



## Identification of Indicators for affordable housing in Indian Scenario

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### Abstract

The world is changing rapidly as the twenty-first century begins, but adequate and affordable housing remains a concern for all countries. To address pressing issues such as slum reduction, economic and social development, and climate change, a new understanding of housing is required. Housing is no longer just a roof; it now plays an important role in achieving sustainable development, as the concept of sustainable housing envisions. This targets to identify the indicators for affordable housing in India. Rapid urbanization including migration to towns have created rigorous urban housing shortages within India, mainly for the economically weaker segments and low-income groups. To bridge aforementioned demand–supply gap we necessitate a substantial abundance of affordable houses in India. To outlines the prevailing situation toward affordable housing including study the different policies and schemes concerning central, state and local governments concerning affordable housing. Understanding urban housing regulations policy and guideline reforms on private participation investment in urban affordable housing, to subdue housing shortage by 2022 in India.

**Keywords:** Affordable housing, Public Policy, Housing shortage, Urban housing, Public-private partnership

### 1. INTRODUCTION

India's Urban Population has grown over the past 3-4 decades from 109 million in 1971 to 377 million in 2011 and is expected to grow to almost 600 million by 2030. While accelerated urbanization, including expanding cities, provides numerous opportunities, there is fallout in the proliferation of slums, high rates of land and building supplies, which execute houses unaffordable toward the segment at the depths of the pyramid. Moreover, Census 2011 has predicted 65 million slum residents in the 4041 statutory towns [1]. The technical committee has evaluated the housing deficit at 18.78 million in the period of twelfth Five Year Program period. Additionally, as mentioned earlier, 95% of the housing deficit is expected in the Low-Income Group (LIG) segments and Economically Weaker Sections (EWS). Subsequently, to address this deficit,

intensive efforts are needed to improve affordable housing stock substantially.

The housing shortfall within India seizes 19 million units, which, toward the absence of significant intervention, remains slated to double to 38 million units in 2030. 95% of this deficit exists around the EWS (Economically Weaker Sections), including LIG (Low Income Group) sections, which technically sets the terms at a monstrous 18 million units in this segment (approximately) [2-3]. While this quantity is vast, there is also a substantial chunk of the higher end of the LIG group and lower to middle end of the MIG band, which we can assume constitutes 'the emerging middle class,' which are similarly deprived regarding decent living situations. The deficit under this category remains almost 4 lakh units, which, if non argued, would raise the proliferation concerning

unplanned and unsustainable urbanization if not discussed. Statistics unveil that more

than 80% of this section is staying under congested homes [3-7].

**Table 1 Population and Level of urbanization from 1901-2011**  
(Source: Data Census of India 2011)

Year	Total Population	Rural Population	Percentage Rural	No. of Towns	Urban Population	Percentage Urban	Growth in Urban (%)
1901	238.4	212.6	89.2	1,916	25.8	10.8	-
1911	252.1	226.2	89.7	1,908	25.9	10.3	0.4
1921	251.3	223.2	88.8	2,048	28.1	11.2	8.5
1931	278.9	245.5	88.0	2,220	33.4	12.0	18.9
1941	318.6	274.5	86.2	2,427	44.1	13.9	32.0
1951	361.1	298.7	82.7	3,060	62.4	17.3	41.5
1961	439.2	360.3	82.0	2,700	78.9	18.0	26.4
1971	548.2	439.1	80.1	3,128	109.1	19.9	38.3
1981	683.3	523.8	76.7	4,029	159.5	23.3	46.2
1991	846.3	628.7	74.3	4,689	217.6	25.7	36.4
2001	1028.6	742.5	72.2	5,161	286.1	27.8	31.5
2011	1210.8	833.7	68.9	7,933	377.1	31.15	31.8

The Affordable Housing in Partnership scheme endeavors to stimulate private sector participation toward the creation of affordable housing stock, acknowledging that mere efforts concerning the Government would remain insufficient to discuss the housing shortage [8]. This was originally begun in 2009 being component concerning the BSUP (Basic Services for the Urban Poor) part of JNNURM (Jawaharlal Nehru National Urban Renewal Mission), including subsequently, Affordable Housing in Partnership scheme remained linked with Rajiv Awas Yojana (RAY) in 2011. From the year 2015 onwards, Pradhan Mantri Awas Yojana (PMAY) under special third component of the Mission remains affordable housing in partnership. That is a supply-side intervention. This Mission grant fiscal assistance to EWS residences constructed with diverse partnerships through States/UTs/Cities [4-6,27]. To enhance the

availability regarding houses toward the EWS category via an affordable rate, States/UTs, unless through their agencies instead in partnership amidst that private sector, with industries, could plan affordable housing project. Central Assistance through the allowance of Rs. 1.5 Lakh per EWS house would remain available concerning all EWS houses under such projects. An affordable housing scheme can comprise a mix regarding houses for different sections. Nevertheless, it will be acceptable for central assistance if toward least 35% of those houses in the scheme area for the EWS category including a single project possesses at least 250 houses. CSMC can decrease the provision of those minimum quantity of houses in individual project at that request regarding the State Government [26]. Present article explains the current housing needs and shortage in India along with recognized regulatory framework

supporting affordable housing. The article also includes information regarding existing Government policy framework, and Schemes for Affordable Housing, Factors influencing beneficiaries for availing affordable housing and measures of the beneficiary's satisfaction level related to housing provided under previous Government housing policy. The information in the article can help in simplifying structural and predict procedural framework with Analysis and reform suggestion on policy and regulation and Housing delivery systems reforms & reforms can be introduced in taxation for Indian scenario to empower the consumer for greater affordability.

## 2 LITERATURE REVIEW

A few recognized literatures and their findings are discussed in Table 2 to have an

idea regarding the work to find factors influencing affordable housing for population.

### 2.1 Factors influencing beneficiaries for availing housing schemes

Rameli et al [13] explained that the combination of affordability and homeownership led to research on factors that affect the affordability of homeownership, especially in terms of socio- economic households. Socio-economic factors as discussed include income, household expenditures, job type, education level, number of dependents, monthly housing loan and financial savings. Each factor plays the role of its own to ensure the affordability level of homeownership. In fact, the factors that affect the homeownership affordability are different between households.

**Table 2 Significant literature on housing in Indian and international regime**

Sl. No.	Year	Key findings	National/ International (Reference)
<b>A. Factors influencing beneficiaries for availing housing schemes.</b>			
1	2019	The author claimed that housing strategy of India should not be confined to merely creating affordable housing stock to tackle the shortage, as such an approach is myopic. Instead, a sound housing strategy must be informed by an adequate understanding of the multiple facets of housing poverty, including the factors that are responsible for the proliferation of slums. This paper understands an effective housing scheme as a means to correct market distortions and other anomalies that upset the incentive structure underlying the affordable housing segment in the country.	National [10]
2.	2017	The results of the study illustrate that the provision of general loans, housing construction loan, specific loans for the purchase of land, loans for renovation of existing buildings and collective purchase of land for building construction etc. are the most dominant strategies adopted by the cooperative societies as part of their activities leading to provision of affordable housing for members in the study area. The study also revealed that cost of materials of construction and unnecessary bureaucracy are the most significant constraints to affordable housing provision by the cooperative societies. The study concluded that non-availability of affordable housing is an issue across the state irrespective of the class and people with the low-income earners	International [11]

		facing the problem the most.	
3	2016	The study mentioned that the combination of affordability and homeownership led to research on factors that affect the affordability of homeownership, especially in terms of socio-economic households. Socio-economic factors as discussed include income, household expenditures, job type, education level, number of dependents, monthly housing loan and financial savings. Each factor plays the role of its own to ensure the affordability level of homeownership. In fact, the factors that affect the homeownership affordability are different between households.	International [13]
4	2016	The team observed that the monthly income had a significant relationship with a type of home using correlation test. The result recognized a negative relationship between type of home and monthly income at the 1 percent significance level. It showed that monthly income has a relationship to profitability. The correlation test shows that house price and time taken to buy have a positive correlation. For the regression test, only monthly income has no significant impact towards the home type of ownership. There was a significant impact between the home type of ownership with time taken to buy and house price at 1% significant level	International [14]
<b>B. Difficulties faced during application procedure and allotment procedure of housing schemes.</b>			
5	2015	The study reflected that in Bangalore city, there was marginal effort from private sector side in the area of affordable housing. Government encouraged the private developers by allowing them to build multistoried housing, which created upward pressure on house price. The supply and demand gap have also been explored by the study. Study recommended that only formula to rationalize prices is to unleash supply, which will benefit both the economically weaker sections and the middle class. The demand for housing is there but prices are just too high because of short supply and government policies.	National [12]
6	2015	The study result reflected the status of JnNURM (Jawaharlal Nehru National Urban Renewal Mission) in the state of Uttar Pradesh. The study result showed that 23 percent of urban population lives in slum areas characterized by poor structural condition and inadequate infrastructural facilities. Analysis of housing scenario in UP did not give a good picture of living condition of its habitats.	National [15]
7	2014	The result of the study showed that the low-quality affordable housing provision is often unsuitable for dwellers because of developer constraints, and the lack of power or means of households to direct or influence the inception or delivery of the projects. Recommendations were proposed in this paper to improve the quality of affordable housing projects provision for dwellers in Sarbagita metropolitan.	International [16]

<b>C. Satisfaction of the beneficiaries with housing schemes.</b>			
8	2002	Defined housing satisfaction as the degree of contentment experienced by a household with reference to the current housing situation, and it is a non-economic and normative quality evaluation approach to assess the quality of housing units.	International [17]
9	2012	Structural Equation Modeling (SEM) was used to examine the link between homeownership motivation and housing satisfaction. Results showed that social capital investment and residential stability of homeownership appears to be important determinants of housing satisfaction. The findings also indicated that interdependencies among homeownership motivation variables were important extensions of the housing satisfaction model because they help improve the ability of model to predict housing satisfaction.	International [18]
10	2015	The research revealed that most of the respondents, of government housing programmes were satisfied with the impact of Government Assisted Housing Programmes (GAHP) within their vicinity.	International [19]
<b>D. Relationship between demographic factors and availing housing scheme.</b>			
11	2010	The result of their study revealed that there was a significant correlation between demographic factors in determining affordable housing within Johor Bahru area. Demographic factors such as marital status, number of households, age distribution, educational level, and household income of different respondents might have influenced the housing market and have resulted in different levels of affordability.	International [20]
12	2015	The result of the study of 517 residents in public housing in Ogun State, Nigeria showed that the residential satisfaction, tenure and income emerged as the three strongest predictors of housing adequacy, while housing adequacy, employment status and sex of the respondents were the three strongest predictors of residential satisfaction. Age of the respondents was found to be the only predictor of both housing adequacy and residential satisfaction.	International [21]

The objective of the study was to know as to what extent housing schemes are able to meet the expectations of residents. Research study investigated ABCD Four factors which are directly associated with the people linked with affordable housing segment these are, Factors influencing beneficiaries for availing housing schemes, Difficulties faced during application procedure and allotment procedure of housing schemes, Satisfaction of the beneficiaries with housing schemes & Relationship between demographic factors and availing housing scheme [20]. Differences and similarities in residents'

perception of housing adequacy and residential satisfaction with the main objective to identify various dimensions of housing adequacy and residential satisfaction evaluation, and the factors influencing them. The results of the analysis showed that residents have evaluated housing adequacy on the basis (a) ambient (b) utilities and neighborhood facilities (c) social infrastructure and (d) sizes of main activity areas. According to the study, income, gender and tenure had emerged as predictor of housing adequacy, while housing adequacy and employment status have emerged has predictor of residential

satisfaction. Therefore, in order to improve the living conditions of house owners, policy makers and developers are required to pay attention to the needs of all categories of residents considering their preferences, employment status, age, etc.

### **3. NEED FOR AFFORDABLE URBAN HOUSING IN INDIA**

As per the Report regarding that Technical Group (TG-12) approaching Estimation regarding Urban Housing Shortage (2012), there ought to remain a huge gap against to demand plus supply in Indian urban housing scenario in India. The economically weaker sections (EWS) with low-income group (LIG) assessed being huge shortage of 96 per cent of total housing shortage within India [26]. According to that McKinsey Report (2010), India will hold 40 per cent regarding its population residing in urban areas including 68 cities among one million plus resident (from 42 currently) through 2030. This study accounts that significant demand approaching for affordable housing will likely to emanate 38 million housing blocks in 2030 as compare to 19 million during 2012.

#### **3.1 Initiatives to Promote Affordable Housing**

While efforts to provide low-cost housing have been made for many years (National Housing Policy, 1994; Jawaharlal Nehru National Urban Renewal Mission, 2005; Rajiv Awas Yojana in 2013), and currently running Pradhan Mantri Awas Yojana (PMAY) started in the year 2015 furnishes a fresh impetus – the PMAY-Urban (PMAY-U) includes all such preceding urban housing schemes endeavors at 'Housing for All' to be delivered by the year 2022 [27].

#### **3.2 Crucial Issues in the Affordable Housing Sector**

The Land is the most critical cost in housing projects. Building affordable housing entails land cost should be such that the benefit can be passed on to the end-user. Land cost in urban city centers is high, often constituting more than 50% of the project cost for developers; this makes affordable

housing projects unviable. Excessive control on the volume of construction in some centrally located areas of the large urban centers, pushing development to peripheral areas that lack infrastructure facilities [16-17]. For affordable housing projects, even construction costs can form a large factor in making projects unviable, since the profit margins for the developers increase exponentially as compared to the construction costs when evaluating projects ranging from affordable to mid-segment to premium and luxury segments. A control on these costs is also crucial for any housing project to stay affordable. The land use conversion, building and construction approvals process, which in India could take anywhere from 18-30 months, can significantly increase the project costs for the developers due to additional cost escalation due to the long holding period. Lack of marketable land parcels in key areas, where large tracts of land are owned by public entities such as railways and are lying un-utilized or under-utilized which the authorities are unable to utilize for affordable housing developments.

Most of these land holdings are un-monitored and also lend themselves to slums & squatter settlements that could later further delay or prevent the development of these land holdings. People who belong to LIG and EWS segments have little access to organized finance. A large percentage of these people are occupied in the unorganized sector and also often lack documentation such as proof of address, salary slips, etc. They are therefore perceived as high-risk category and are unable to avail finance for purchase of homes. Archaic Laws such as Rent Control Act can be detrimental to the urban fabric, as these can lead to a decay in housing stock and hamper redevelopment of areas in prime locations in cities. Requirement for focused government policies that enable and incentivize the affordable housing segment such that it becomes more lucrative for developers to build affordable housing projects.

#### **3.3 Income Levels and Housing Affordability**

The relation between income, including affordability concerning various income groups, serves some nonlinear drift. The food, nonfood essentials, including home rent, form a significant revenue toward lower-income groups. Since we drive towards higher-income levels, these rising expenses make not increase at the same speed. Disposable surplus income usually managed to acquire a new house diminishes significantly at lower-income groups, including higher-income levels. Consequently, people from higher-income levels can afford to buy new homes, owing to higher disposable surplus earnings.

It can be heeded that this disposable surplus remains highly sensitive toward this incremental change of expenditure. For example, if home rents increase by 15% to 20%, this disposable affluence toward any LIG household (person amidst a monthly salary of INR 10,000) diminishes to 30% from 35%. Whereas concerning a person with a monthly payment of around INR 120,000, it can be observed that when rent rises from 15% to 20%, the analogous reduction in surplus earnings is from 64% to 59%.

**Table -2 Housing Affordability**  
(Source: Affordable housing Partnership guidelines 2011 (Amended), Govt. of India)

Housing Target Group Categories	Carpet Area	EMI or Rent	Maximum Price
Economically Weaker Section (EWS)	21 to 27 Sq. m	Not Exceeding 30-40% of gross monthly Income	1,75,000
Lower Income Group (LIG)	28 to 60 Sq. m. (LIG-A: 28-40 sq. m. and LIG-B 41- 60 Sq. m.).		4,01,000

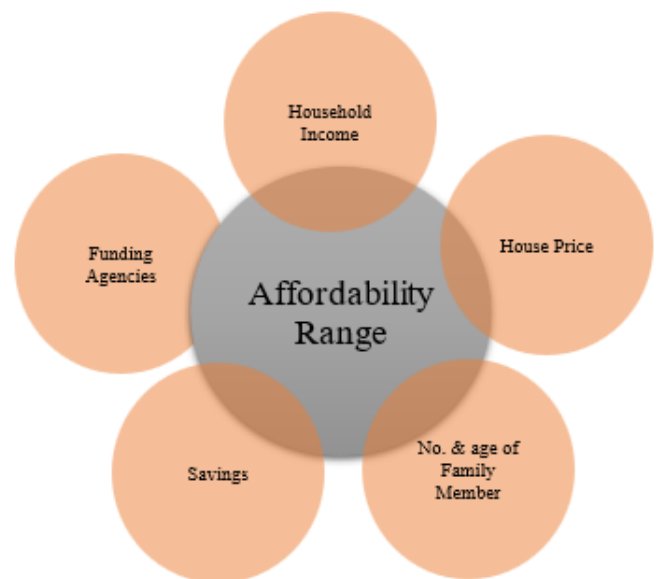
**4. AFFORDABILITY**

Affordability is dependent on five broad parameters Viz. Affordability is applicable to all income groups. Affordability of a person increases with increase in the monthly income. It has been observed that for an EMI of Rs. 3,000 to Rs.10, 000, the capital cost of the house varies from Rs. 3,00,000 to Rs. 20, 00,000. For a large number of urban households, this could be termed as the 'affordability range'.

**4.1 Affordability Variable**

Affordability is principally set by two main variables:

- i. Capital variables
  - house purchase costs
- ii. Occupation variables
  - Costs associated with keeping the house



**Fig. 1 Affordability Range**

**Table -3 Housing Affordability**  
(Source: Affordable housing Partnership guidelines 2011 (Amended), Govt. of India)

Housing Target Group Categories	Carpet Area	EMI or Rent
Economically Weaker Section (EWS)	Minimum Carpet Area = 269 sq. ft.	Not Exceeding 30-40% of gross monthly Income
	Minimum Super Built-up Area = 300 sq. ft.	
Lower Income Group (LIG)	Maximum Carpet Area = 517 sq. ft.	
	Minimum Super Built-up Area = 500 sq. Ft	
Middle Income Group (LIG)	Maximum Carpet Area = 861 sq. ft.	
	Super Built-up Area = 600-1200 sq. ft.	

**Table -4 Housing Affordability**  
(Source: Affordable Housing in India – JLL)

Definition of Affordable Housing by JLL				
Housing Target Group Categories	Minimum Volume of Habitation	Provision of Basic Amenities	Cost of the House	Location of the House
<b>Economically Weaker Section (EWS)</b>	-Minimum Carpet Area = 250 sq. ft -Minimum Internal Volume = 2250 cu.ft.	-sanitation, adequate water supply and Power.	-Reasonable maintenance costs	- located within 20 km of a major workplace hub (could be suburban hubs as well) in the city.
<b>Lower Income Group (LIG)</b>	-Internal Volume = 2700-5400 cu.ft.	provision of community spaces and amenities such as parks, schools and healthcare facilities, either within the project or in the neighbourhood, depending upon the size and location of the housing project.	-cost of the house such that EMI does not exceed 30–40% of gross monthly income of the buyer	
<b>Middle Income Group (LIG)</b>	-Carpet Area = 600-1200 sq. ft -Minimum Internal Volume = 5400-10800 cu. ft			- adequately connected to major public transit hubs.





**Fig. 2 Housing Affordability for households**

## 5. HOUSING POLICIES IN INDIA

Jawaharlal Nehru National Urban Renewal Mission (MoHUPA, 2015): This programme intended to build 1.5 million homes toward the urban poor during the mission phase (2005-2012) in these 65 mission cities. Two policies beneath JNNURM targeted housing. Slum Redevelopment Programme and Integrated Housing endure a direct housing policy project under JNNURM. Basic Services for the Urban Poor (BSUP) intends at rendering entitlements such as security of tenure, services such as water, affordable housing,

sanitation, education, social safety and health issues to low-income segments. Affordable Housing in Partnership (AHP) (MoHUPA, 2013): A market solution-based manoeuvring containing individual, private players. Rajiv Awas Yojana (MoHUPA, 2012): This programme strives to provide affordable housing to the urban poor. In May 2015, Rajiv Awas Yojana (RAY) was introduced, and later on, Housing for All (HFA-PMAY) Pradhan Mantri Awas Yojana with the goal to make India slum-free by 2022. It aimed to construct 20 million residences across the nation.

**Table 4 List of Housing Policies in India**

Sr. No.	Policy	Year of Commencement
1	National Housing Policy	1988
2	National Housing and Habitat policy	1994
3	National Housing and Habitat Policy	1998
4	Jawaharlal Nehru National Urban Renewal Mission	2005
5	National Urban Housing and Habitat Policy	2007
6	Rajiv Awas Yojana	2009
7	Pradhan Mantri Awas Yojana: Housing for All by 2020	2015

The Indian Government has formed several policies toward housing since the late eighties, including the National Housing Policy of 1988. The primary policy regarding urban housing remained that National Urban Housing and Habitat Policy (NUHHP) in 2007 (Ministry of Housing and Urban Poverty Alleviation, 2007). This focused on affordable housing, essentially a crucial aspiration for sustainable urban development. Some different policy frameworks concerning affordable housing equipped were the Jawaharlal Nehru National Urban Renewal Mission (JNNURM-2005), Rajiv Awas Yojana, Integrated Housing & Slum Development Programme (IHSDP) and the Basic Services for the Urban Poor (BSUP).

## CONCLUSION

Historically, housing for the unprivileged and economically weaker society has been provided by the government under different welfare schemes. The main reason for the rise in shortage in affordable housing on the supply side is the lack of availability of urban land, rising construction costs and regulatory issues. In inequality, low-income groups' lack of access to home finance is a constraint on the demand side. From the

study also Absence of sustainable environment in terms of good quality of air, water, safe public spaces, disaster preparedness, health & sanitation etc. were identified hence with affordability we need sustainable housing to counter balance our resources and environment.

## Conflict of interest

The author declares no conflict of interest.

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