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"Existing condition and Infrastructural challenges of Urban Villages in Indian Cities"

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Abstract: Urban villages in Indian cities are original villages that have adapted to the surrounding urbanization. These villages, nestled within rapidly expanding cities, maintain significant historical and cultural importance. However, they face challenges as urban growth encroaches on their agricultural lands, depriving them of traditional sustenance. Consequently, these villages often request exemptions from strict urban development regulations, advocating for sensitive treatment due to their unique ecological and social networks. This study provides valuable insights into the complex dynamics of urban villages in Indian cities, focusing particularly on case studies from Delhi. It highlights governance challenges within mega-urban regions, stressing the necessity of comprehensive planning mechanisms that can effectively address their intricate and multi-layered nature. Recognizing and catering to the distinct characteristics and needs of each urban village is essential for fostering sustainable and inclusive development.

Keywords: Urbanized villages, Mega-urban region, Comprehensive planning, Inclusive development.

Introduction

Urban villages in Indian cities are urbanized villages, that is, original villages that have conformed themselves to the urbanization around them. In India, there are existing pockets of old villages that have gotten cramped among the rapidly rising cities around them. India has experienced rapid urbanization over the past few decades, with millions of people migrating from rural areas to cities in search of better economic opportunities. This influx of migrants has led to the development of informal settlements on the fringes of urban areas, including urban villages.

As a physical phenomenon, urbanization takes two paths: through the expansion of existing urban bodies by engulfing adjoining villages into their territory and through the independent transformation of rural areas into urban areas. Urban villages are characterized by informal housing arrangements, often lacking basic amenities (sanitation, clean water, and electricity).

Houses in these villages are typically constructed haphazardly, often without adherence to building codes or regulations. One notable feature of urban villages is the coexistence of residential, commercial, and industrial activities within the same area. Residents of these villages often engage in a variety of occupations, including agriculture, small-scale manufacturing, and retail. Many residents have lived in these villages for generations, maintaining a strong sense of community despite the challenges they face.

As cities continue to expand, urban villages are increasingly coming under pressure for redevelopment. Local governments and developers view these areas as prime real estate for commercial and residential projects, leading to conflicts over land use and displacement of residents. The presence of urban villages poses significant challenges for urban planning and governance. Local authorities struggle to provide basic services to these areas due to their informal nature and the complexities of land ownership. In some cases, urban villages undergo gentrification as wealthier residents or developers move in, leading to rising property prices and changes in the socio-economic makeup of the area. This can further exacerbate issues of displacement and inequality. It requires thoughtful urban planning and development strategies to address the challenges associated with their transformation. Balancing the preservation of cultural heritage with the need for modern amenities is a key consideration in managing the growth of these areas.

Overall, urban villages in Indian cities represent a complex intersection of rural and urban dynamics, reflecting the challenges and opportunities associated with rapid urbanization and informal settlement development. Given the diverse and unique characteristics of each urban village, it's crucial to tailor development strategies to meet their specific needs. Ultimately, recognizing the unique characteristics and needs of each urban village and fostering collaboration among stakeholders are essential principles for promoting effective and inclusive development in the context of rapid urbanization in Indian cities.

Urbanization

Urbanization in India has played a significant role in the formation and evolution of urban villages. As one of the fastest urbanizing countries in the world, India has witnessed a massive influx of people from rural areas to cities in search of better economic opportunities.

Urbanization is due to a large increase in population resulting in urban sprawl. It happens in two ways:

- Through the expansion of existing urban bodies by engulfing villages
- Through the independent transformation of rural areas into urban areas.

Urbanization is a continuous process that involves the expansion of the urban areas and also rural-urban migration. It is often assumed that the cause of urban poverty in Indian cities is the rural-to-urban migration. It is the growth of urban areas and the engulfing of villages in the city boundaries - urbanizing the villages that are more a reality in Indian situations. According to the 2011 census, only 31 percent of the population of India lives in urban areas.

- For the first time since Independence, the absolute increase in population is more in urban areas than in rural areas.
- Rural – Urban distribution: 68.84% & 31.16%.
- The level of urbanization increased from 27.81% in the 2001 Census to 31.16% in the 2011 Census.

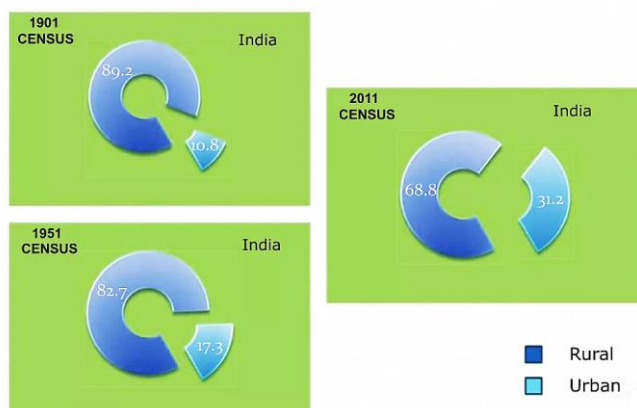


Figure 1 Trends in Rural-Urban Distribution of Population

Source: Census of India, 2011

	2001	2011	2021
India	102.9	121	138.4
Rural	74.3	83.3	90.9
Urban	28.6	37.7	47.5

Table 1 Population (in crore)

Source: Global Data, 2021

As per the Global Data-2021, India had an urbanization rate of 1.34% in 2021. The urbanization rate in India increased by 1.5% on a year-on-year basis in 2021. Between 2010 and 2021, the indicator increased by 19.6%. The urban population of India attained a value of 475 million people in 2021. Overall, Urbanization in India has had a profound impact on the formation and transformation of urban villages, highlighting the complex dynamics between rural and urban areas in the context of rapid urban growth.

Urban Village

An urban village means merging of urban area with the village, where the agricultural land of the village is taken up for urban development.

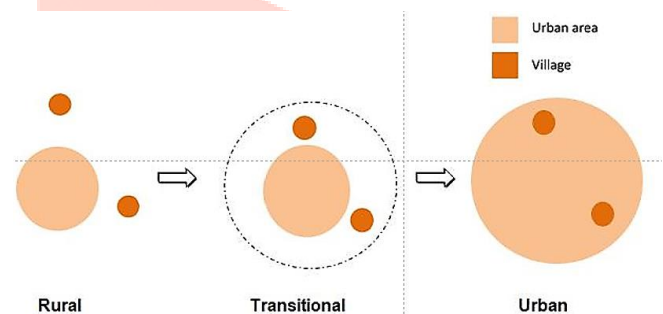


Figure 2 Stages of Transformation of Urban Villages

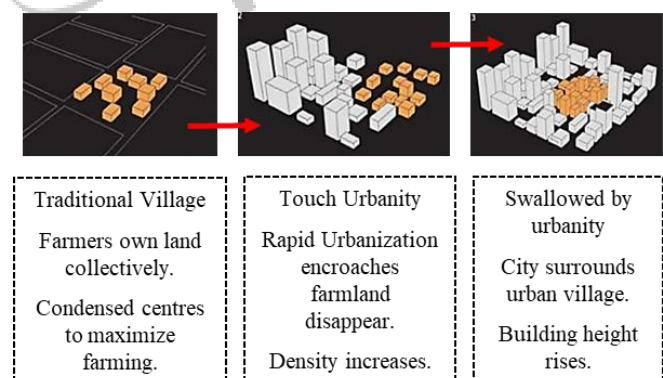


Figure 3 Formation of Urban Villages

Urban villages are rapidly transforming due to the pressure of urbanization. The major consequences of urban villages are:

- High-density development due to land value dynamics.
- Congestion (in terms of stress, basic services, etc.)

With the expansion of the city, the land value of the urban village increased. But the land value of its surrounding area is more than that particular urban village because of its infrastructural condition, and rural characteristics, due to lack of facilities in terms of connectivity and basic services. People choose to live due to its lower land value.

In a typical rural village, the village authority is well-defined. However, in an urban village, there is no distinct political institution or governance structure. Each person tries to exercise authority, and it is the land mafia literally at work. The villages with once a strong primary activity have come into the city centre as the city has grown. This has brought a shift in the activities and homogeneity of these villages. Increased land values and property prices have brought in development practices in these villages. Weak titles in the village, also being tagged as slum.

Urban Village of Delhi

The legal definition of Urban Village states “Any area ceases to exist as rural and is converted into urban area if it is declared under clause (a) of section 507 of the Delhi Municipal Corporation Act, 1957. The administrative control of Gram panchayat ceases and such villages are included in the urban limit and are known as the “urban village” with an understanding that all regulations apply to the villages.

The term 'Urban Village' was first coined in 1961 at the time of formulation of the Master Plan of Delhi. The first master plan of Delhi (1962) only acquired agricultural land. A line separating the Abadi area i.e. habitable area and the agricultural area in a rural village. The ‘abadi’ areas were not acquired and the rural built forms were protected by a boundary called ‘Lal Dora’. The area within the Lal Dora in rural is exempted from Municipal bylaws or zoning regulations. There are 369 villages in Delhi, out of which 135 are classified as urban villages and 234 are rural villages. In 1931, there were only 25 urban villages they increased to 47 in 1951, 88 in 1971, and 135 in 2011.

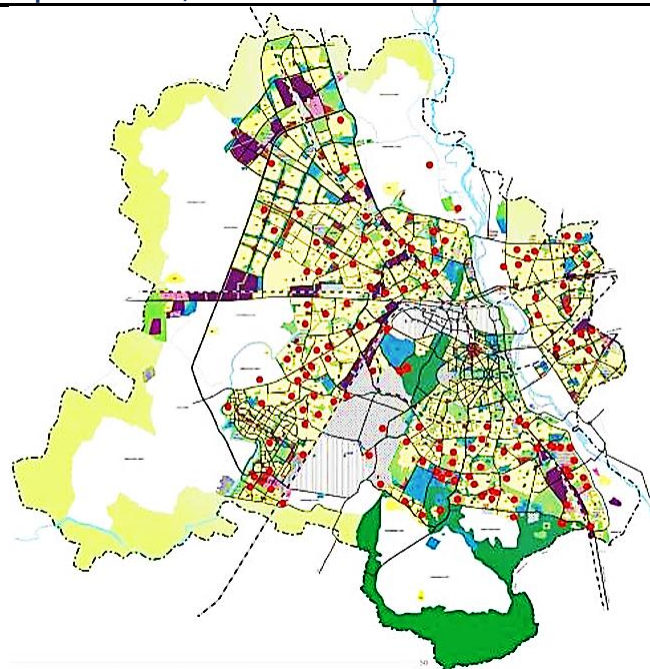


Figure 4 Location of Urban Villages in Delhi

Source: MCD, 2021

Case of Kotla Mubarakpur, South Delhi

Kotla Mubarakpur, a medieval famous urban village, is a marketplace with a residential colony in the South-central part of New Delhi. The total area is 96 acres and settlements were scattered form. In the 2001 census, it crossed 17321 population. In the 2011 census, it has grown rapidly to 26949 with a population density of 710 person/sq.km.

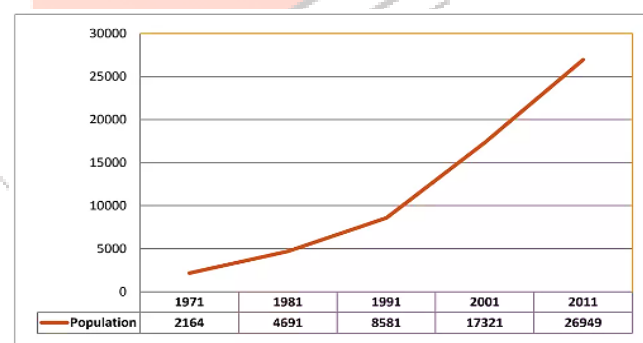


Figure 5 Population Trend of Kotla Mubarakpur

Source: Delhi Census Handbook, 2011

Table 1: Population Growth Rate of Kotla Mubarakpur

Years	Decadal Growth Rate (%)
1971	-
1981	53.86
1991	45.33
2001	53.43
2011	35.76

Source: Delhi Census Handbook, 2011

Table 2 Population Growth of Kotla Mubarakpur

Kotla Mubarakpur has distinct features in terms of its built-up area. Most of the area was agricultural land and barren land. This area has changed rapidly into residential urban, commercial, and other residential complexes. This process happened without the concern of the urban planning and government authorities. This

transformation happened after 2001. It is considered a medieval village in Zone-D classified as DDA as Urban Village in 1971. Mainly, it is known as a land encroachment development census town (DDA, 2011). There was a change in land use due to excessive migration in the region, and there has also been pressure on local resources due to public pressure.

The village is surrounded by posh colonies (defense colonies) and markets that generate employment opportunities for the people living there like housemaids, drivers, servants, security guards, etc. As per the census, the population of this village is engaged in a different occupation. The dependency of the female population is much higher than the male population. There is more than 12000 male working population. It was found that for a majority of the population, their jobs are 60% service sector based, 38% are self-employed and 2% are working in dairy activity.

■ Housing Condition and Circulation Pattern:

The urban geometry of Kotla Mubarkpur is composed of narrow streets flanked by shops on either side & residences upstairs are common. Structural strength: Built and designed by contractors without prior structural analysis or approval of the authorities and construction techniques. Average height of buildings: It lies between 10m-15m. Some of the structures are single story and most of the structures are 2-3-story buildings. Distance between buildings: It is very low (1m) on pedestrian roads, whereas distance is quite large on major roads.



Figure 6 Housing Condition of Kotla Mubarakpur

The major roads on which the commercial sector is concentrated such as Gurudwara Road, Sher Singh Road, etc are motorable. The width of the village motorable road is 3.5-7m and all roads are cemented. The roads on which major markets or shops are not present (internal) are all non-motorable and involve pedestrian circulation. No official space for parking is provided, the residents park their vehicles on the outskirts of the village. There is no adequate space between houses, and narrow streets with no proper street lighting arrangements.

■ Physical Infrastructure:

Water is supplied two times a day, morning and evening through supply lines. Water quality is not fit for residents. The community consists of private water plants which supply water to houses in cans. Kotla Mubarakpur consists of a proper sewerage system but due to the increase in the population, the load on the sewerage system increases which results in choking.

Whenever choking occurs the general secretary of the area complains to the Municipal Corporation Delhi and then the MCD officials come to clear the blockage. There is a 24-hour electrical supply in Kotla Mubarakpur, but people mentioned small power cuts electricity is supplied by the buses. Every household consists of a private meter. Wires haphazardly run along the streets, also transformers are installed along the streets. People often dump garbage on the streets in front of their houses. The dumping of garbage creates a very unhygienic condition for people living there.



Figure 7 Physical Infrastructure of Kotla Mubarakpur

■ Social Infrastructure:

The village of Kotla Mubarakpur consists of four government schools, all of which are in working condition recently one of the schools has been converted into an e-school. The schools are still primary only, there are no secondary schools. No hospitals or government clinics are provided in the village the nearest hospital being AIMS. The residents commonly use AIMS, and the commercial area consists of some small private clinics.

The open and green spaces in Kotla Mubarakpur are not sufficient to cater to the population. These are ill-maintained there are no functional parks or open recreational spaces for the public in the locality. Five public toilets were constructed by the government but they were broken down and the land was given to vendors and other people on a rental basis illegally. Recently Meenakshi lekhi has passed the construction of two public toilets in the locality.

■ Environmental Condition:

The effects of water pollution were not directly visible in Kotla Mubarakpur but water often gets contaminated due to stagnation leading to sudden outbreaks of fatal diseases. Respondents believed that the rusty and pale water was not drinkable, but due to irregular supply and a complete lack of water, they were forced to use it. Frequently, they are taken ill and have to take

medicines. Children are mostly affected by it. Residents are mainly affected by malaria, typhoid, skin, and eye irritation, and respiratory problems in Kotla Mubarakpur. In this village, population growth and the level of air pollution are seen to be positively related. The population increased rapidly after 1991, leading to an increase in air pollutants like PM10, PM2.5, SO₂, and NO_x with traffic congestion. Finally, it is impacting human health (especially, small children and asthmatic and aged persons) as well as the local environment. The major sources of pollution generated by vehicles, indoor and construction sites.

In order to solve these issues, raise resident standards of living, and encourage sustainable urban expansion, there is a need for comprehensive infrastructure development and urban planning efforts in urban villages.

Case of Seelampur Village, East Delhi

Seelampur is an Urban Village in the East District of Delhi and it is a naturally grown settlement with an organic layout. This is one of the biggest and most densely populated urban villages in the district. The village is around 400-500 years old covering an area of 45 acres. The population of Seelampur has increased from 5794 in 1971 to 35184 in 2011 i.e. an increase of almost six times with a population density of 1550 person/sq.km.

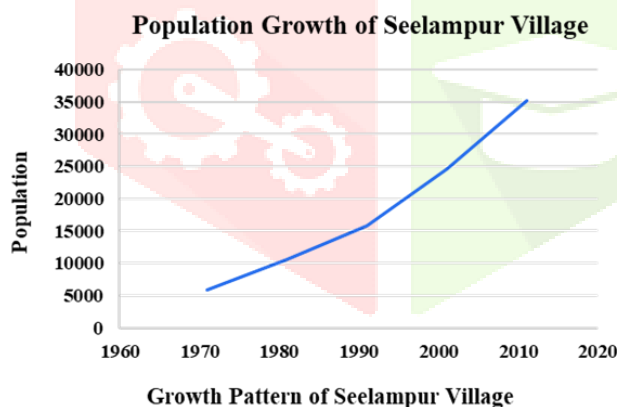


Figure 8 Growth Pattern of Seelampur Village
Source: Census Handbook, 2011

Seelampur was notified as an urban village in the year 1966 under section 507 of the Municipal Corporation Act of Delhi. It is one of the manufacturing hubs in Delhi, where garments, toys, automobile parts, bags, shoes, needles, furniture, and incense sticks are made. It is the biggest e-waste (dismantling-recycling-selling)

market in Delhi. Also, the waste cloth market is in Seelampur. 50% of the people are dependent on these small-scale industries for their livelihoods. 47% are dependent on dairy farms and rentals, and 3% are public servants or doing private jobs.

A huge number of tiny dwelling units have emerged in the urban villages as they are mostly occupied by poor and migrant laborers. 30% of the buildings have been built in these Urban villages during the last ten years increasing the built-up density and decreasing the open spaces. Also, the household size has increased from 5 to an average of 10. The number of buildings is 2658 and dwelling units are 5864. The predominant land use is residential about 56% i.e. 25 acres out of 45 acres. The green area is only 1% i.e. 0.54 acres.

Housing Condition and Circulation Pattern:

The total dwelling units in Seelampur are 6648. Poor housing conditions and unhygienic living conditions. Also, the roads are encroached by two-wheeler parking lots further reducing the passage width which gives access to many dwelling units. Structural strength: Built and designed by contractors without prior structural analysis or approval of the authorities and construction techniques. Average height of buildings: It lies between 9m-10m. 72% of buildings i.e. 1604 are G+ 4 (5 stories) and most of the buildings are more than G+2.



Figure 9 Congested and narrow passages of Seelampur

The Road Network is organic and unorganized in the urban village. The availability of road area per person is only 0.5 sqm. The minimum road area as per the standards is to be 20% of the developed land area where as it is 9.3% in the case of Seelampur. The width of the village motorable road is 3-6 m and all roads are cemented. There is no adequate space between houses, narrow streets are mostly paved with open drainage.

Physical Infrastructure:

Water is supplied two times in a day, morning and evening through supply lines. Water supply is not sufficient due to the increased population pressure. Seelampur consists of a proper sewerage system but due to the increase in the population, the load on the sewerage system increases which results in choking. Drains are either not present or open drains with poor condition exist. Choking of drains and extent of water logging in case of excessive rain. There is no proper area which is defined for dumping the garbage. Collection of waste is not done properly; open spaces are used as dumping sites. The dumping of garbage creates a very

unhygienic condition for people living there. There is a 15-20-hour electrical supply in this village. Illegal tapping of electricity from the nearest transformer or electric pole. Wires haphazardly run along the streets, also transformers are installed along the streets.



Figure 10 Physical Infrastructure of Seelampur Village

▪ **Social Infrastructure:**

The village of Seelampur consists of Primary and secondary government schools. No. of schools are not sufficient as per the population growth of the village. No hospitals or government clinics are provided in the village, the market area consists of some small private clinics. The open and green spaces in Seelampur are not sufficient to cater to the population. These are ill-maintained there are no functional parks or open recreational spaces for the public in the locality.

▪ **Environmental Condition:**

The supplied water is not drinkable but due to irregular supply and complete lack of water they are forced to use it or people use filters. Seelampur is the biggest e-waste market, which creates environmental issues. It faces several environmental challenges that can have significant impacts on the health and well-being of its residents as well as the surrounding areas.

Conclusion and Recommendations

Urban villages in Indian cities grapple with a plethora of infrastructural challenges, intensified by their juxtaposition with well-developed colonies. These villages endure severe population pressure, resulting in haphazard construction and overcrowded living conditions. The low literacy rates prevalent in these areas lead to a lack of awareness about civic responsibilities and modern construction practices, exacerbating infrastructure issues. High population density and larger family sizes contribute to limited living space per person, further straining the existing infrastructure. The uncertainty of property taxes and widespread illegal encroachments complicate urban governance, while unaccounted land deals hinder effective urban planning.

Moreover, urban villages often lack basic civic amenities such as clean water, electricity, and sanitation, which severely affect the quality of life. Structural weaknesses in buildings, narrow lanes, poor drainage and sewage systems, and unorganized waste disposal pose significant safety and health risks. Rapid urbanization has led to a reduction in green and open

spaces, threatening the ecological and cultural fabric of these communities.

Recognizing the importance and context of each village, it's essential to account for various aspects such as location, background, traditional and cultural practices, and local organizations in the planning process. The loss of agricultural land to urbanization leaves villages vulnerable, and unable to cope with the impact and allure of monetary gains.

Addressing these infrastructural challenges in urban villages requires all-encompassing advancement that involves urban planning, infrastructure development, policy interventions, community engagement, and investment in basic services. Municipal authorities, government agencies, non-governmental organizations, and community stakeholders need to work together to develop sustainable solutions that improve the living conditions and infrastructure in urban villages while promoting sustainable urban growth.

Here are some recommendations:

Develop integrated development guidelines that harmonize the urban village with the surrounding urban area, ensuring it becomes an asset rather than a crumbling settlement. Establish clear property tax regulations and streamline land deal processes to minimize illegal encroachments and enhance urban governance. Implement robust legal frameworks to protect the rights and properties of village inhabitants while promoting responsible urban development. Invest in essential amenities such as clean water supply, reliable electricity, and proper sanitation facilities to improve the quality of life. Upgrade drainage and sewage systems to prevent health hazards and improve living conditions. Increase literacy rates and awareness of civic responsibilities through targeted educational programs. Promote modern construction practices and emphasize the importance of infrastructure maintenance. Protect and enhance green and open spaces within urban villages to maintain ecological balance. Preserve heritage areas and integrate cultural practices into urban planning to retain the unique identity of these villages.

Foster collaboration between local authorities, community organizations, and residents for planning and implementing sustainable solutions. Encourage community participation in decision-making processes to ensure development plans align with the needs and aspirations of the inhabitants. Develop programs to economically empower residents through skills for local businesses. Strengthen social relationships within the community by promoting local organizations and initiatives that enhance social cohesion.

Urban villages can be transformed into sustainable and well-integrated parts of the city by adopting these recommendations. This transformation will improve the quality of life for residents while preserving the unique cultural and ecological identities of these communities. Identifying and evaluating key indicators and factors provide valuable information for policymakers, facilitating effective and inclusive urban planning and development.

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