

Transformation of Urban Villages, Delhi

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Abstract—Rapid urbanization has led to urban centers witnessing explosive growth in recent times. Census 2011 pegs the population of Delhi at 17 million – that’s an impressive growth rate of 55% during 1991-2011. To accommodate the ever-growing population, the city limits were expanded time and again resulting in many small villages/settlements (Abadi) on the fringes of Delhi being engulfed into the Municipal limits. The agricultural lands surrounding the Abadi were acquired for the planned development. The Abadi area was demarcated with red thread popularly known as Lal Dora, which was exempted from any building bye laws. Unregulated construction driven primarily to satisfy commercial needs led to haphazard growth in these settlements. The paper intends to study the transformation that took place in these settlements from the time they were classified as urban villages. Change in physical, social and economic factors have been considered as parameters to study the transformation. The case study chosen for the study are two urban villages of Delhi, Dhul Sirus and Katwaria Sarai.

1. INTRODUCTION

Delhi accounts about 0.05 per cent of the India’s geographical area but consists 1.39 per cent of the nation’s population.¹ The National Capital Territory(NCT) of Delhi covers an area of 1,483 km², of which 1114 km² is designated as urban, and 369 km² as rural. It has a length of 51.9 km and a width of 48.48 km. At its largest extent, there is a population of about 1.68 crore residents as per census 2011. Set on the both sides of River Yamuna, Delhi is seen as one of the fastest growing cities in India.² With the rapid pace of urbanization, rural population and area is continuously decreasing as confirmed by successive Census Reports. The growth in urban area during 2001-2011 was observed at 20.44 per cent. This pace of urbanization has reduced the number of rural villages in Delhi from 300 in 1961 to 165 in 2001 and 112 in 2011. The number of urbanized villages has increased from 20 in 1961 to 135 in 2011. The number of census towns has increased from 3 in 1971 to 29 in 1991 and 110 in 2011. Thus, more and more rural villages of Delhi are being declared Census Towns in each successive Census resulting in decreasing rural population and rural area in Delhi.³ Addition of 89 rural villages were notified as urban villages in 2017.

The unplanned growth coupled with market forces, has resulted in physical, social and economic disintegration of settlement from the surrounding urban fabric. Master Plan of Delhi(MPD), 2021 has recognized that villages have

undergone significant physical and functional transformations related with their specific location. Villages are characterized by a mix of different land uses and have similarities in compact built form, narrow circulation space and low-rise high-density developments. These mainly accommodate residential, commercial and industrial uses and function as a mix use.⁴

2. URBAN VILLAGE AND LAL - DORA

The term 'Urban Village' first appeared in the MPD in 1962, to be used for those villages in the urban fringe of Delhi, where rural type of small-scale industries was to be located.⁴The framework behind this term lay in the European concept of urban villages around a city where rural or related activities has been planned to serve the main city. Thus, according to the Master Plan, the Delhi Development Authority (DDA) proposed the development of twenty-three urban villages to serve the purpose.⁵ MPD 1962 proposed twenty-three villages to be developed as the growth Centre. The proposal soon got evaporated and instead, no such development ever happened. At present, these villages are known as “Urban Villages”. These urban villages are enveloped by the planning limits of the DDA. Once agrarian settlements have now given to the market forces of the surrounding planned development leading to haphazard growth, illegal and unsafe construction activities, absorbent land value, gentrification, lack of open spaces, insufficient infrastructure, degradation of environment and overall in some cases slum like conditions.

The villages have two physical components, Agricultural and Abadi (Habitation) area. The abadi area administered by Gram Panchayat and is collection of number of houses at one place which are occupied by persons living in common constitution. The land earmarked for village abadi and the agricultural land of the village were duly demarcated in the land settlement of 1908-09 and the abadi site was circumscribed in the village map in red ink. That is how it came to be commonly known as Lal Dora. The land falling within Lal Dora is not assessed to land revenue. Those falling outside the village abadi (Lal Dora) are meant for purpose connected with agriculture and are subject to Land revenue.⁶

Rural villages that fall within the urbanisable limits as per Master Plan of Delhi are declared urban u/s 507 of the Delhi

Municipal Cooperation Act(DMCA) through notification issued by the Govt. of NCT Delhi. The legal consequences of urbanization of a village is that the provisions of Master Plan/Zonal Plan/relevant Area Development Plan/Building Bye-laws become applicable and the provisions of the Delhi Land Reforms Act ceases to operate as per the provision u/s 1 (2) of the said Act. The moment, a village is declared urban u/s 507 of DMCA, Lal Dora ceases to exist.⁷

These urban villages form very distinctive spatial and social spaces as they are spatially enclosed by formally planned and developed urban built-up areas which are designed for urban functions and lifestyles (figure 1).⁸

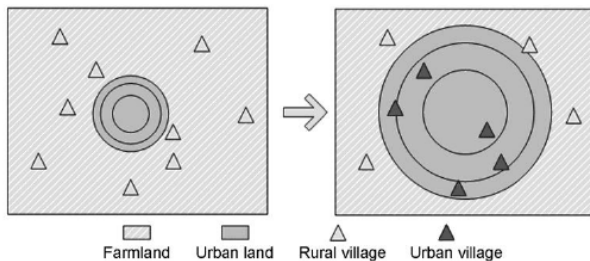


Figure 1: The transformation of rural villages to urban villages

3. APPLICABLE BUILDING BYELAWS

In 1908 - 09 Revenue settlements was done for the first time and at that time Lal Dora areas were refined. In 1955, Delhi Land Reforms Act was enacted and enabled the extension of the abadi areas for essential utilities, this extended area was demarcated by new boundary called phirmi. In 1957, DMCA exempted lal dora from building bye laws. In 1977, Ministry of Urban Development, via an order regularized unauthorized colonies, extending to Lal Dora. In 1983, DDA Building Byelaw stated Construction in Lal Dora areas are not required to obtain completion certificates or fire safety certificates before occupying buildings. In 2011, Notification for enforcing the building bye laws for urban village. Master Plan 2021 laid down norms for these villages to be governed by special regulations. For villages notified as urbanised, any construction has to be carried out in conformity with the building by-laws of the local bodies and Master Plan of Delhi, 2021. Land Pooling Policy covers the greenfield areas in 5 zones — J, K-1, L, N and P-II under the MPD 2021.

Under the Land Pooling Policy, 60% of pooled land would be returned to owners after infrastructure development, if the pooled land is 20ha and above and 48%, if the land pooled, is between 2-20 ha. of the 60% of returned land, 53% will be for residential, 5% for commercial use and 2% for public and semi-public use.

Delhi Village Development Board (DVDB), to look after civic works in both rural and urban villages in the National Capital. The DVDB to look after construction of approach roads, link

roads, village roads, development of ponds and water bodies, development of cremation grounds, parks and other facilities.

4. TRANSFORMATION OF URBAN VILLAGES

Urban growth has led to urban sprawl of metropolitan areas and in this phenomenon many villages get absorbed within city limits. The abadi areas are left unacquired like islands, surrounded by planned development. Our villagers had by and large been traditionally living on agriculture and agriculture-related activities. The situation changed with large-scale acquisition of their fields and farms by DDA for planned development of Delhi. With loss of their fields and farms and space for agriculture-related activities, the villages lost their traditional ambience. The villagers, restricted within the confines of Lal Dora, lost their age old traditional agricultural-cattle based livelihood.⁹

As mentioned by R Ramachandran, Land use change is the biggest expression of development - The fringe is an area of transition of mixed urban and rural land use where city services decline and agricultural land use predominates. The city influences land use on the fringe. The fringe areas see rapid development, massive displacement of agricultural functions and invasion of non-agricultural land use. Land shortage in urban area leads to skyrocketing land costs, distorted real estate market, steep rise in rentals, lack of access to land for economically weaker sections and migrants. The delivery of developed urban land is not only sluggish but its high cost makes it unaffordable.¹⁰

The transformation of rural to urban areas is common among the fringe villages. The villages in the rural-urban interface can be put under three main phases of transformation¹¹:

- *Pre-transition stage*: where the village is close to urban extension areas a gradually starts changing character.
- *Transition stage*: where the village comes under the urban extension area and is characterized by very high sub-division outside lal dora (the legal line dividing built-up and agricultural land uses in a village) and as a result the agriculture domain diminishes, population increases with many urban and rural immigrants and the land values start showing increasing trend.
- *Post-transition stage*: where the villages in close proximity to surrounding planned development gets transformed and almost becomes part and parcel of

urban areas with increasing inter dependencies on each other.

The physical, social and economic transformation that takes place once the villages are urbanized has been explained with case of Katwaria Sarai and Dhul Sirus village.

4.1. Katwaria Sarai Village

Katwaria Sarai village is one of the oldest settlement of south Delhi, located in the sub zone F 11 of zone F of Delhi. This is

one of the non-conforming villages listed by the MCD as urban in 1968. The village is surrounded mainly by institutional areas. It lies to the west of the Jawaharlal Nehru University campus and to the south of the Indian Institute of Technology(IIT) Campus. During the time of the land acquisition in the year 1962, which was the first phase of acquisition under the MPD 1961, the land was primary acquired for the use of IIT campus.

The village with an area of 13.77 hectares and a population of about 38000 at present, was urbanized in 1961. The village was inhabited by Jats. Cultivation was the main occupation of the villagers prior to the acquisition of the land. The land was acquired in two different phases. The first phase of acquisition was done for the IIT campus and then under the next phase of bulk acquisition was for housing scheme of the DDA.

4.1.1. Land use distribution of Katwaria Sarai Village

The land use data has been calculated as per the development plan provided by MCD for the village Katwaria Sarai. Despite a decrease in its share, the residential component is still the major portion of the land use structure. The main reason for this has been that most of the tenants in this village are residing there for residential purpose as many of them are students of various universities like JNU, IIT or south campus.

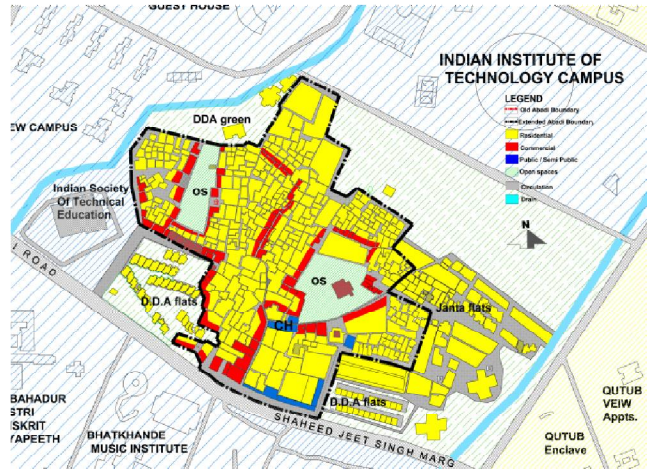


Figure 3: Land use, Source: Primary survey, 2011

With the changes in the traditional setup of the area the percentage of community facilities has decreased over the decades, as more and more of area has been taken up for new developments the area reserved for such facilities are getting reduced.

It also should be noticed that the area dedicated to circulation has been constant since 1968. This is one of the negative aspect of the village, since this percentage of circulation was adequate for that time but in today’s scenario where each house has an average of two cars and a two-wheeler, this space is not enough. The internal roads are hence not being able to cater the present pressure of the population there. And to add on to this problem, many of the residents have even slowly and

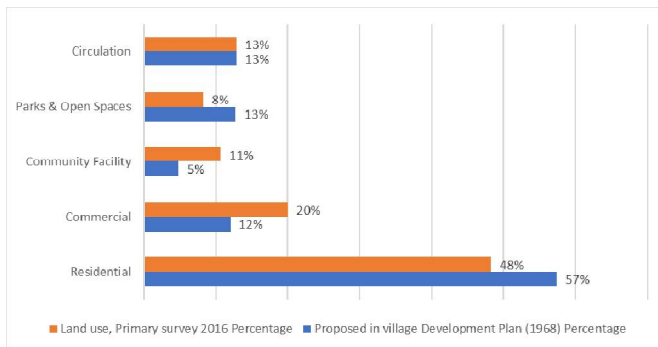


Figure 2: Comparison of Land use distribution between 1968 & 2016, Source: Village Development Plan, MCD, (1968) & Primary survey 2011

Although commercial land use in lower than that proposed in development plan but the provision of mixed land use in MPD 2001 and 2021 and with the notification of streets for commercial component is the next in the hierarchy of land use pattern of the village.

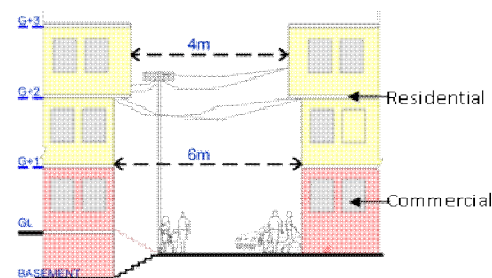


Figure 4: Sketch of street section, Source: Primary survey

slowly encroached the land of the roads and made them a part of their plot folding.

4.1.2. Population

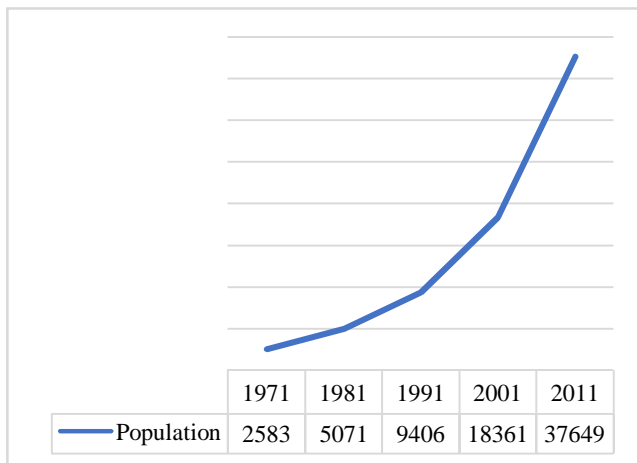


Figure 5: Decadal growth in Population, Source: census of India

The population size of the village has approximately doubled in last decade.

4.1.3. Household Profile

The maximum family size in the area have between 3 to5 family members, showing that, joint families which was used to be the traditional family type has been faded away over time.

4.1.4. Occupational Pattern

The data shows that presently among the residents of this village the maximum people are service based. They are not pursuing any of the primary activities as of now. Also, majority of the tenants living in this village are literate and mostly either employed in some kind of private or public enterprise or are searching for job opportunity.

4.1.5. Tenant Preferences

The data referring to choose by owner to lent out space, people here mainly prefer to give out their property to the renter for residential purpose. And the main reason to choose this location is due to work proximity, it is a very well-connected area. Other than that, the affordability criteria are also considered.

4.1.6. Building Height

Because of its favorable location Katwaria Sarai enjoys the benefits of cheap rental values for property due to which students from the nearby universities come and reside here. This phenomenon has been continuing from the past two decades. This large proportion of influx of people to reside there forces local people to higher and build as much space as they can to give it on rent which will mainly help them in profit maximizing. As it is clear from the analysis that there is maximum number of G+3 Category of building which is mainly for rental purpose.

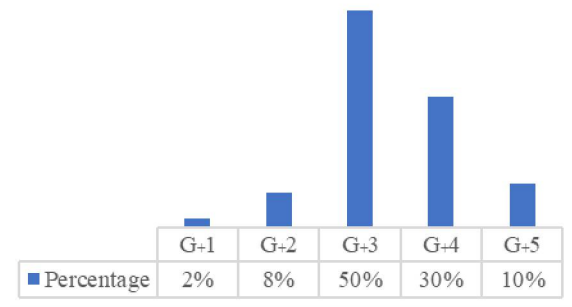


Figure 6: Building Height, Source: Primary survey, 2011

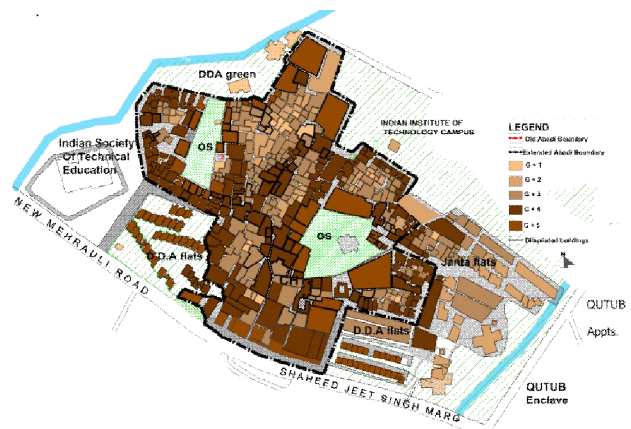


Figure 7: Building Height, Source: Primary survey, 2011

4.1.7. Structural Conditions

All the houses in the village are at present permanent structure i.e., made of brick and concrete (as per definitions in Census 2001). Over a decade it has been observed that the owners have in fact reconstructed their houses and made them higher storied structure of as to gain maximum income from their plots in the form of rent.

4.2. Dhul Sirus Village

Dhul Sirus is a small village located in Sector 24 of Dwarka sub-city of Delhi. Dwarka Sub-city has been planned as a major urban extension for a population of a million persons, with major commercial and institutional zones and high connectivity with major arterial roads, metro-rail, and railway lines. The major environmental feature of the area is the Najafgarh Drain towards the west of the village.

The Dwarka Development Plan shows the village to be embedded within a metropolitan green in the immediate vicinity and bordered by Sectors 25 & 26, proposed as Integrated Freight Complex. Sector 24, itself, has locations for 2 proposed major hotel sites and a golf course. A substantial area in the Sector is earmarked for Master Plan greens, which include an off-channel depression proposed to be developed as a large water body.

The village has a unique location in that it is not in direct physical contact with any of the proposed developments or major adjacent roadways and also likely to be the last village to be affected by them - other villages closer to the proposed developments would respond to them earlier. The village has a well-defined rectangular area demarcated by the village 'phirni' [peripheral road].

4.2.1. Population

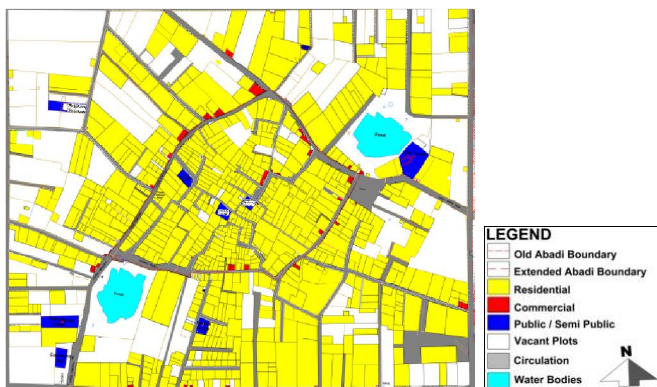
The total population of Dhul Sirius is 2222 persons (Census 2001), showing a decadal growth rate of 22.42%. The decadal population growth rate has been decreasing because of the shift of people to the city for better job opportunities and higher studies.

4.2.2. Land use

Dhul Sirius village can be classified into core abadi area and extended abadi area, which developed much later. Presently, the village has total of 886 plots. The core of village has a high point with an elevation difference of 3-4 meters from old phirni road, due to which there was shortage of water facility in the center and thus people shifted out to their plots in the outskirts. The recently received compensation money has given a thrust to construction of new houses in the extended abadi area. Expansion and renovation of old structures is another activity. The following table gives the detailed picture for the village in the present context.

Table 1: Land use Distribution

Land-use	Total Village	
	Area (ha.)	Percentage
Residential	13.43	45.4
Commercial	0.12	0.3
Public/ Semi-public	0.37	1.3
Vacant plots	8.56	29.2
Circulation	5.65	19.2
Water-bodies	1.36	4.6
Total	29.49	100



Source: Revenue Map, 2004

Figure 8: Land use Plan, Source: Integrated Village Development Plan 2005, DDA

4.2.3. Population

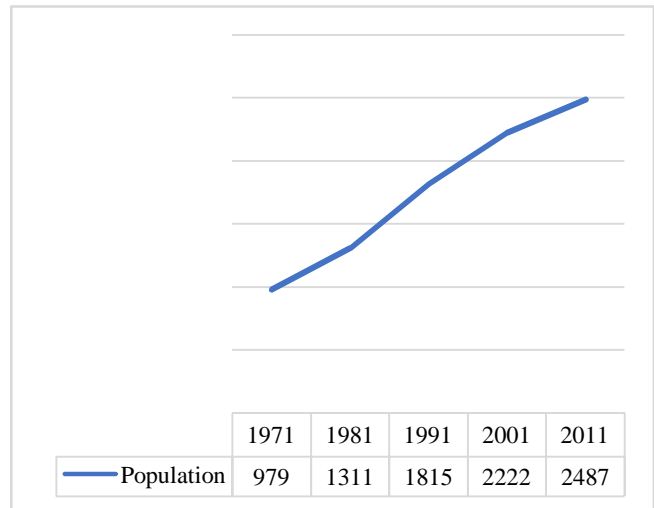


Figure 9: Population Details, Source: Census of India 1971, 1981, 1991, 2001, 2011)

Based on electoral rolls the 2005 population of the village was 2330 persons i.e. Total numbers of household in the village were around 333 with average household size as 7 persons per family. The Household Surveys for 2011 revealed that the surveyed population are village residents for generations. Also, marginal out-migration among the younger generation is observed in past five years for higher studies and better opportunities.

4.2.4. Occupational Pattern

Trends of development in urban villages have witnessed a phenomenal change in the occupation structure. The development activities show a change from primary to secondary and/or tertiary activities.

The major occupation of residents of Dhul Sirius has changed in the last two decades. The concept of marginal workers is introduced in economics of Dhul Sirius in the year 1991 forming 0.23%, which is now increased as the agricultural land is acquired by DDA for Dwarka Sub – City and the peasants are rendered landless. Within the category of the main workers one can notice the trends of urbanization as a shift in the occupational pattern is observed. According to Census 1991 nearly 70% of the population was employed in agriculture land allied activities while in 1991 only 22.4% of the working population is employed in the Primary activities. There is a marked fall in primary sector, employing 70% of the population in 1971 to 22% in 1991. Today nearly 80% of the working population is occupied in the non- primary activity, although the agricultural lands were still ploughed. (Source: Census of India 1971, 1981, 1991).

According to primary survey the occupational structure of the village before acquisition of land shows that 47% of the population was engaged in primary sector activity, 23% was

service class, 20% had shops, 7% people were dairy farmers and 3% were agricultural labor. There is change in the occupational structure of the village in past three years i.e. after acquisition. The primary survey shows that 40% of the working population is cultivating on the acquired land, 30% of the working population works as daily laborers in the manufacturing sector near Palam or Najafgarh, 10% of working population works in government jobs, another 5% own or work in shops, the last 15% of the working population works in the tertiary sector as bus drivers or even seeking employment at present. After acquisition the population that is rendered unemployed are the landless laborers. These laborers are now seeking employment in the neighboring villages or in the city area as construction laborers. The present occupation structure is expected to further change as the area urbanizes.

4.2.5. Land Acquisition Compensation Money

All landowning farmers have received compensation. They have invested the compensation money in varied uses. Out of the beneficiaries, money was used for invested into construction of houses, marriage of children, bought land while few invested in property and the rest deposited in bank.

4.2.6 Building Heights

Presently, most constructions are single-storied in the village. The village is still largely unaffected by proposed developments and as such there is little movement towards vertical development. The following table shows details of building height and number of plots:

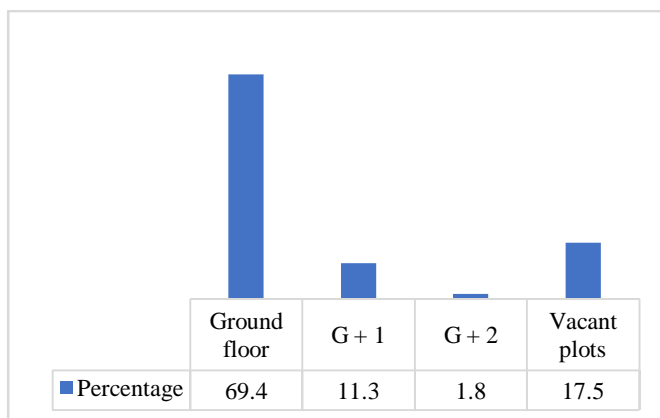


Figure 10: Plot Distribution Based upon Number of Storey, Source: Primary Survey

In old abadi area the dominant height is still ground floor. Many plots of a fairly large size in extended abadi area are still un-built.

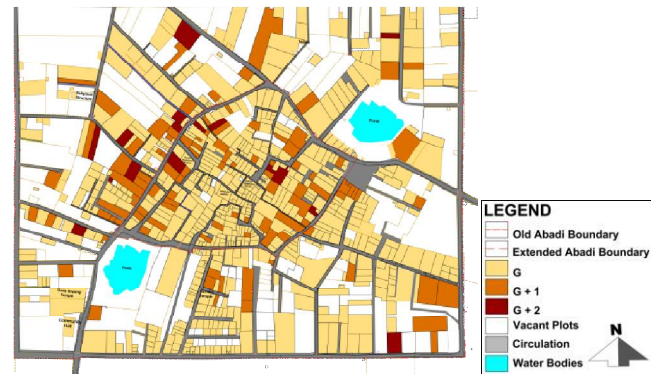


Figure 11: Building Height, Source: Integrated Village Development Plan 2005, DDA

4.2.7 Structural Conditions

Majority houses are permanent houses, i.e., made of brick and concrete, negligible number of houses are semi-permanent and there are no temporary, houses in the Village. Compensation money has enabled the villagers to undertake alterations/renovations of their houses but the core abadi area still has some old structures built with lime mortar and small bricks.

Dwarka comes under seismic zone IV, i.e., structures in the area should be designed to withstand earthquakes of 8.0 intensity on the Richter scale. Thus, structures here are vulnerable to earthquake damage and are situated in a high-risk zone. Recently obtained compensation moneys are being utilized for new construction and renovation of existing buildings but the concept of utilizing the services of structural consultants and/or building in accordance with structural design codes is entirely unknown. According to a structural engineer in case upper storeys are built on present 'pucca' structures they should be limited to two storeys. If higher construction is planned then the structural codes should be followed and the ground floor retrofitted.

5. CONCLUSION

In case of Katwaria Sarai residential density in some part is very high with G,5 structures. Commercial component is high in the peripheral areas of the village, since the road is about 18' and is listed in the mixed land use street in the Zonal development plan Zone 'F'. Circulation space in the village is still through narrow streets of 4-5m. Due to the favorability of this area as a low rental accommodation, land owners have constructed structures of G+4/5 in the last 10-15 years. This change in the building heights has resulted in drastic change in the structural characteristics of the village as now more than 90% of the structures are above G₁. Almost all the plots are build back to back with no setbacks and 100% coverage which leaves no scope for ventilation and healthy living. The potential of the historic buildings in the village if channeled properly can help in village becoming the tourist attraction.

In Dhul Sirus, the agricultural land was acquired by DDA fourteen years back and compensation money had rendered the villagers affluent. The villagers who received compensation after the acquisition of agricultural land had invested in construction of kothis especially in the extended abadi area. People are looking forward for rentals as major source of income in the future. Presently, dominant land use is residential and transformation i.e. from residential to commercial is marginal, most of which is observed along the old phirni road. Also, the village has large parcels of Gram Sabha Lands - parts of which are encroached. Circulation pattern of the village needs to be upgraded. Besides this there is a need to generate parking spaces in the village. The standard of infrastructure available in the village is low and inadequate & will have to be augmented for the projected population.

The above-mentioned issues are prevalent in most urban villages of Delhi. The improper implementation of the government policies has led to the physical distinction between the surrounding planned neighborhood and urbanized villages. The piece meal approach towards development of these settlements has been of little help. Village Development Plans concentrate on the physical aspect of the development, whereas wholistic idea of development (social, economic, environment) is not dealt with. The tangible and intangible heritage of many villages can usher path of the positive development and can provided alternate livelihood to many. The integrated development of these villages can only be realized through inclusive planning followed up with proper implementation- else these areas will never cohesively integrate with the surrounding planned urban fabric.

6. ACKNOWLEDGEMENTS

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