Urbanization and Spatial Manifestation of Substandard Accommodations
A Case of Census Towns in Trans-Yamuna Delhi

Rajesh Kumar Abhay
Department of Geography, Dyal Singh College, University of Delhi, New Delhi
Email: rkabhay@dsc.du.ac.in

ABSTRACT

City is a place that provides number of opportunities for socio-economic development, better facilities for education and health, and space for prosperity. Housing is one of the important basic requirements for the human survival particularly in urban areas where more than 50 percent of world population lives. However, at the same time, cities are unable to provide adequate and affordable housing for all who join cities for various purposes. Consequently, poor and lower-income people tend to accept to live in the substandard poor quality housing. The present study is conducted in the Trans-Yamuna part of NCT-Delhi comprising of two districts with 22 Census Towns, experiencing rapid growth of newly built infrastructure. Looking at their urban growth, the houses are poorly constructed which are neither sustainable nor durable. The paper evaluates the housing condition in the selected Census Towns going to pose a serious threat to the sustainable urbanization in the administrative capital of India, and to achieve sustainable development goal-11 on sustainable cities.

Keywords: Urbanization, Housing, Dilapidated Housing, Basic Amenities, Census Towns

1. INTRODUCTION

Urban economic system has an important role for the country's development. In addition, they contribute in improving the standard of living of its citizens. Cities generate over 80% of global GDP even though they cover only 3% of the Earth's total land surface area. A city is a place that provides number of opportunities for socio-economic development, better education and health facilities and space for prosperity. However, at the same time, cities are unable to provide sufficient housing for all who join cities for various opportunities and development.

Urban housing is one of the important basic requirements for the human survival. It not provides social and economic security but also an indicator of status in the society (Dwivedi, 2007). Due to inadequate and unaffordable housing, poor and lower-income people tend to accept to live in the substandard poor quality housing and sometimes in slums also. This is a common phenomenon all round the megacities of the world whether it is Benin, Beijing, Mumbai or Delhi. Actually, housing is an essential condition of people's well-being in terms of basic need. The United Nations has also adopted it as a basic human right. Deprivation in

housing condition is measured by the absence of facilities that are necessary for maintaining a minimum standard of quality of life.

The present study will look into the process of urbanization in Census Towns of Delhi, experiencing rapid growth of newly built infrastructure. These are emerging centres of growth. The present study is conducted in the Trans-Yamuna part of NCT-Delhi comprising of two districts with 22 Census Towns. Looking at their urban growth, the houses are poorly constructed which are neither sustainable nor durable. Further, the unaffordable and inadequate housing is forcing people to adopt substandard accommodations characterized with lack of basic amenities. The paper evaluates the housing condition in the selected Census Towns going to pose a serious threat to the sustainable urbanization in the administrative capital of India, and to achieve sustainable development goal-11 on sustainable cities. The objectives of this is to evaluate the growth of urban population in census towns, and to analyse the spatial manifestations of substandard accommodations in the Trans-Yamuna Delhi.

2. CONCEPTUAL FRAMEWORK

2.1 Urbanization and Substandard Accommodations

Urbanization is process of growth of towns and cities mostly occur at the expanse of rural area. In the process, people moves from rural to urban centres in search of opportunities like jobs and to seek better quality of life and over time population of urban area increases. Urban areas provide a wide variety of accommodation to its citizens and these ranges from individually owned to rented plots/flats/ apartments etc. Due to inadequate and unaffordable housing, poor and lower-income people start living in the substandard poor quality housing structures. Urban areas also manifest slums and sometimes-homeless population. In this way, substandard accommodation has become a major feature of mega cities of world in general and Indian cities in particular.

Substandard accommodation is the grim reality of Indian mega cities. Weick (2014) defined those accommodations as substandard where housing conditions do not meet the human requirements. Furthers, it has been stated that in substandard accommodations, housing conditions are not up to the national or regional standards and significantly lack subjective well being and characterized with deprivation and social exclusion. However, there is no formal definition of substandard accommodations but Indian census termed it as dilapidated households. These dilapidated homes are the decayed shelters (DCHB 2011; Abhay and Sharma, 2023). Dilapidated means in a deteriorated shape of the home that lack repair and continued investment for its maintenance. Slums also represent substandard form of accommodations. Harris (2009) defined slum as a residential area characterized with substandard housing with

poor services, overcrowded, unhealthy, unsafe and socially undesirable. UN-Habitat (2007) defined slum as "a heavily populated urban area characterised by substandard housing and squalor". Therefore, based on above discussion it is clear that substandard accommodations are unfit, unhealthy and socially unacceptable from living perspective.

2.2 Urban Classification in India

Indian census identifies those areas urban as which fulfils criteria of municipality, corporation, cantonment board or notified towns are committee alongwith with minimum population of 5000, at least 75% of the male working population is engaged in non-agricultural activities, and at least 400 persons per sq km of population density (Census of India, 2011). Further, there are Statutory Towns (ST) and Census Towns (CT). These Statutory Towns gets notified under law by the concerned State/UT Government and have local bodies like municipal corporations, municipalities, municipal committees, etc., irrespective of their demographic characteristics like Vadodara (M Corp.), Shimla (M Corp.) etc. On the other hand, Census Towns are classified into six categories based on their population. Class 1 towns with more than 1, 00,000 population, Class II towns with 50,000 to 99,999 population, Class III towns with 20,000 to 49,999 population, Class IV towns with 10,000 to 19,999 population, Class V towns with 5000 to 9,999 population and Class VI towns with less than 5,000 population.

Further, a continuous urban spread, constituting town and adjoining outgrowths, considered as Urban Agglomeration (UA). An Urban Agglomeration must consist of at least a statutory town and its total population (i.e. all the constituents put together) should not be less than 20,000 as per the 2001 Census, e.g. Greater Mumbai UA, Delhi UA, etc. Another important concept related to urban terminology is Out Growth (OG). It is a viable unit such as a village or a hamlet or an enumeration block clearly identifiable in terms of their boundaries and location. Some of the examples are railway colony, university campus, port area, military camps, etc., which have come up near a statutory town outside its statutory limits but within the revenue limits of a village or villages contiguous to the town.

3. MATERIALS AND METHODS

3.1 The Study Area and Scale of Analysis

The Trans-Yamuna Delhi, known as 'Jamuna Paar' (i.e., across the river Yamuna), is a significant and densely populated region of the National Capital Territory of Delhi. It has diverse demography, cultural heritage, and social dynamics. The region is located on the eastern banks of river Yamuna and divides Delhi into two parts. Geographically, it lies between 28° 51' 54" to 28° 76' 16" north latitudes and 77° 23' 18" to 77° 34' 23" east longitudes. The region is surrounded by two districts, namely, Ghaziabad and

Gautam Buddha Nagar district of Uttar Pradesh in the north, east and south, and river Yamuna in the west (Figure 1). The region consists two districts (Northeast and East Delhi), but now there is one more district, namely, Shahdara, has been created, recently. Due to availability of data, the study focuses on two districts only, i.e. Northeast and East Delhi district. Each district comprises three sub-districts, making a total of 6 and 22 CTs (15 in Northeast district and 7 in East Delhi. The region covers a geographical area of 125 sq km with a total population of 39 lakh (Census of India, 2011) (Table 1). The population density of the region is 31608 persons sq km and according to the Census 2011, among the top 10 most densely populated districts of India Northeast and East district of Delhi lies on first and third number, respectively. The existing literature of knowledge concerning the Trans-Yamuna area, exploring its unique urban development challenges, opportunities, and the initiatives undertaken to address the complexities of urbanization.

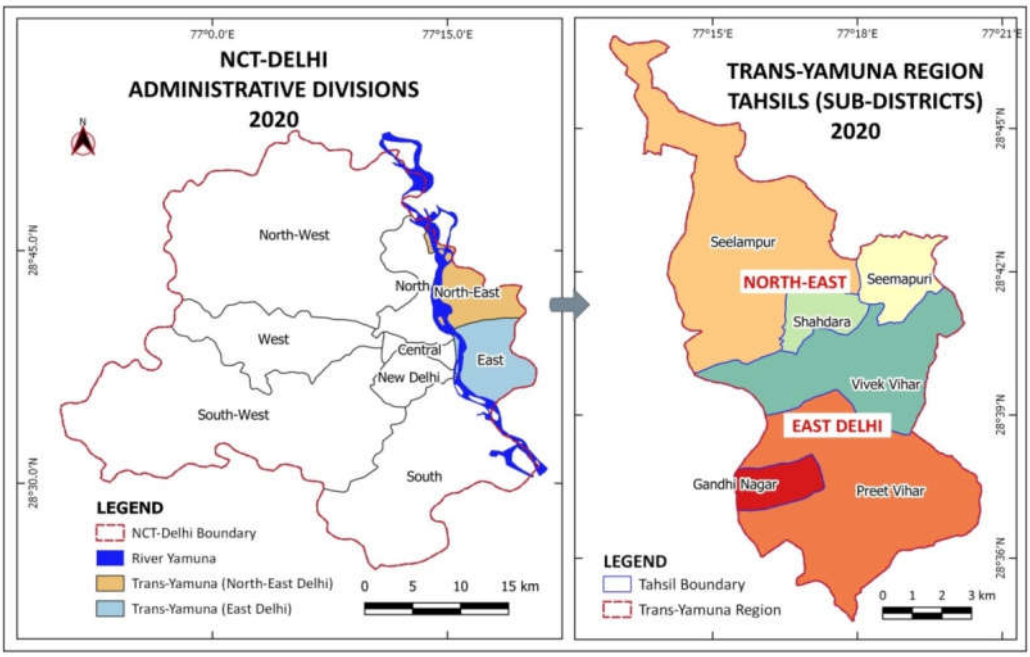

Figure 1: The Study Area: Trans-Yamuna Delhi

Table 1: Population, Area in Density in Trans-Yamuna Region

ID	District	Sub-District	Population	Geographical Area (Sq Km)	Density (Persons/ Sq Km)	CTs
1	East	Vivek Vihar	247,906	21.7	11424	0
2	East	Preet Vihar	1,066,098	36.4	29288	6
3	East	Gandhi Nagar	395,342	4.9	80682	1
4	North-East	Seema Puri	539,914	8.35	64660	1
5	North-East	Shahdara	322,931	5.96	54183	2
6	North-East	Seelampur	1,378,779	47.69	28911	12
	Trans-Yamuna Delhi		**3,950,970**	**125**	**31608**	**22**
	NCT-Delhi		**16,787,941**	**1483**	**11320**	**110**

Source: DCHB, 2011

The scale of the analysis is Census Towns belongs to different classes of towns. All CTs accommodates 14.6 lakh people and share more than 30% population of NCT-Delhi and spread over 507.49 sq km geographical area (34.2% of NCT). The present study covers 22 CTs located in Trans-Yamuna Delhi and covers two districts, namely, Northeast and East Delhi (Table 2).

Out of 22 CTs, five towns are Class-I having population of more than 1 lakh classwise number of towns are shown in Table 2. The total population of 22 CTs is 14.6 lakh and sharing approx. 30% of all CTs. In terms of population, the Karawal Nagar CT is the largest while Shakar Pur Baramad is smallest, located in Northeast district and East district (Figure 3A). In terms of geographical area, the largest town is Mandoli (5.9 sq km), followed by Karawal Nagar (4.8 sq km) and again Shakar Pur Baramad (0.1 sq km) has the smallest area (Figure 3B). Looking at the household distribution, the 22 CTs are home to 274,579 households. The maximum numbers of households are in Karawal Nagar (41116) while least is in Shakar Pur Baramad (297) Census Town (Figure 3C).

Table 2: Class-wise Census Towns in Trans-Yamuna Delhi

Town	Population	Number of Towns	Names of Census Town
I	More than 1, 00,000	5	Karawal Nagar, Dallo Pura, Mustafabad, Gokal Pur, Mandoli
II	50,000 to 99,999	6	Sadat Pur Gujran, Gharoli, Chilla Saroda Bangar, Khajoori Khas, Ziauddin Pur, Jaffrabad
III	20,000 to 49,999	5	Jiwan Pur, Kondli, Gharonda, Neemka Bangar, Babar Pur, Dayal Pur
IV	10,000 to 19,999	3	Mir Pur Turk, Baqiabad, Chilla Saroda Khadar
V	5000 to 9,999	2	Khan Pur Dhani, Tukhmir Pur
VI	Less than 5,000	1	Shakar Pur Baramad

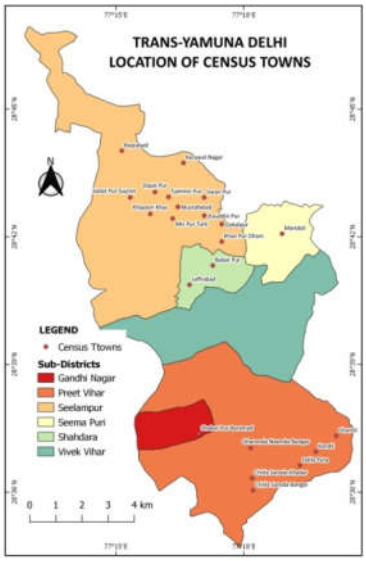

Figure 2: Census Towns in Trans-Yamuna Delhi

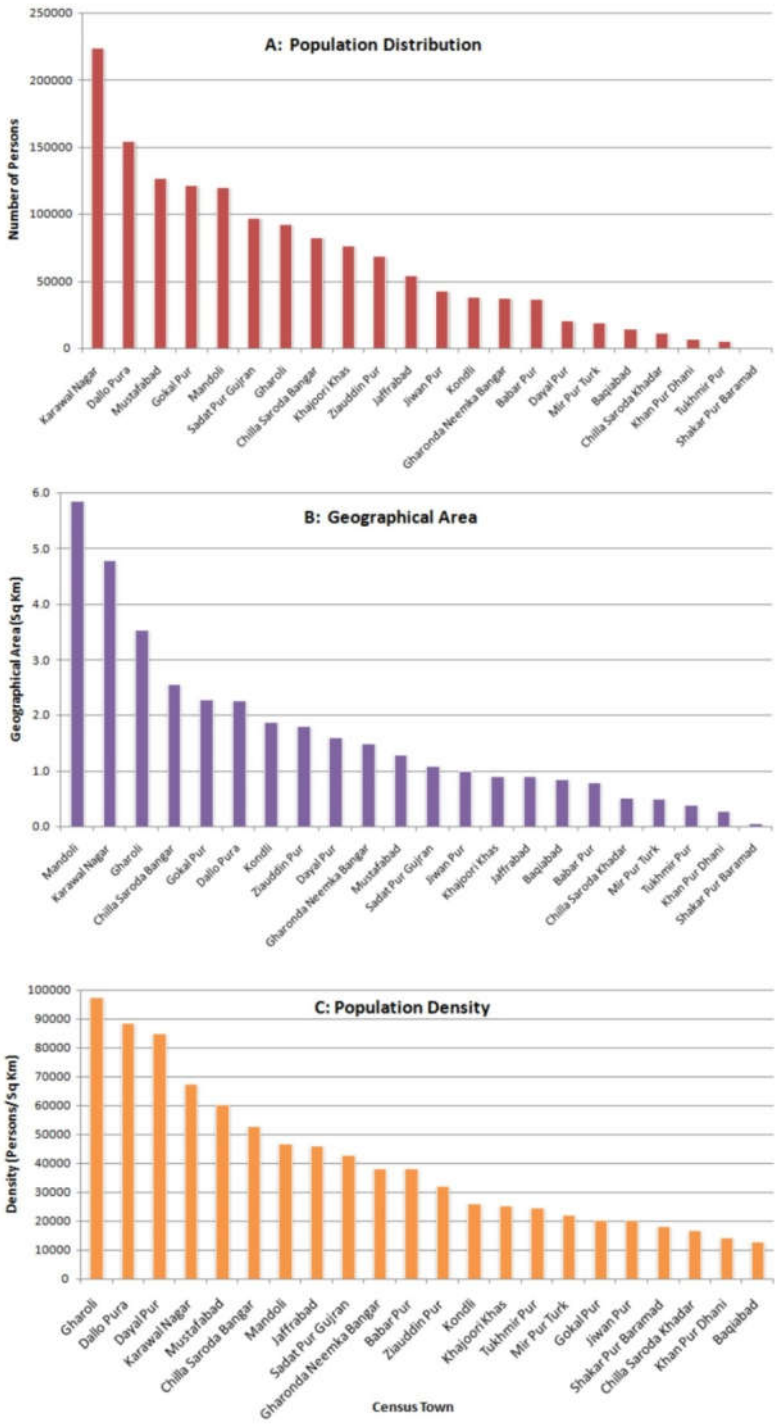

Figure 3: Population, Area and Density in Census Towns, 2011

Source: DCHB, 2011

3.2 Data and Methods

The present study utilises secondary data sources collected mainly through the Census of India. It includes Census data for different years and District Census Handbook of Delhi for the year 2001 and 2011. Further, various literatures available on the study were also collected and used wherever required. The author has also used field-based personal observation and lived experiences to substantiate the arguments.

4. RESULTS AND DISCUSSION

4.1 Population and Urbanization

Out of total 1.67 crore population of Delhi, 4 lakh (2.5 %) reside in rural areas and the remaining 1.63 crore (97.5 %) reside in urban areas. With reference to Trans-Yamuna Delhi, the Northeast district is 99 % urbanized. Out of the three sub-districts, two sub-districts, namely, Seema Puri and Shahdara- are completely urban, whereas in Seelampur sub-district, 98.4 % of population resides in urban areas. In East Delhi district, in census 2001, 98.8 % population of the district was urban which has risen to 99.8% in census 2011. Amongst the three sub-districts in the district, Vivek Vihar and Gandhi Nagar are totally urban whereas the remaining sub-district, Preet Vihar has 99.7 % urban population. The 110 CTs of Delhi share more than 30 % of total urban population of Delhi while Trans-Yamuna Delhi with 14.5 lakh population (22 CTs) share approx. 30% of the total population of the total CTs. Further, these 22 CTs covers an geographical area of 36.8 sq km (Table 3). It shows that 7% area of CTs of Trans-Yamuna region accommodates 30% urban population of all the CTs in Delhi mega city.

Table 3: Population, Urban Population and Geographical Area

Region	Population /No. of CT	Urban Population	%	Area (Sq Km)
NCT-Delhi	**16787941**	**1,668,899**	**97.5**	**1483**
NCT-Census Towns	**110**	**49,66,190**	**30.34**	**507.5 (34.2%)**
Trans-Yamuna Region	**22**	**14,58,042**	**29.36**	**36.8 (7.25%)**

4.2 Substandard Accommodation Manifestations

Dilapidated Housing

Housing is an important component of the built environment. It requires continuous maintenance and repairing. Indian census defines housing condition into good, liveable and dilapidated. In case, if a house do not require emergent repair then it is called good house, if it

requires minor repairs then it is liveable, and if it requires major repairing then it is called as dilapidated housing structure (DCHB, 2011). The dilapidated homes are decayed shelters classified based on the perception of respondents. Lack of sufficient funds for the maintenance reduces the housing quality over the years. It has been seen that percentage of good housing is found in significant proportion of across the CTs, i.e. 65% average in the Trans-Yamuna Delhi) and one-third is liveable (Table 4). Dilapidated housing covers 1.87% of CTs households, which ranges from negligible in Khanpur Dhani to 8.2% in Shakar Pur Baramad CT, located in Seelam Pur and Gandhi Nagar sub-district, respectively. The spatial comparison of CTs in Northeast (average dilapidating housing = 1.5 %) and East Delhi district (average dilapidating housing = 2.7%) suggests that East district has more dilapidated housing, comparatively (Figure 4).

Table 4: Descriptive Statistics of Selected Indicators

Indicator	Minimum	Maximum	Mean	Std. Dev.
Good	12.5	98.5	64.98	16.56
Liveable	1.5	79.3	33.15	15.31
Dilapidated	0.0	8.2	1.87	1.61
Owned	12.1	82.0	67.69	14.61
Rented	1.5	47.3	26.25	9.52
Dwelling Size	7.6	87.7	37.10	14.47
Household size	6.7	57.7	36.55	13.09

Housing Ownership

Ownership over housing is an important indicator to assess quality of substandard-accommodations. The indicator helps to understand that if an area has more percentage of rented accommodations, the more the substandard quality of housing can be projected. It has been seen that rental property owners do not invest in improving the quality of houses as they live away from the houses. A person who lives on rent also does not invest much on the repairing and associated problems. Thus, due to lack of substantive investment towards the housing improvement, the percentage of substandard accommodations can increase over the time. All the CTs have rented accommodations varying from 1.5% in Shakar Pur Baramad to 47.3% in Kondli followed by Chilla Saroda Bangar (45.3%). Spatial representation shows that the rented accommodation are more in CTs of East Delhi whereas owned accommodation are highly concentrated in North-East Delhi (Figure 5). Therefore, there is a positive spatial correlation between dilapidation and rented accommodations. However, there are exceptional case like Shakar Pur Baramad where dilapidation is high alongwith higher percentage of owned housing system.

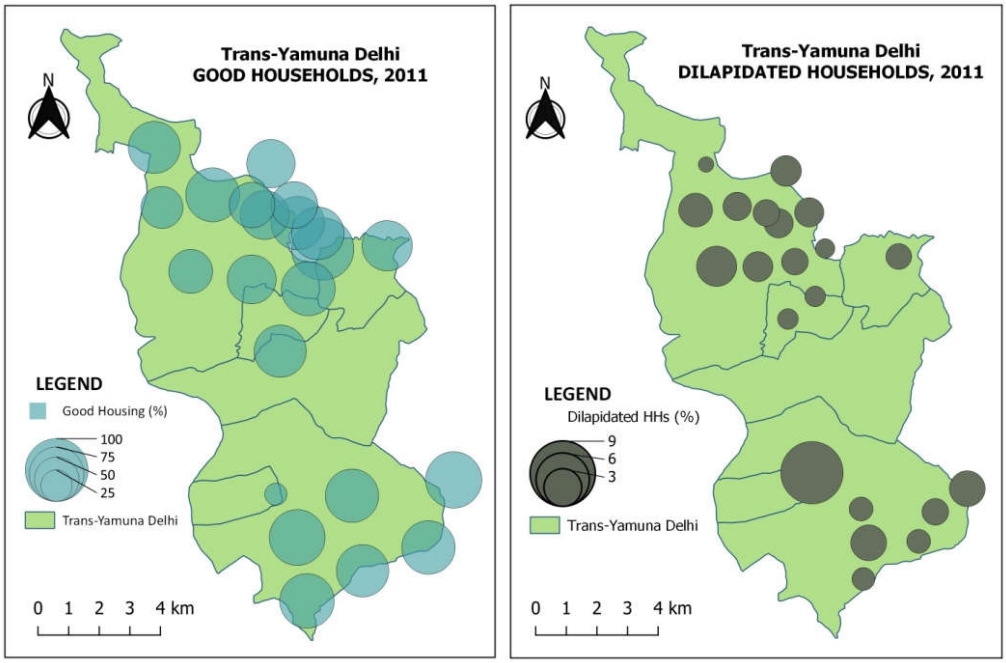

Figure 4: Spatial Distribution of Good and Dilapidated Households in the Study Area

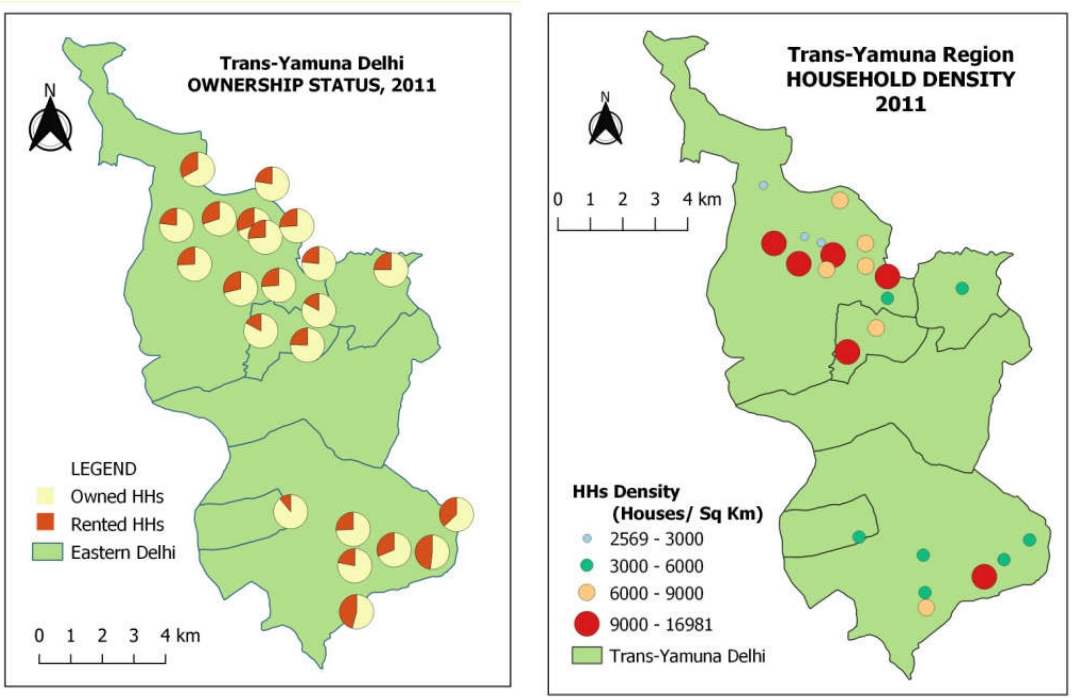

Figure 5: Spatial Disparities in Ownership (left) and Housing Density (right)

Housing Density

Housing density explains the number of households per of area. Higher the number of households per unit of area determines that there is high congestion. Overcrowding is a situation in which large number of people lives in a two little space. It is a result of increasing population in urban areas that is expected to rise. As cities are increasing in their population size due to movement of people, they are squeezed in a small space due to overcrowding. The CTs of Trans-Yamuna regions are also facing similar challenges. On the one hand, the population density for the region is more than 40,000 persons per sq km while on the other hand, housing density is 7639 per sq km. The housing density ranges from 2569 in Dayal Pur to 16981 in Sadat Pur Gujran towns, both in Northeast district. Overall patterns show that housing density is high in CTs of Northeast district (Figure 5). It clearly manifests the magnitude of housing congestion and hints towards poor availability of public amenities. The areas do not have green spaces like parks and lacks in sufficient forest/tree cover, which affects the quality of life.

Dwellings Size

The quality of dwelling depends upon various factors. The dwelling design should be in such a way that it had well ventilated rooms with sufficient light, separate rooms for living and dining, a kitchen, additional room for guests, bedrooms and additional parking space. Thus, there has to be rooms, which facilitate either one specific activity or maybe sometimes-overlapping activities and utilities. It means that there should be flexibility in the design of the dwelling. However, it is a recognised that larger the dwelling size have implications related to its maintenance cost and ultimately sustainability (Kurian and Thampuran, 2011). On the other hand, smaller dwellings with overlapping/ multiple use of space represents the substandard manifestation of housings. For the present study, the percentage of those dwelling have been taken into consideration that consists one room or no exclusive room. Therefore, it has been seen that across the CTs of Trans-Yamuna Delhi, percentage of such dwellings ranges from 7.6% in Khan Pur Dhani to 87.7% in Shakar Pur Baramad (Figure 6). If we see the highest percentage of such dwellings, all top 3 CTs are located in East Delhi, namely, Shakar Pur Baramad followed by Dallo Pura (48.8%), and Kondli (45.7%). On an average basis, CTs of East district have more concentration of such dwellings then Northeast or we can say that East Delhi district has more distribution of small dwellings in all the CTs.

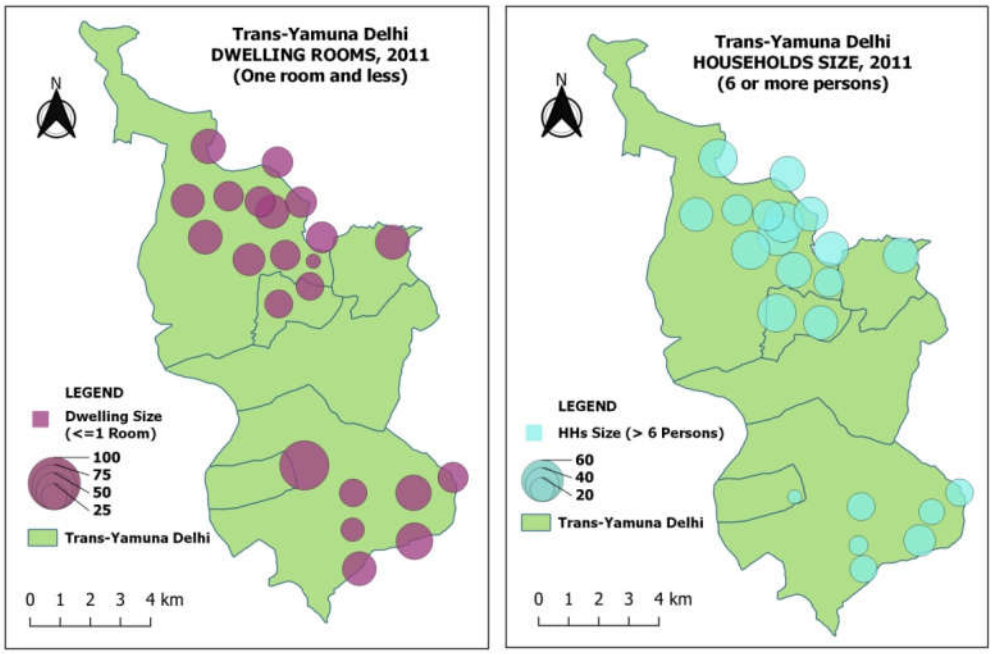

Figure 6: Dwelling and Household Size in Trans-Yamuna Delhi

Household Size

Household size represents the size of the households in terms of family members. Larger the size of the household size alongwith less number of dwellings determines the housing congestion or substandard quality of life. It has been observed that distribution of larger-sized households (6 or more members) varies from 6.7% in Shakar Pur Baramad (Gandhi Nagar sub-district) to 57.7% in Mir Pur Turk CT (Seelam Pur sub-district. Out of 22 CTs, 5 CTs, namely, Khajoori Khas, Jaffrabad, Baqiabad, Mustafabad and Mir Pur Turk, have more than 50% of households have large families (Figure 6). Further, it is found that Baqiabad, Mustafabad and Khajoori Khas CTs have concentration of small dwellings size. In this way, 3 CTs have large-sized household and small dwelling rooms, thus, together responsible for housing congestion and poor quality of life.

Slums

Slums are the direct manifestations of sub-standard accommodations. It is quite interesting to note that no Census Town has reported to have slum (DCHB, 2011). However, it does not mean that the whole Trans-Yamuna Delhi is slum free. There are clusters of slums which are scattered across Delhi and also in Trans-Yamuna Delhi.

Housing Structure

Housing structure is a significant dimension for the overall housing quality and well-being of the people. According to Census of India, the households are classified as permanent, semi-permanent and temporary houses. The permanent houses are constructed with permanent building material like cement, stone, bricks, concrete etc while temporary houses are constructed with temporary building material like wall and roof are made of grass, bamboo, thatched leaves, and sometimes, polythene, plastics etc are also used. On the other hand, semi-permanent households use both types of material in the process of construction. It has seen that in the Trans-Yamuna Delhi, 1255 Households (0.42%) are temporary households and are living in non-serviceable housing structure (Figure 7). When compared the CTs of East Delhi shows higher number/percentage (84%) of such temporary households (Table 5).

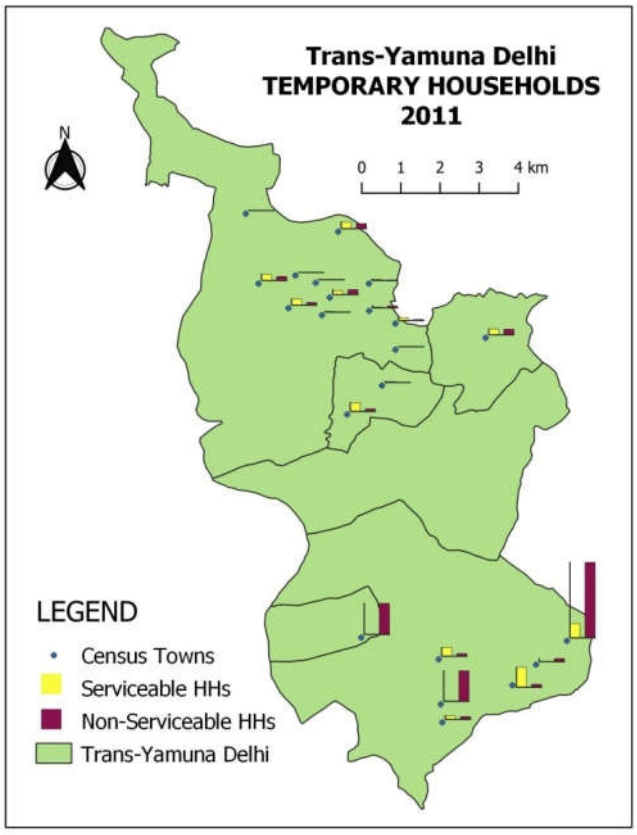

Figure 7: Temporary Households in Trans-Yamuna Delhi

Table 5: Housing Structure (Number of Households)

Category	Permanent	Semi-permanent	Temporary			Unclassifiable
			Total	Serviceable	Non-serviceable	
North-East Delhi	1,96,156	2,459	338	204 (48%	134 (16%)	1,185
East Delhi	98,035	1,694	917	220 52%)	697 (84%)	287
Trans-Yamuna Delhi	2,94,191	4,153	1,255	424 (100%)	831 (100%)	1,472
%	97.71%	1.38%	0.42%	33.78%	66.22%	0.49%
Source: DCHB, 2011						

FINDINGS AND CONCLUSIONS

The present study evaluated the housing condition in the selected Census Towns experiencing rapid growth of newly built infrastructure. The study is conducted in 22 Census Towns located in Trans-Yamuna Delhi that is home to 14.6 lakh people living in 2.75 lakh households. It is clear that the region is densely populated and congested. There are large spatial variations have been seen in terms of distribution of substandard accommodations in the study area. There are regional manifestations of substandard quality of housing that shows a grim reality of the mega city like Delhi. Lack of sufficient fund and poor intention to repair and maintain housing quality leads to higher dilapidation of homes in Trans-Yamuna Delhi. Instead, people are interested to buy new houses in better housing society in the nearby area or in surrounding housing societies located in the district of Uttar Pradesh. The percentage of rented homes is quite high in East Delhi which brings out the positive relationship between the level of dilapidation and rented accommodations. Overcrowding in the form of housing density creates hindrance to provide better public amenities like green spaces, parks, sports ground etc that contributes in the physical and social attractiveness of the area alongwith increases property value. More than one-third households are very small-sized dwellings accommodating large families and together responsible for housing congestion and poor quality of life. A good percentage of households are living in non-serviceable housing that needs attention of the urban planners. A positive thing that all the CTs of Trans-Yamuna Delhi are slum free, therefore, it is recommended that concerned authorities keep monitoring that new slum clusters should not develop and a better urbanization process in ensured in the administrative capital of India.

REFERENCES

- Abhay, R.K., Sharma, M. (2023) Housing shortage in a mega city: a spatio-temporal analysis of NCT-Delhi, 2001–2011. GeoJournal. 88, 261–278. https://doi.org/10.1007/s10708-022-10597-5

- Census of India (2011) Population Census 2011. Table HL-14: Percentage of households to total households by amenities and assets, NCT of Delhi, Office of the Registrar General & Census Commissioner, Delhi, India.
- DCHB [District Census Handbook]. (2011). Census of India: NCT-Delhi, Village and Town Directory. Series-8 Part XII-A, Directorate of Census Operations, Delhi.
- Dwivedi, R.M. (2007) Urban Development and Housing in India, 1974-2007, New Delhi: New Century Publications, p. 12-13.
- Harris,R. (2009) Slums, in R. Kitchin and N. Thrift (eds) International Encyclopedia of Human Geography, 157-162.
- Kurian SM and Thampuran A (2011) "Assessment of housing quality", Institute of Town Planners, India Journal, 8(2): 74-85.
- UN-Habitat (2007) UN-Habitat (2007) Twenty First Session of the Governing Council, 16-20 April, Nairobi, Kenya. Accessed on 15 Sept. 2023, https://www.preventionweb.net/files/1700_462551419GC202120What20are20slums.pdf
- Weick, S. (2014). Households in Substandard Living Accommodations. In: Michalos, A.C. (eds) Encyclopedia of Quality of Life and Well-Being Research. Springer, Dordrecht. https://doi.org/10.1007/978-94-007-0753-5_1326