thimi, and Bhaktapur still retain agricultural land due to lower land values. However, areas such as Mahalaxmi Municipality in Lalitpur are experiencing emerging built-up developments, reflecting the gradual urbanization of peri-urban spaces.

2.5 Comparative Perspectives on Urbanization

Research on Lubhu, another traditional settlement in Kathmandu Valley, provides a comparative perspective on Siddhipur’s urban transition.[5] highlights how peripheral towns undergo both intensive transformations within their historical cores and extensive changes in surrounding agricultural lands. Similar patterns are observed in Siddhipur, where urban expansion alters not only physical spaces but also socio-cultural structures. These comparisons emphasize the broader implications of peri-urban development, guiding strategies for sustainable urban growth and heritage preservation. The literature highlights the interplay between economic transformation and spatial reconfiguration in peri-urban settlements. Siddhipur’s experience aligns with broader regional trends, where urban pressures drive economic diversification, alter land-use dynamics, and reshape traditional community structures. Theoretical models such as Thünen’s and Bid Rent Theory provide valuable insights into these processes, reinforcing the need for well-planned urban policies to balance economic growth with sustainable land management.

3. Methodology

This study follows a mixed-methods approach within a post-positivist paradigm, integrating quantitative trends with qualitative insights.

Quantitative Analysis Land use changes over time are analyzed through aerial imagery and GIS mapping. Socio-economic data are collected from household surveys, focusing on employment patterns, remittance contributions, and economic diversification. Statistical assessment of population growth and migration trends is done.

Qualitative Analysis Semi-structured interviews is conducted with community activist, local officials, and long-term residents to capture perspectives on urbanization and economic shifts. Visual surveys and field observations were done to document spatial and economic transformations firsthand. Focus group discussions are also conducted with different demographic groups (e.g., farmers, women, and youth) to understand lived experiences.

Sampling Method Simple random sampling was used, considering economic drivers, employment shifts, and land use. Slovin’s formula determined a sample of 73 households and six key informants. $n=N/(1+Ne^2)$ (1)
(Adapted from [6])

This approach ensures a balanced understanding of Siddhipur’s economic and spatial transformations.

younger generations migrate reflects broader patterns of migration, with a potential long-term shift in the community's demographic and economic structure.

Agriculture and small enterprises are common occupations, but traditional industries like Sukul are in declining phase. The underlying cause of sukul industry declination are as below:

- Labor-intensive weaving process offering low financial returns
- Shift in construction material
- The rising popularity of grey foam mat rolls and so on

Tourism in the area exhibits mixed growth, but there is potential for the development of homestay services and a Newari food hub. Real estate development, driven by increasing housing demand in the Kathmandu Valley, has been introduced by individuals and groups. Additionally, indigenous people have been selling their plots for personal reasons.

Many respondents have not gained financially from real estate development, with those benefiting mostly being entrepreneurs or individuals renting out floor spaces. Respondents also feel that the local government's efforts to preserve the area's culture are insufficient. This is reflected in visible changes, such as a shift from Newari to modern architectural styles, alterations in the functionality of vertical spaces, and the transition from mud mortar to RCC or cement mortar in construction.

However, there are positive signs of cultural preservation, such as the involvement of youth in traditional music and festivals, the restoration of public resthouses in traditional styles, and the construction of larger public buildings with at least a Newari facade. The presence of a Community Learning Center (CLC), which trains people in sukul weaving and supports small-scale industries, also contributes to cultural continuity.

While urbanization has improved infrastructure, there are concerns about overcrowding and the challenge of balancing urban development with the preservation of traditional elements.

5.4 Focus Group Discussion (FGD)

The focus group discussion, involving key stakeholders such as community activists, local representatives, members of the Community Learning Center (CLC) and residents of the ward, provided insights into the socio-economic transformation and challenges of Siddhipur. Key Findings from the FGD are as below: Siddhipur, with a history of 300–400 years, is a potential hub for tourism, emphasizing the need for heritage preservation. The CLC with funding from UNESCO, promotes traditional crafts like Sukul weaving, and plays a key role in training and coordinating craftsmen. Siddhipur was one of the agrarian village and as the improved educational qualification, unemployment and unsatisfactory income, there has been shift toward service jobs and foreign employment has reduced Sukul weaving, though it remains a source of income for some. WHO projects addressed water supply challenges in 2062/63 B.S. Land fragmentation, real estate development, and the rise of foreign employment have transformed Siddhipur. Reconstruction following the earthquake increased the

number of RCC buildings. According to FGD, Land value has surged from NPR 12-13 lakh to NPR 59-60 lakh per Ana and there is a growing desire for higher living standards due to exposure to foreign lifestyles. Market expansion and promotion are hampered by problems with quality control and an unwillingness to share expertise. Urbanization has been fostered by accessibility, better facilities, and economic opportunities.



Figure 16: Main Street, 1998
Source: ("Siddhipur," 1998)

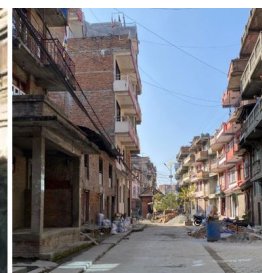


Figure 17: Yangal Road, 2024
Source: Self

Main Street (1998 vs. 2024): The transition from mud-mortar to concrete buildings, with altered and restored facades, can be observed. The very common rice straws on the streets are now gone.



Figure 20: Chi: Bale, 1998
Source: ("Siddhipur," 1998)



Figure 21: Chi: Bale, 2024
Source: Self

Chiba le: (1998 vs. 2024): Notable urban transformations can be seen along with the removal of the public water tap, which can lead to the indication that water is now supplied to each household.



Figure 5: Dha: Si Road section, 2024
(Source: Self)

Dha: Si: Road Section (2024): Restored brick pavement maintains historical aesthetics, though traditional facades are less preserved.



Figure 6: Scenario in School Chowk and Gwarko Lamatar Highway Stretch, 2024
(Source: Self)

School Chowk and Gwarko Lamatar Highway (2024) also have been urbanized with commercial buildings replacing traditional houses.



Figure 7: Chi: Bale - Dha: si:

Chi: Bale - Dha: Si: (Present scenario): Sukul remains a part of daily life, and Chwa:li: (straw) is still used for Choi: La: (smoked meat).

5.5 GIS Map

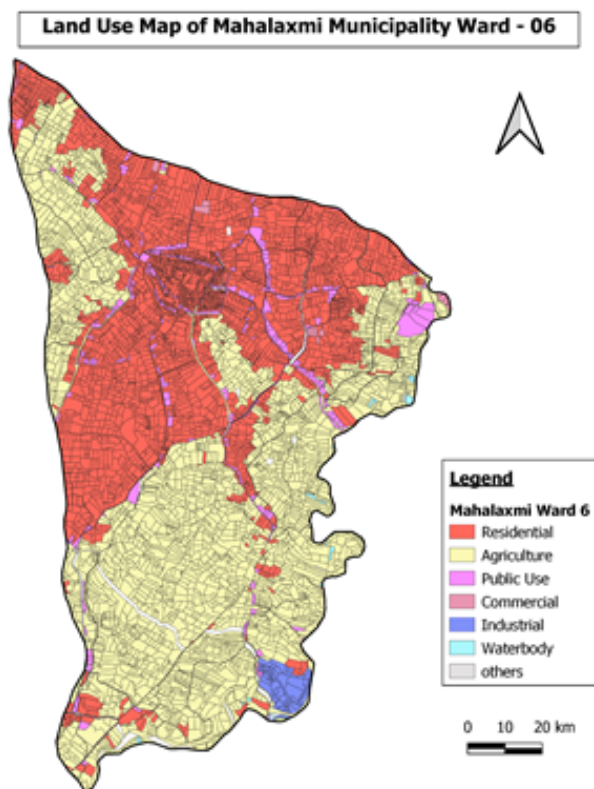


Figure 8: Current Land use map of Mahalaxmi -06

The land use map of Mahalaxmi Municipality Ward 6 highlights the spatial distribution of various land uses within the area. The dominant land use appears to be residential (red), covering a significant portion of the northern and central parts of the ward, indicating urban expansion and densification. Agricultural land (yellow) is prominent in the southern and peripheral areas, showing that traditional farming activities still persist despite urban growth. There are scattered zones of public use (purple), commercial areas (pink), and industrial zones (blue), suggesting a mix of services, businesses, and economic activities supporting the local economy. Water bodies (light blue) are visible but limited, indicating the presence of small ponds or streams. The map also depicts a network of roads and infrastructure, emphasizing connectivity within the ward. The spatial transformation seen in this ward reflects a transition from

rural to urban land use, which aligns with broader trends of urbanization in the Kathmandu Valley.

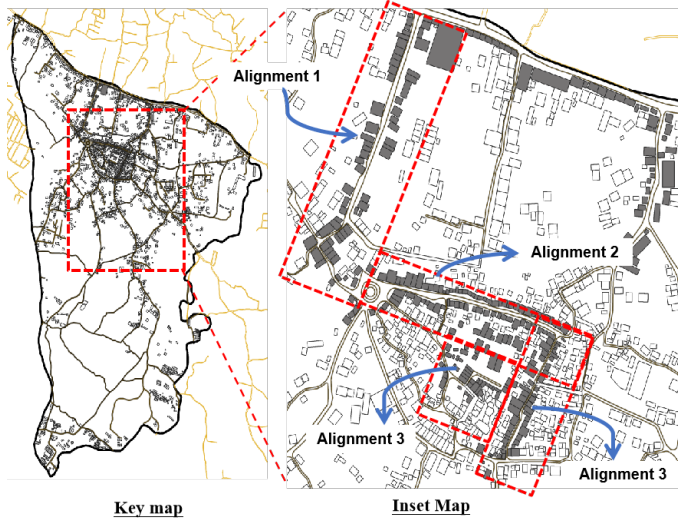


Figure 9: Key Map and Inset Map



Figure 10: Alignment 1



Figure 11: Alignment 2

These maps offer a comprehensive overview of the urban fabric of Mahalaxmi Municipality Ward 6. They reveal a dynamic mix of residential, commercial, and mixed-use buildings, with a clear preference for Reinforced Cement

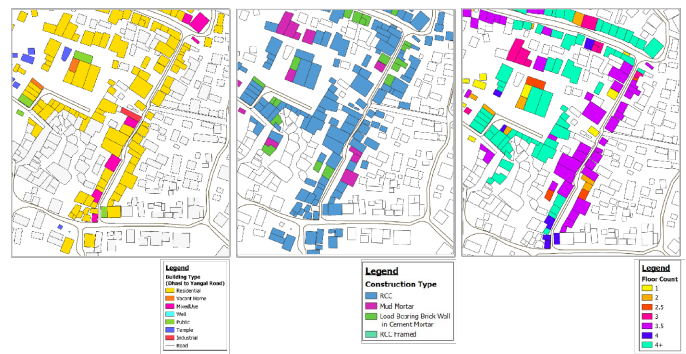


Figure 12: Alignment 3



Figure 13: Alignment 4

Concrete (RCC) in construction. This trend reflects the region's need for durability and earthquake resistance, as well as the growing integration of residential and commercial spaces. The maps also highlight areas with significant cultural and religious value, such as temples and stupas, and emphasize the importance of preserving the traditional architectural character amidst modern developments. The analysis shows varied building heights across different alignments, with mid-rise structures dominating some areas and 4+ stories becoming more prominent in others. Additionally, the presence of mud mortar structures in certain parts reflects a blend of traditional and contemporary construction practices but in fact in survey, there retrofitted and som vacant houses and only few has people residing in them. This comprehensive classification serves as a valuable tool for understanding the evolving urban landscape and the challenges and opportunities for sustainable development and heritage preservation in Mahalaxmi Ward 6.

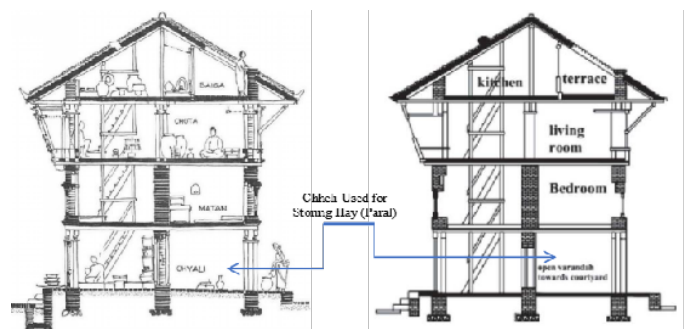


Figure 14: Typical Section of Traditional Houses

Traditional houses in Siddhipur had a multi-floor layout with the ground floor for hay storage, the first for bedrooms, the

second for living rooms, and the third for the kitchen.

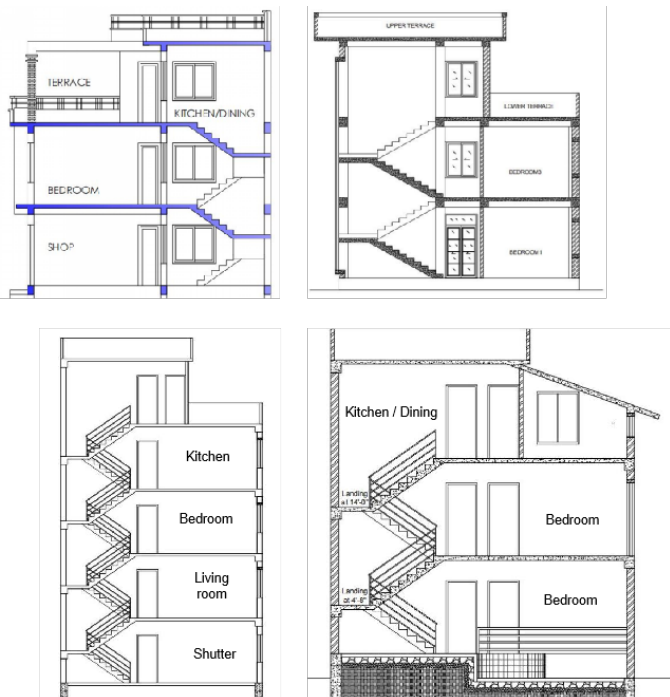


Figure 15: Typical Sections of Modern Houses

In contrast, modern homes are designed according to the preferences. Commercial spaces are common on the ground floor in mixed-use buildings. Kitchens, once on the top floor, are now often relocated to lower floors for convenience. This evolution reflects a shift toward practicality, blending traditional and modern living needs.

6. Conclusion

The urban and economic transformation of Mahalaxmi Municipality Ward 6 and Siddhipur shows a shift from traditional agriculture to a diversified economy driven by urbanization and changing socio-economic dynamics. The construction of RCC buildings indicates a focus on durability and earthquake resilience, while older mud mortar structures are slowly being replaced. This shift presents challenges in preserving cultural heritage. Mixed-use developments are gaining popularity, with small industries supporting local livelihoods. However, issues like poverty and inadequate infrastructure remain. Modernization of physical infrastructure, such as replacing brick pavements, improves connectivity but risks losing historical character. Future growth depends on inclusive urban planning, cultural preservation, and support for local industries, ensuring urbanization benefits are shared equitably while respecting heritage.

7. Recommendation

There has been a significant shift in income sources, leading to changes in lifestyle and an overall improvement in living standards. However, with the rising cost of living and stagnant incomes, people find it increasingly difficult to manage, prompting them to seek better security. As individuals

experience higher earnings, they are drawn to a higher standard of living. This cycle of personal development, which eventually contributes to the broader community, plays a key role in transforming the urban fabric. The following recommendations are derived from this observation and analysis.:

- The noticeable shift in architectural styles and construction materials highlights the need for the core areas with cultural significance to preserve their Newari traditional facades. A policy similar to the one in Bhaktapur, where every house is required to maintain a Newari facade, should be implemented to ensure the protection of the area's cultural heritage while maintaining the skyline. Additionally, the varying floor heights of many houses should be regulated to ensure uniformity, allowing the horizontal development, known as "jho: chhen" in Newari, to retain a visually cohesive and harmonious appearance.
- Given the shift from agriculture to residential and commercial land use, it is essential to implement sustainable urban planning practices. Encouraging mixed-use development that combines residential, commercial, and recreational spaces can help balance the demands of urban expansion while preserving the rural heritage of areas like Siddhipur.
- While Siddhipur has diversified its economic activities, supporting traditional crafts like Sukul weaving and other local industries could further boost the economy. Developing training programs or establishing local cooperatives can play a crucial role in preserving and promoting the growth of businesses within the community, fostering greater income generation. It is essential that these training programs be hands-on and practical, allowing participants to apply their skills in real-life situations, ensuring their effectiveness and long-term impact.
- Support Remittances and Workforce Development: As remittances play a significant role in Siddhipur's economy, developing programs that provide training or entrepreneurship support for returnees from abroad could help capitalize on the skills and capital brought back by migrants, further contributing to the area's economic growth.
- Encouraging home-stay programs can provide a significant income source for local communities. With proper development and support, these programs have the potential to thrive and contribute to the growth of the local economy, offering unique cultural experiences for visitors while benefiting homeowners.
- Sukul has long been a defining identity of the study area. To ensure its continued growth and prominence, efforts should focus on enhancing the skills and capacity of weavers. This can be achieved by providing training programs that emphasize both traditional techniques and modern innovations, ensuring a balance between cultural heritage and contemporary market needs. Additionally, promoting the unique qualities of Sukul

products through effective marketing strategies and creating networks for wider distribution will help expand its reach. Financial support and policy backing are also essential to sustain this craft and integrate it into broader economic opportunities, ensuring its long-term viability.

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Economic Shift and Urban Transformation of Siddhipur

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INTRODUCTION

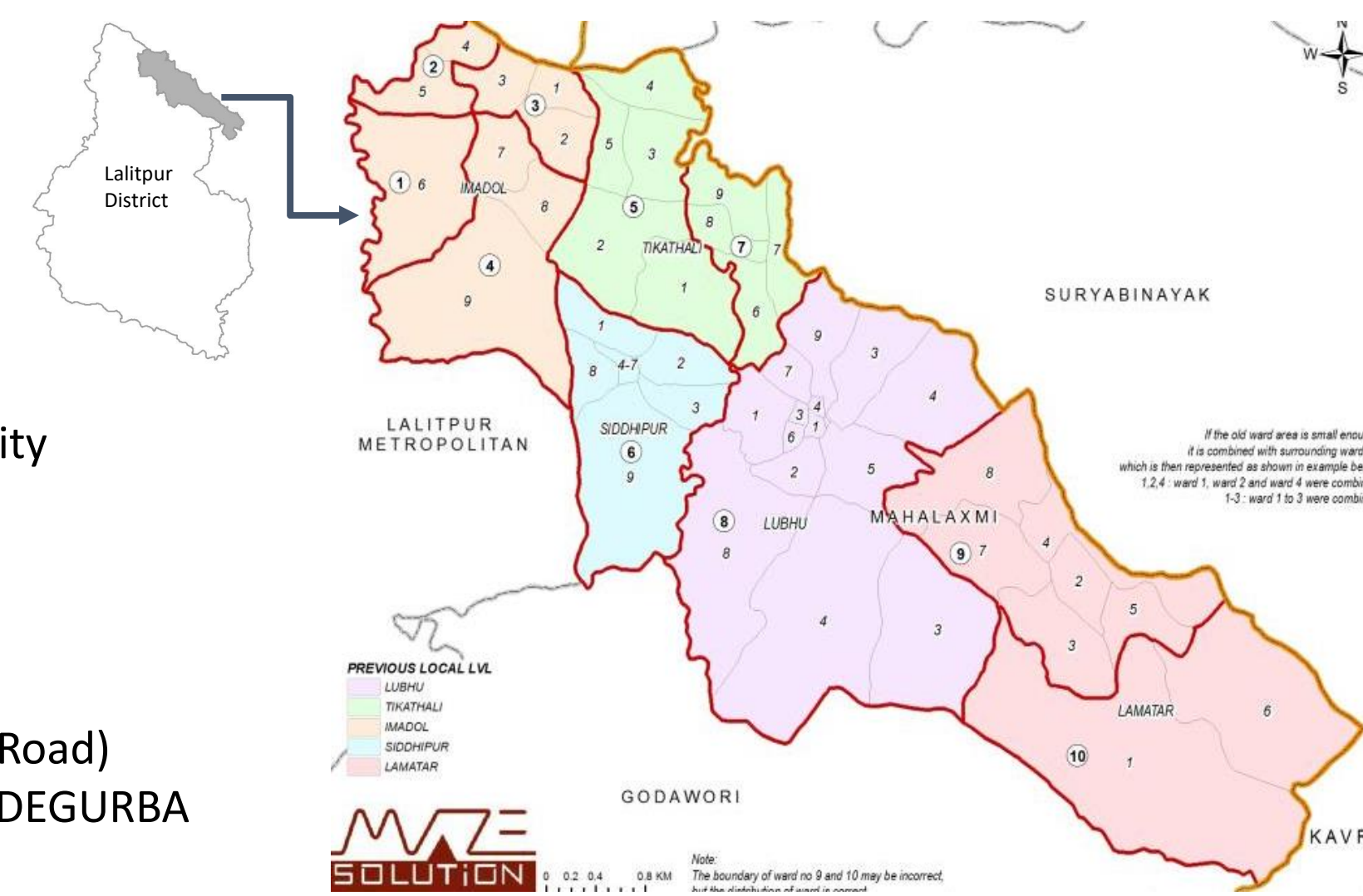
- Economic Shifts** can be defined as transition of an economy from one dominant sector to a more diversified and evolving mix of sectors
- Urban Transformation:** Transformation that emerges from the expansion of built environments and socio-economic activities, allowing humans to utilize shared facilities over time and space
- Urbanization is the concentration of population and activities in urban areas.
- Urban Centre:** More than 1,500 persons/sq.km (15 ppHa).
- Siddhipur,** one of the historic town in Kathmandu valley, has undergone **significant economic and spatial transformations.**

Problem Statement

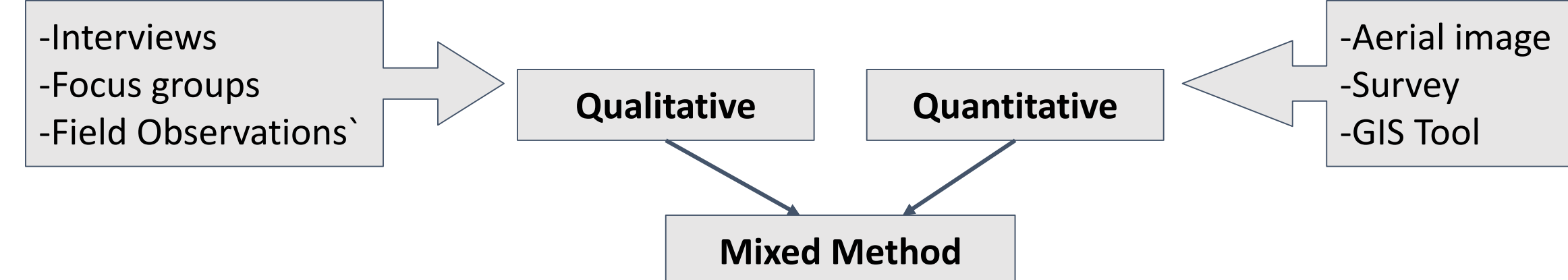
- The area is facing a rapid urbanization. Urbanization has led to changes in **land use, infrastructure development,** and increased dependency on **non-agricultural jobs.**
- Decline of Traditional Occupation,** Loss of Primary Income Source
- Challenges for sustainable development
- Migration, both national and international >> more of **remittance driven economy**
- Economic Migration: Many households sent adult children to Gulf countries for work, and now to European Countries for study and work
- Market Disruption: Imported synthetic carpets, grey foam mats replaced handmade straw mats.

Administrative Division:

- Province: Bagmati Province
- District: Lalitpur
- Neighboring Municipalities**
- East: Panauti, Kavre
- West: Lalitpur Metropolitan
- North: Suryabinayak Municipality
- South: Godwari Municipality
- Area: 2.01 km²
- Former VDC
- 7.5 km from Kathmandu
- 3.8 km from Gwarko (Ring Road)
- Declared as Urban center_DEGURBA
- majorly known for Sukul



Methodology



Research Questions

- How has Siddhipur's economy changed over time?
- What effects have these economic changes had on the community?
- How have these effects influenced urban development in Siddhipur?
- What measures should be taken to address these urban changes?

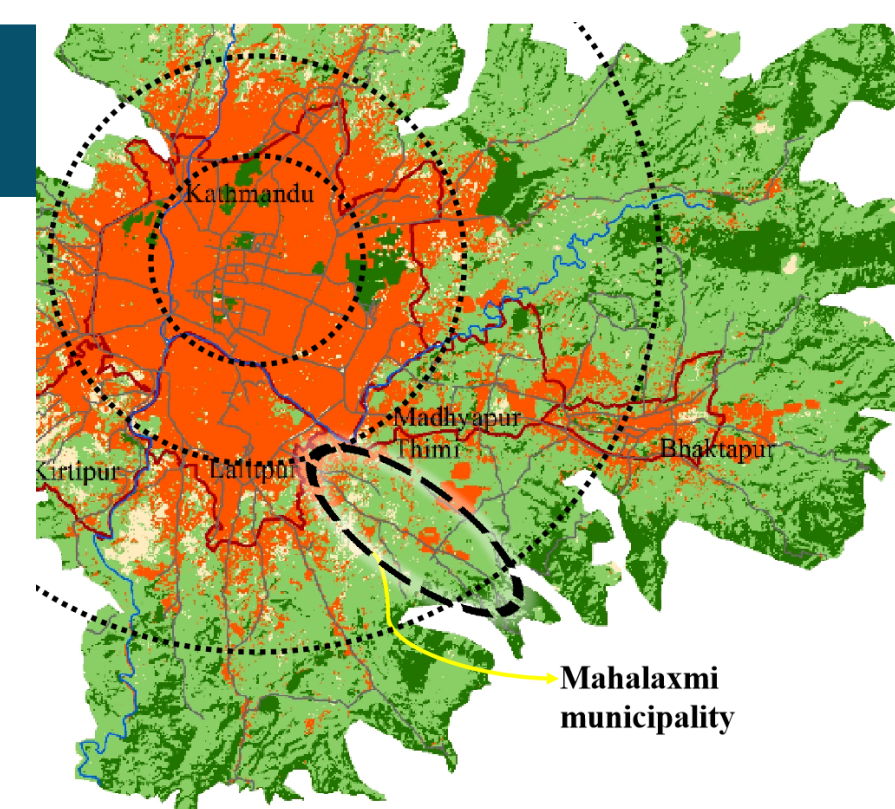
STUDY AREA

- 3 Names: **Thasi, Sanagau, Siddhipur**
- Known for **Suku: / Sukul**
- 1599 B.S. (Ne. Sa. 662) Malla era
- Around 482 yrs old town (Maharjan, 2010)
- Siddhipur Local Jatra
- Falls in mid of April
- Siddhipur's cultural festivals (Jatras) indicate historical connections with Chobhar, Kirtipur, Balambu, Balkhu, Thimi, and Dhumburahi.

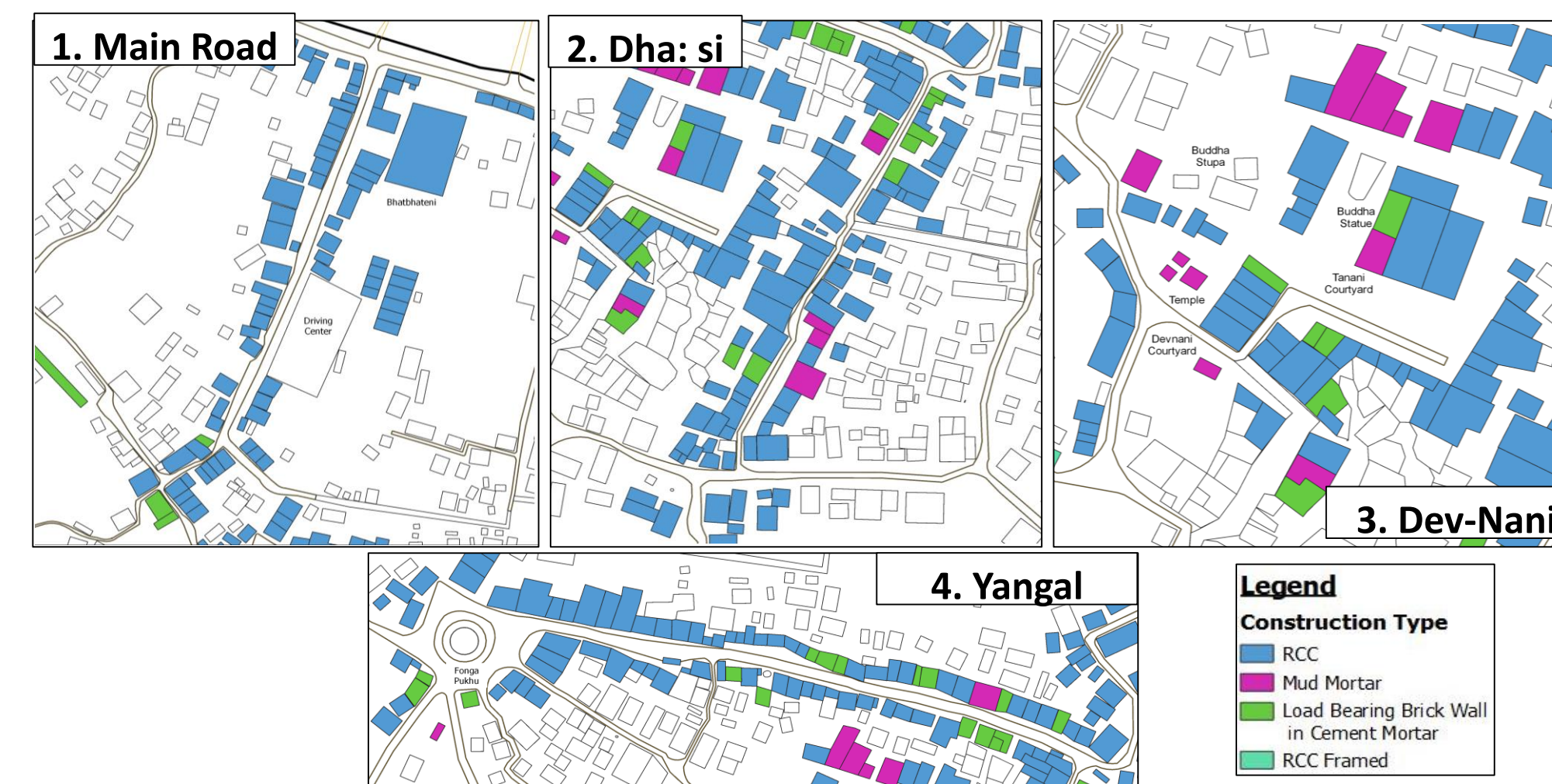


Urban Expansion in Kathmandu Valley (1989–2009) (Ishtiaque et al.)

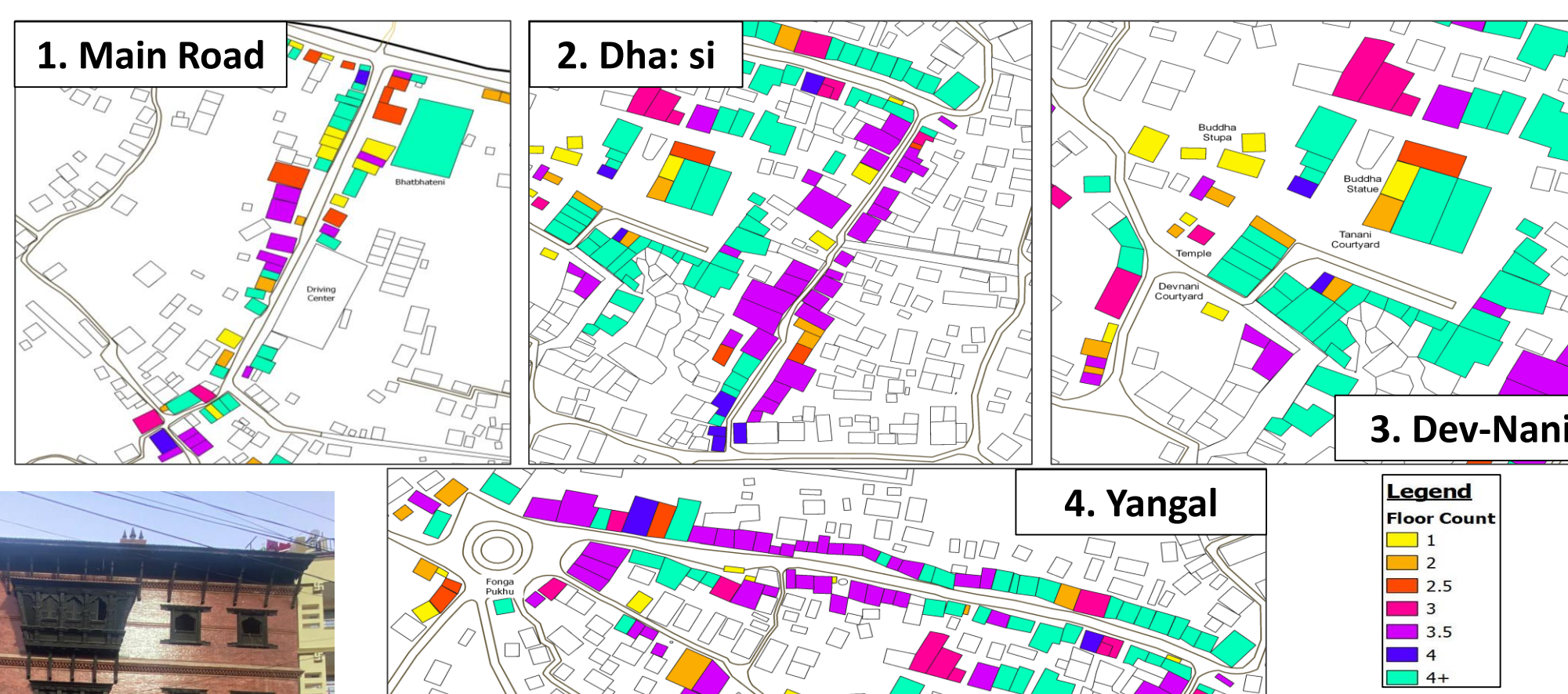
- Growth Pattern:** Expansion follows a **concentric pattern** along major roads.



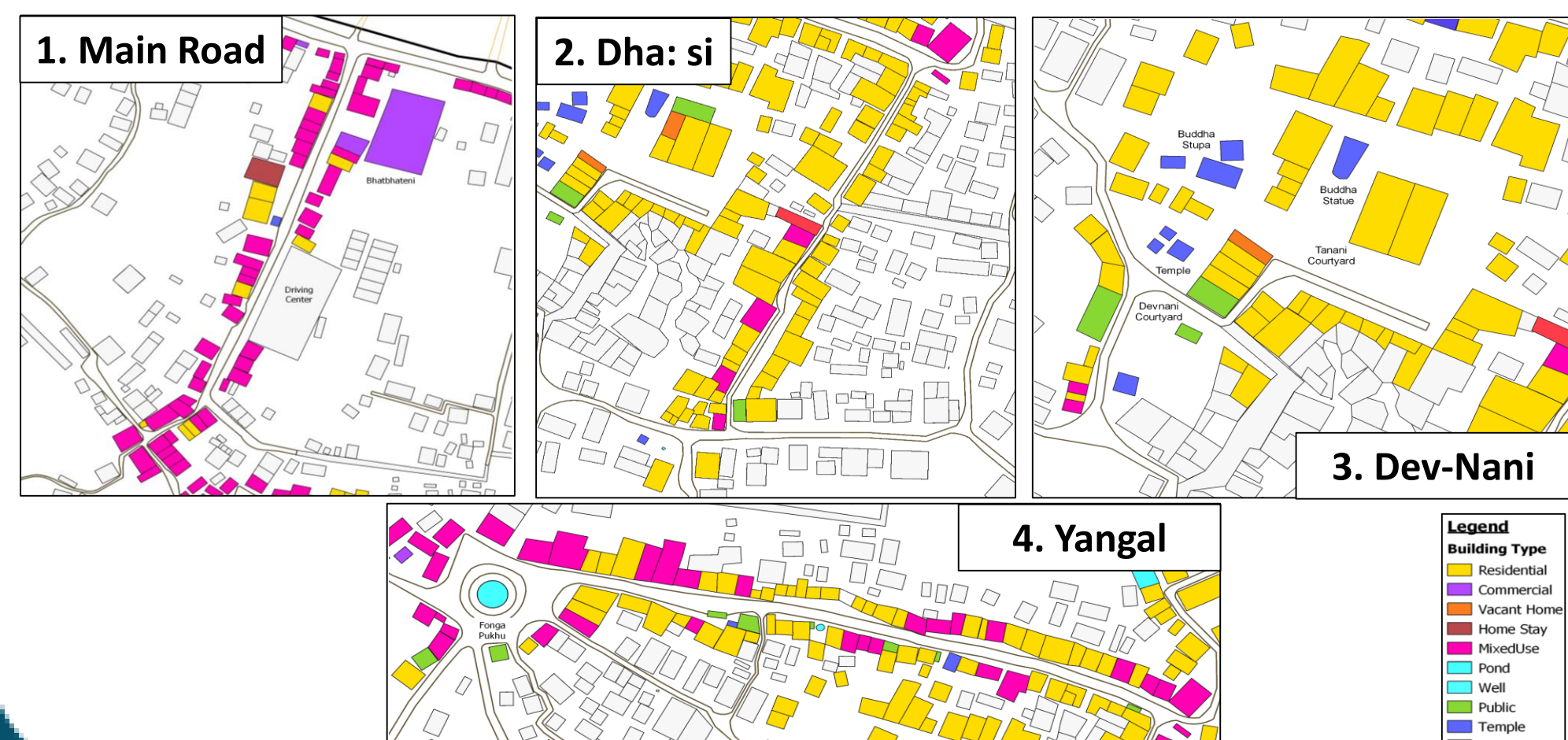
Construction Typology Classification



Building Height Classification



Building Usage Typology Classification

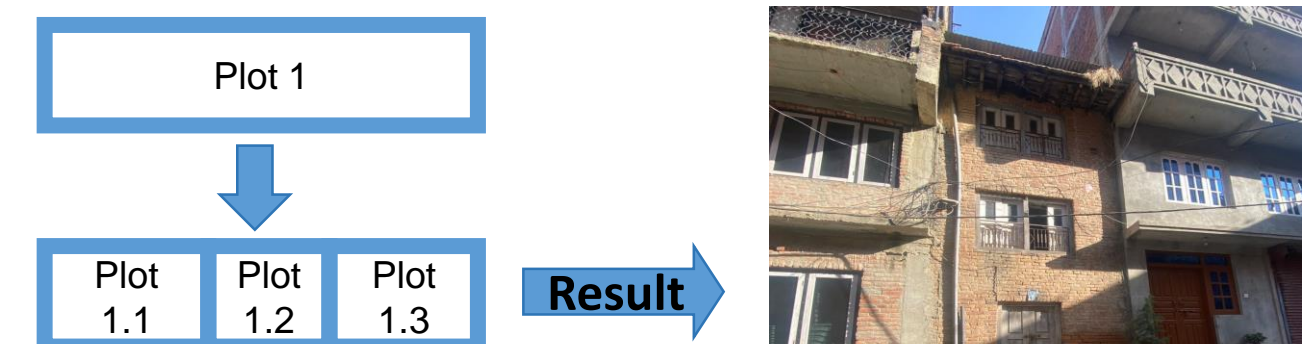


FINDINGS AND ANALYSIS

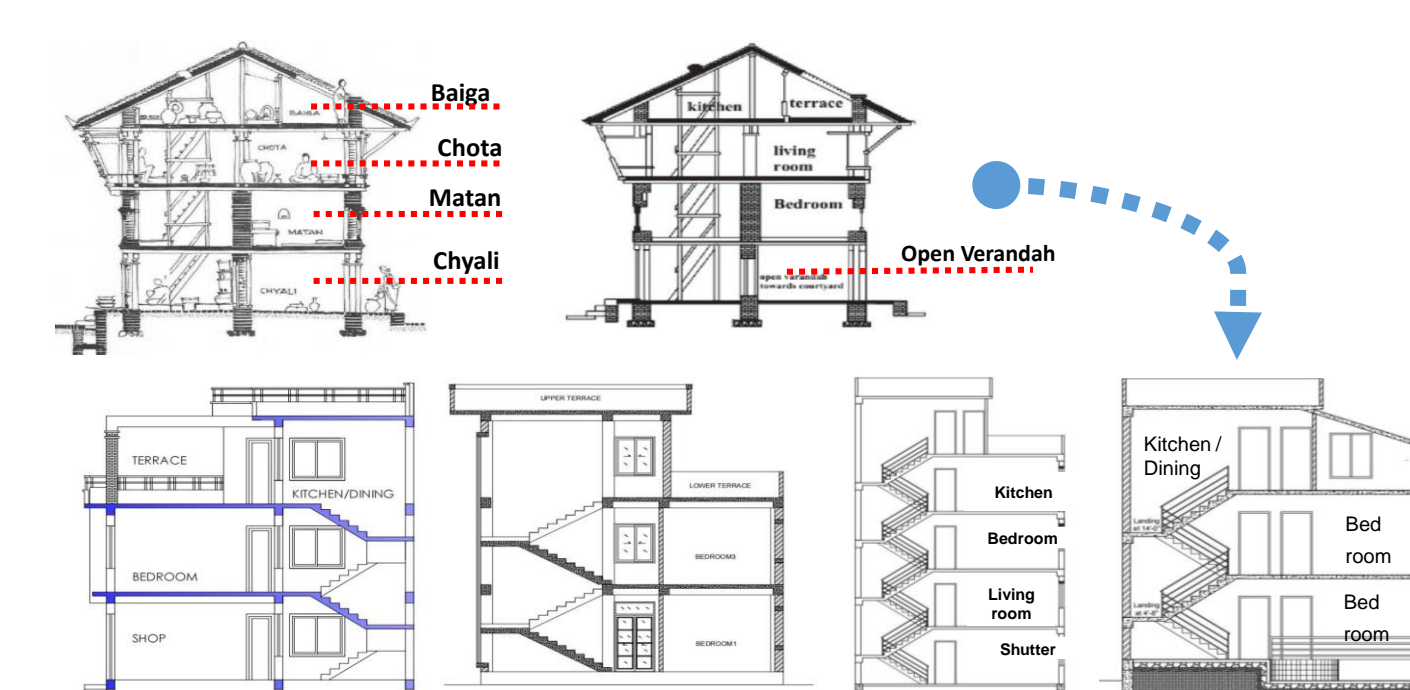
- 2011
- 2014
- 2018



- Random Plotting alongside the roads

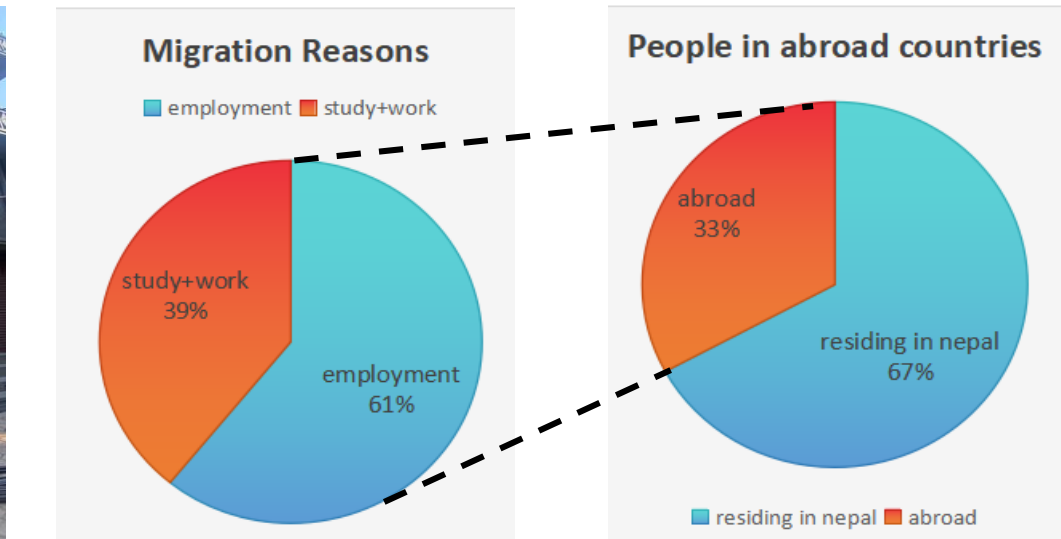
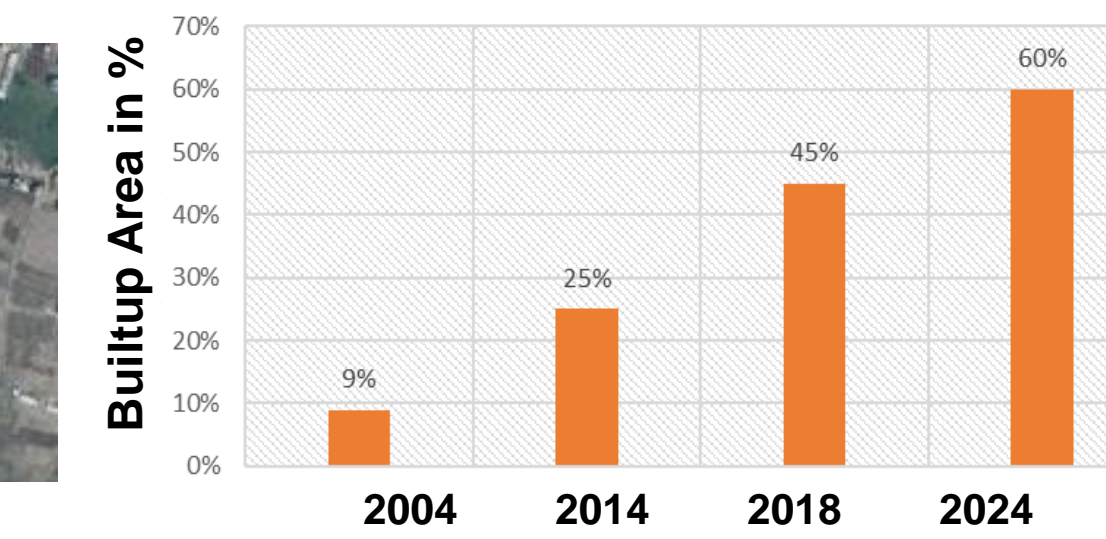


- Also, Nuclear family structure has also added up to land fragmentation



Ward / मा.सं.	श्रवण	भद्रा	असिन	कार्तिक	मंग्सिर	पौष	मघ	फाल्गुन	चैत्र	बैशाख	जेठ	आश्विन	कुल
2079/2080	0	0	0	2	2	8	5	3	5	7	15	12	59
2080/2081	11	19	25	17	26	39	38	11	25	20	27	18	276
2081/2082	15	21	28	20	21	21	14	0	0	0	0	0	144
Total Buildings in Last 3 Fiscal Years													
479													

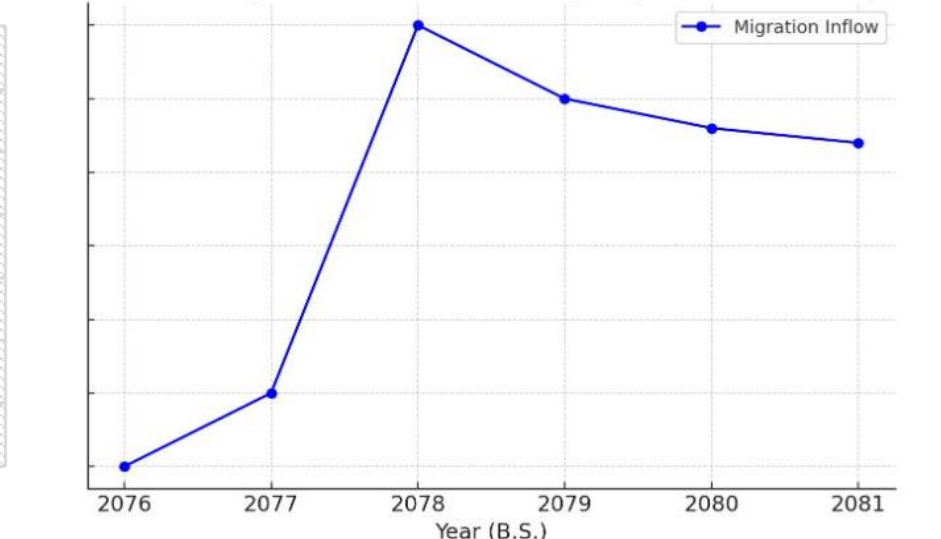
Built up Trend (2004-2024)



Out-Migratory Information

- Only 2.74% elderly people are residing abroad.
- 17.81% of respondents with family abroad intend to settle permanently
- Families becoming more reliant on remittances

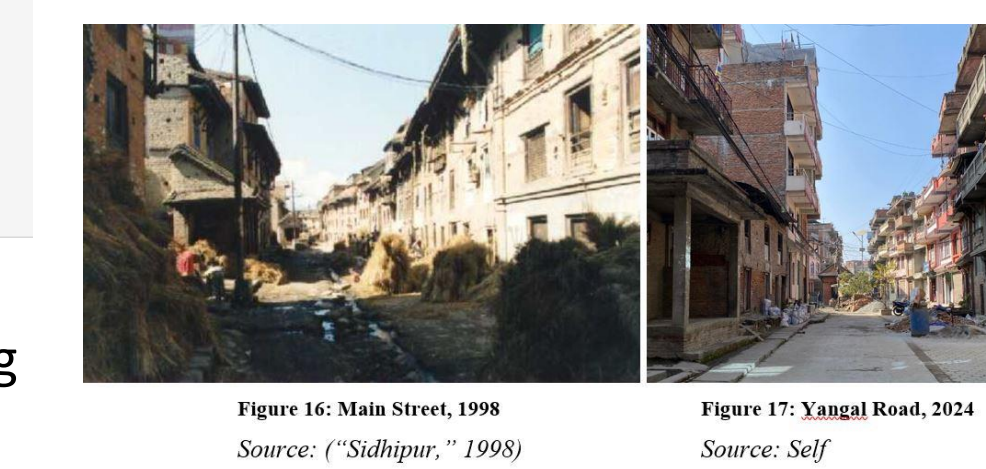
Annual Migration Trend (2019-2024)



Changes over Time (1998-2024)



- 80-87% of migrants: From outside Kathmandu Valley (e.g., Jhapa, Morang, Taplejung, Dhanusha).
- 13-20% of migrants: From within Kathmandu Valley (e.g., Kathmandu, Bhaktapur, Lalitpur).
- Highest migration influx: in 2078, followed by a slight decline and stabilization.



(Shakya,2009)	Current Observation
Economic Decline - around 400 locals in Gulf Country	Still intact but European countries Major reason being unsatisfactory income and job.
Less participation of youth in cultural activity	Involvement of younger people learning and in cultural fests
Private investors both external and new entrants are looking for opportunity to start housing business in agricultural area and surroundings	Significant areas >> changed from agricultural to commercial or housing However, the initiative of policy restricting land fragmentation and save agricultural lands.
Due to loss of traditional occupation- identity of Siddhipur as a straw mat city in jeopardy	Still intact and only CLC is seen as one of the actively involved in saving of the Suku industry city

CONCLUSIONS AND RECOMMENDATION

- Siddhipur's economy (income source) changed over time with Diversified primary job from Agriculture, Sukul Weaving to Remittance and then currently to Small Enterprises with secondary job constantly being the Service Job.
- These shifts in Income source brought changes in Land Use, Building Architecture (Façade, Skyline, Function), Construction Type, Road and Pavements
- Effects influenced Urban development:
 - Positive: Rise in economic activity, quality of live, living standard, land value, migration
 - Negative: Loss of traditional architecture, loss of indigenous people, unplanned housing, land fragmentation, land value speculation

Recommendation 1:

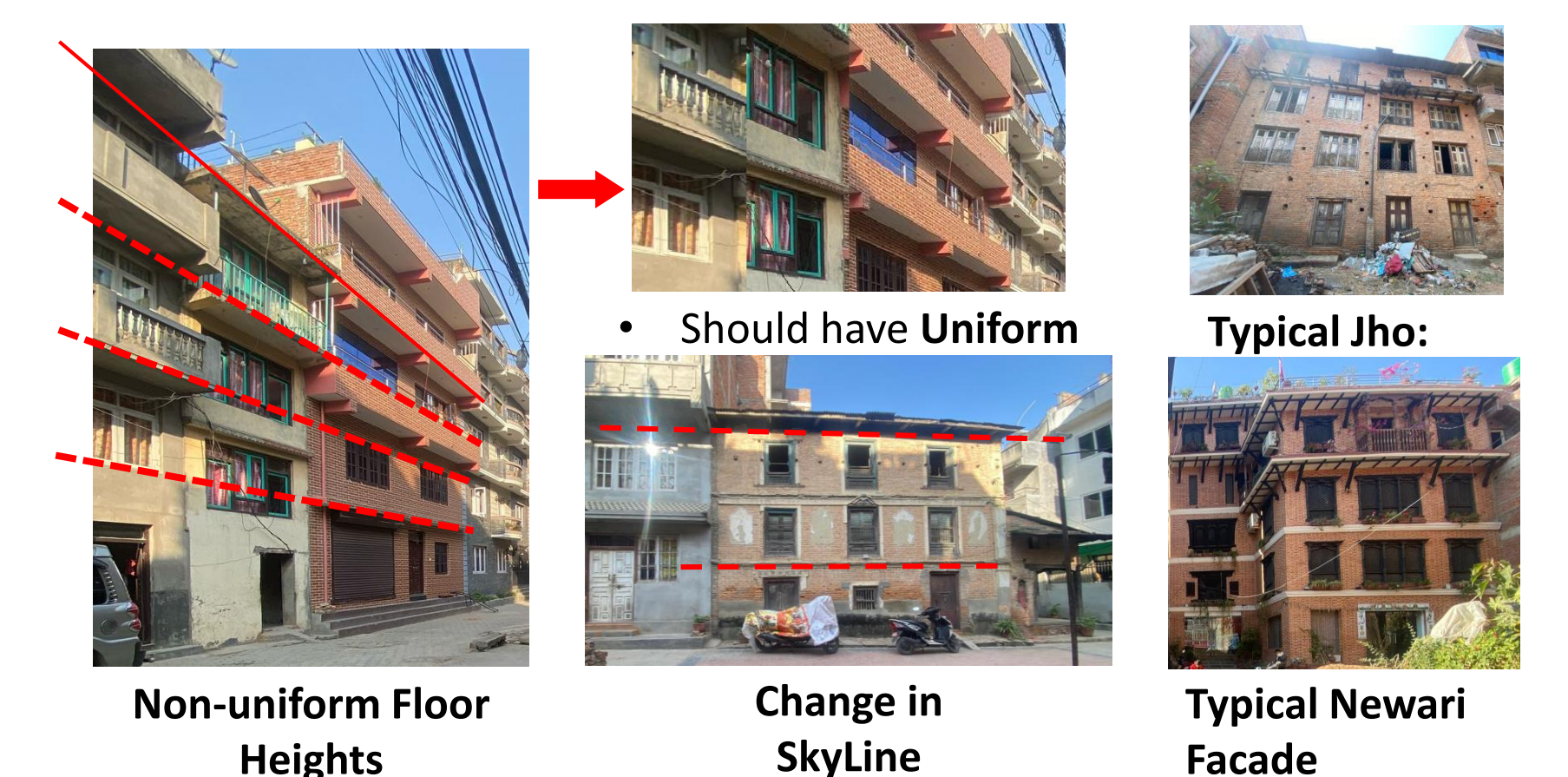
- Architectural Conservation in Core Areas**
- Enforce policy of Heritage code like Bhaktapur to **maintain Newari facades** as it is also an old settlement areas.
 - Regulate floor heights for visual uniformity.
 - Support "jho: chhen" pattern for **cohesive skylines and streetscapes.**



Recommendation 2:

- Inspiration from Tatami of Japan**
- Use wide Range of applications of Straw** in order to have practice of weaving Sukul viable
- Develop marketing strategies and sales networks**
- Local government shall offer financial and policy support for long-term sustainability.**
 - Tatami in Japan which also made up of Rice Straw and has a similar look to the Gundri of Nepal is still a national symbol of tradition and craftsmanship
 - Nepal should inspire from Japan; **value and preserve** its traditional crafts. >> Promoting straw products reflects cultural pride and identity.
- Straw has Multi-functional Uses**
 - Biofuel (briquettes), a construction material (cob), and straw bales with excellent insulation properties; Can be used for thatching, as a polymer filler, in eco-friendly biodegradable packaging, paper production, rope-making, animal feed, basketry, and bedding. (ECONATION, n.d.) and also Erosion control > Used on hills, slopes, banks, wetlands(Straw Blankets, n.d.)

- Shift in income sources has led to lifestyle changes and higher living standards.
- Rising cost of living with stagnant income drives the need for better economic security.
- Personal development cycles influence the transformation of the urban landscape.
- Recommendations are based on socio-economic and spatial transformations observed.



Recommendation 3:

- The policy of Ward 6 to prevent land fragmentation and preserve agricultural land should be upheld. **Preserve agricultural roots while accommodating urban needs (mixed-use development)**

Recommendation 4:

- Empowering Returnees for Local Growth**
- Leverage returnees' capital** and experience for community projects.
- Launch programs for entrepreneurship and skill development.

Path Forward for Siddhipur

Cultural Tourism Through Homestays

- Siddhipur has **untapped tourism potential.**
 - Encourage homestay models rooted in Newari tradition.
 - Local Government shall provide **support** in training, infrastructure, and promotion.

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