

# Understanding Barriers and Defining Parameters of Affordable Housing for Future Smart Cities of India

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**Abstract**— Even today a majority of Indians still finds it hard to fulfill the desire to own a home and live in below average standard homes. Reason behind is un-affordability of economically weaker section and low income group population. On demand side we have rapid urbanization, growing nuclear families and on supply side we have limitation such as lack of availability of urban land, housing finance. Smart cities mission of the Indian Government is new initiative which include affordable housing especially for urban poor and necessitate smart solutions. This is an effort to identify the barriers to its development and defining smart parameters of affordable housing for Future Smart Cities of India. Delivering an affordable housing is possible only by a combination of Innovative Technology, Subsidies and new Financing schemes.

**Keywords**— Affordable Housing, Economically Weaker Section, Nuclear Families, Smart Cities, Urban Poor

## I. INTRODUCTION

Affordable Housing for urban dweller is the buzz word for the housing industry in India. There has been tremendous growth in the country's housing sector along with rise in income, number of nuclear families and urbanization. Furthermore, the developer launches ambitious luxury projects during the boom period in the real estate sector. Housing market excludes a large segment of population belongs to Economically Weaker Section and Low Income Group in the urban centers due to profit margins. All these have resulted in people increasingly living in slums. This stresses the need for appropriate and affordable housing for urban poor. This will require a clear aspiration by defining the various parameters mostly influences the affordable housing and identify the barriers to its development.

Cities struggle with dual challenges of providing housing to their poorest citizens and housing at reasonable cost for low & middle-income population. As per the 12<sup>th</sup> Five-Year Plan (2012-2017), the housing shortage in urban India is 18.78 million dwelling units. According to the Ministry of Housing & Urban Poverty Alleviation, affordable housing constitutes living units for which the EMI or Rent should not exceeding 30 – 40 % of gross monthly income of households. Most of projects aim to provide houses in price range of Rs. 12 – 25 lakh but unfortunately these projects serves to middle and upper middle – income groups only, the main concern is that 80% of shortage is still concentrated in economically weaker sections (EWS) of the urban population. Surprisingly, this is a decade when luxury items like LED TVs and Smartphone are becoming affordable and housing is getting more and more expensive. As India focused on Smart cities mission, the objective is to promote cities that provide core infrastructure and give a decent quality of life to its citizens. The core infrastructure elements in smart cities would include: adequate water supply, assured electricity supply,

sanitation, waste management, affordable housing, efficient public transport etc. As far as smart cities concerned, it will require smart solutions and its application. Smart outcomes will transform existing areas including slums into better planned ones, thereby improving livability of the whole city.

The paper is divided into four sections. First section explores the definition of affordable housing. Second section identifies and briefly describes the barriers to development of affordable housing. Third section defines the basic parameter which influences affordable housing and how it will help in addressing the affordable housing gap. Fourth section attempts to provide some concluding remarks on barriers and parameters of affordable housing.

## II. DEFINING AFFORDABLE HOUSING

There is no specific definition of the term “Affordable Housing”; it varies across country and cities. But generally it includes a financial element i.e. the share of income spent on housing. Many definitions used term ‘Affordability’ as housing costs that consume no more than 30 to 40 percent of household’s income.

According to task force on affordable housing set up by the MHUPA, affordable housing for various segments is defined by the size of the dwelling and housing affordability derived by household income. Ratio of price/rent of housing to income of household is generally considered as Affordability. Along with income levels we have to think for provision of basic amenities, public transport, open spaces- playground, garden, and other infrastructure.

Group	Size of Dwelling unit	Cost	EMI/RENT
EWS LIG	300 – 600 Sq.ft.	≤ 4 X gross annual income	≤ 30% gross monthly income
MIG	≤ 1200 Sq.ft.	≤ 5 X gross annual income	≤ 40% gross monthly income

Table 1: Definition of Affordable Housing-Mhupa

## III. BARRIERS TO DEVELOPMENT

Affordable housing in Indian cities faces significant challenges due to several economic and regulatory issues. Slow urban development due to high urban population growth increases gap between demand and supply of housing.

### A. Urbanization

Urbanization is an evolution from traditional rural economies to modern industrial one. India's urban population is increasing at faster rate than its total population. About 30% of population occupies only 2.3% of India's geographical area. This impact on urban land and

shortage of basic services such water, sanitation, power and public transport.

**B. Land**

Expensive component in the cost of housing is Price of land. Rapid urbanization and more migration results in huge demand for land in urban India. Availability of land for affordable housing is the most crucial issue. Further it takes long time for conversion of land from one use to another due to various regulations and procedures.

**C. Cost of Construction**

Whilst price of residential projects is mainly guided by construction costs and has a significant share in the price of affordable housing. During the last decade construction cost significantly increased due to rise in prices of construction materials such steel, sand and cement.

**D. Taxes and Legal Charges**

The cost of construction itself is hiked by taxes and duties levied on construction materials and services provided by various professionals in the project. Sale tax, excise duty, VAT are levied on building materials like steel, cement, paint, varnishes etc and payment made to consultants like architects, structural engineers, contractors are subjected to service tax.

**E. Home Finance**

Even with an extensive network of financial institutions and banks, low-income groups have lack access to home finance. Many of them do not have formal income proofs and documents of identification, address. As per National Housing Bank remark on Housing Finance Companies (HFCs), majority of loan disbursed by companies are to mid-income and high-income groups which are above INR 10 Lakhs.

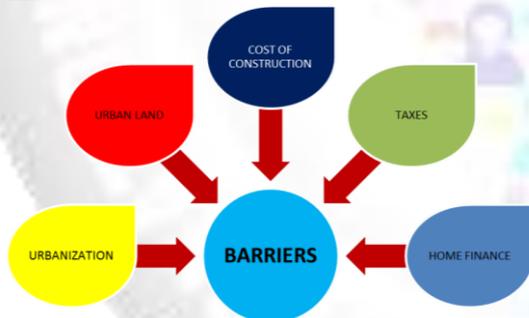


Fig. 1: Barriers to Development of Affordable Housing

**B. Size of Dwelling Unit**

Provision of appropriate sized units with minimal area to fit within the affordability limits of the various income groups. Minimum area of habitation for various income group are given in Table: 2. Size of dwelling units plays very important role in affordable housing because at the same time housing should be durable and stand once built will stand for next 30 – 40 years.

**C. Basic Amenities**

Whilst most definitions give emphasize on minimum area and cost consideration, provision of basic amenities such as water supply, sanitation, community spaces and healthcare facilities should be made available to households. These depend upon the size and location of the affordable housing projects.

**D. Cost of House**

Affordable housing does not cost so much that a household is doubtful to be maintained other primary needs. The cost of house should consider not only the purchase cost but also the maintenance cost of the dwelling unit. For EWS, LIG and MIG, affordable housing would mean as shown in Table: 2.

Group	Area of house in Sq.ft.	Affordable Cost of House in ₹
EWS	250 – 400	1,30,000 – 1,60,000
LIG	350 – 600	1,60,000 – 3,50,000
MIG	550 – 1200	3,50,000 – 8,70,000

Table 2: Area and Cost of Affordable Housing

**E. Location of House**

An affordable housing project should be situated such that workplace and other facilities are within reasonable distances. The housing should be connected adequately through public transport. Affordability is greatly affected, if housing is developed far away from prime workplace centre due to expensive transport costs. Location should be such that it will take lesser time to commute to workplace and save fuel.

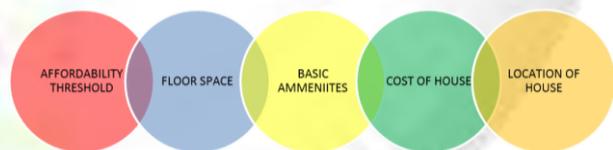


Fig. 2: Parameters of Affordable Housing

**IV. AFFORDABLE HOUSING PARAMETERS**

Access to decent, safe and affordable housing is so basic to the health and well-being of people. Affordable housing defined in terms of what households in different income groups can afford and housing is provided by market within that price. For this we need to define basic parameters which influence most on affordable housing.

**A. Affordability Threshold**

Considering the income levels of different income groups for affordable housing we understand that 30-40 percent of income spent on housing and 60-70 percent spent on food, healthcare, clothes and other expenses.

**V. CONCLUSIONS**

Take measures to stop migration from rural to urban India, which helps in reducing impact on urban land and pressure on provision of basic services. Adoption of alternative options or innovative construction technique to minimize the construction cost. Cost involved in legalization of land and finished units should be kept low deliver affordable housing. State government or urban local bodies should take initiative towards provision of legal ID Proofs and necessary document to EWS and LIG population which required for home finance. Cities need to tailor affordable housing parameters like affordability threshold, standard units, cost of house and location to their local conditions. Addressing

affordable housing gap does not mean investing in new buildings only. Renewal, repairing or upgrading of existing housing is also important.

#### VI. FUTURE SCOPE

This is an interim paper, as part of an on-going research on affordable housing for future smart cities in India. Survey is going to carry out to develop housing affordability rating for Sholapur city. The housing affordability survey uses the “Median Multiple”, median house price divided by gross annual median household income to assess housing affordability. The study addresses the need for affordable housing in smart cities. The focus is on identifying solutions that fuel the growth in affordable housing.

#### ACKNOWLEDGMENT

Author would specially like to thanks supervisor Prof. Suhas Patil for his valuable inputs from time to time. Author would like to thank Dr.A.B.More [Head of Civil Engineering Department, P.V.P.I.T. Pune] and Prof.P.R.Minde [P.G. Coordinator – Civil Engineering Department, P.V.P.I.T. Pune] for their guidance and reviews.

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