

Housing the Poor in Smart Cities

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Smart cities should use innovative ideas for housing the poor. Securing the livelihoods of the poor and improving their health can be achieved only if housing for the poor does not remain a target meeting exercise. Unless we can give a better quality of life to the last person, smart cities will remain an elitist concept, meant to serve only the better off

India's quest to leapfrog to become a developed country got a fillip with the launch of the Smart Cities Mission, a fast track mission mode urban sector scheme. The launch of two more schemes—Atal Mission for Rejuvenation and Urban Transformation (AMRUT) and PMAY Housing for All Mission, addresses some of the other pressing needs of Indian cities i.e. improved quality of services, improved governance and provision for housing.

According to the Census of India, there were 377 million urban dwellers in India in 2011 and according to an estimate, this is likely to go up to 600 million in the next two decades. The 2011 Census indicates that about 1.37 crore (17.4 per cent) urban households live in slums. The urban housing shortage, according to a Technical Group (2012) was 18.78 million units of which 96 per cent was in the EWS (56 per cent) and LIG (40 per cent) category. This is the category that is the main target group of the 'Housing for All' scheme. Class I cities (with 100,000 plus population) continue to be attractive places for migrants. Most migrants to cities cannot afford proper housing and, therefore, live in slums/shanties and in dwelling units that are cramped and lack basic amenities. The concern is – are we doing enough to address these issues when we are planning Smart Cities?

The Smart Cities Mission guidelines states that its "objective is to promote cities that provide core infrastructure and give a decent quality of life to its citizens, a clean and sustainable environment" with the application of smart solutions. The Smart Cities focus on "sustainable and inclusive development" and on creating replicable models that will inspire other cities to transform.

The Smart Cities Plans (SCP) consist of an area based development plan (ABD) and a pan city plan. The ABD aims at transforming a specific area within the city by improving its design, infrastructure, mobility, environment etc; and the pan city plans focus on improving city governance/management mainly through the use of smart technology solutions. However, housing has not been a major focus area in the Smart Cities Mission or in AMRUT, though the former does have "affordable housing, especially for the poor" as one of the core elements. Both, the Smart Cities Mission and AMRUT are expected to have convergence with the mission on Housing for All.

The Pradhan Mantri Awas Yojana (PMAY) or Housing for All was launched in 2015 and is expected to be completed by 2022. It provides central assistance to Urban Local Bodies (ULBs) and to other implementing agencies through States/UTs.

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The PMAY (Urban) scheme will cover all the 4041 statutory towns in a phased manner, with the initial focus on 500 Class I cities. It is estimated that housing for all required in urban areas would be 20 million dwelling units to achieve the goal of housing for all. The Ministry of Housing and Urban Affairs has asked all states/UTs to assess housing demand to arrive at a correct picture. The Government wants to facilitate the adoption of modern and green technologies, and building materials for this purpose.

Housing for the Poor

In SCPs it is entirely up to the city if it wishes to select an area in ABD that has slums which need rehabilitation or redevelopment. In the housing sector, the Smart Cities plans have proposed projects for *in-situ* slum rehabilitation, slum redevelopment, affordable housing for EWS and LIG, rental housing etc. Not all SCPs have a component of housing or slum redevelopment as a part of their ABD. In 46 of the 60 SCPs proposals for affordable housing have been approved. For instance, Ahmedabad, Bhubaneswar and Dharamshala have a component of housing in their ABD, while Kanpur, Gwalior and Ludhiana have not prioritised housing in their ABD.

A few examples of how the housing component has been addressed in ABD are given as follows:



Karimadom colony, Thiruvananthapuram



Source : Ministry of Housing and Urban Affairs

1. In Ahmedabad affordable housing of more than 40,000 units are expected to be delivered by 2017-18 under various schemes such as Mukhyamantri Gruh Awaz Yojana, BSUP, RAY, Gujarat Slum Rehabilitation Policy and Housing Facility under Safai Kamdar Yojana.
2. In Bhubaneswar, 6000 housing units would be constructed under 'Mission Abaas'. Bhubaneswar's ABD includes slum redevelopment, affordable housing, rental housing for construction workers, working women's hostels, and shelter for homeless. Slum redevelopment projects under Mission Abaas expects to transform 24 slums into four integrated housing societies.

3. In Dharamshala, out of a total of 3500 dwelling units proposed in SCP, 1250 will be for slum dwellers and urban homeless. This will be implemented through convergence with the PMAY.

These examples indicate that the housing component in the smart cities is expected to be provided through convergence with PMAY and also other local slum redevelopment/rehabilitation schemes.

The Smart Cities Mission provides a huge opportunity to transform cities to meet the present day challenges and also future requirements. Integrated area planning with housing will help in providing sustainable solutions along with improved water supply, sanitation, drainage, mobility, amongst others. It is hoped that the benefits of smart cities would also reach the poor.

Challenges

However, there are challenges in achieving such goals. While *in-situ* redevelopment is the best option for improving the quality of life of slum dwellers, it is not considered as an option or is not possible in some areas. Most often slum dwellers are evicted and rehabilitated elsewhere, usually far away from their current residence. While such rehabilitation is the least desirable strategy, cities have often resorted to this to release high value land for redevelopment to earn maximum revenue from land. Inclusive planning is all about accommodating all income groups while redeveloping an area, but such inclusive planning has not always been the most viable strategy.

Another challenge is the sustainability of the dwelling units and their maintenance. Using appropriate technology and materials is an option that can be used in smart cities. Housing for the poor must not be a target meeting exercise but it must improve the quality of life of the poor.



Demonstration building made of GFRG Panels in IIT Madras.

Construction of durable and easily maintainable dwelling units should be at the core of such development. Low cost solutions that will sustain the life of the building and building designs that are suitable to the low income groups must be a part of the provision of housing in smart cities.

People's participation is yet another challenge that smart cities must overcome. Housing for slum dwellers must be designed and implemented with the participation of the slum community. Private sector must also promote participatory planning i.e. discussing the design of buildings, dwelling units and building materials with the potential residents.

It has been argued that the implementation of Smart Cities Mission through the formation of Special Purpose Vehicles (SPVs) is anti-poor as the private sector would not be very keen on undertaking housing for the poor. The model they would follow is also likely to be eviction and then rehabilitation. While convergence with Housing for All is built into many SCPs, only time will tell how well this component has been implemented.

Rental housing is a very important aspect of housing. The emphasis on ownership housing will not solve the problem of slums. The poor as well as other income groups need rental

accommodation too as many are not permanent settlers in the cities in which they work. 'Affordable rental housing' is equally a pressing need. Smart cities will need to address this issue in order to prevent development of new slums.

Financing is always a major challenge when providing housing for lower income groups. While the Government is providing interest subsidy, the main concern remains whether the poor can access credit to be able to take full advantage of this provision.

There are often delays in implementing housing projects. Land acquisition and getting approvals of different agencies is a time consuming process. This also impacts cost and viability of the project. In case of *in-situ* slum redevelopment, providing transit accommodation in the same area is a requirement so as to least disturb their livelihood activities. Smart cities must find smart solutions for such transit accommodation.

Opportunities

The Smart Cities Mission along with Housing for All provides great opportunity for cities to provide innovative housing for the poor. The new houses can be designed for energy efficiency – providing houses with good light and ventilation to

reduce energy needs. They can also incorporate one of the many cool roof options to reduce the heat stress in summer. Climate change will result in rise in temperature, and the poor will be the worst sufferers. Housing for the poor can also become good examples of green and sustainable approaches.

In the design of vertical housing, while the structural frame has to be Reinforced Cement Concrete (RCC) or PSC (pre-stressed concrete), the material of walls, windows, doors etc. can be from innovative materials such as recycled metals, plastics or particle boards. Use of locally available materials should also be encouraged to bring down costs.

An example of use of innovative materials for rapid affordable mass housing is Glass Fibre Reinforced Gypsum (GFRG) Panels. A demonstration building made of GFRG panels has come up in IIT Madras.

In the design of housing there are two parts - the structural frame and the walls, windows/door etc. While in vertical housing the structural frame has to be RCC or PSC pre-stressed concrete, materials for walls, windows doors etc. can be from innovative technologies such as recycled metals, plastics or particle boards for doors and windows.

Housing for the poor can also be designed innovatively to not only provide adequate light and ventilation, but also allow them to carry on with their livelihood in vertical buildings. An example of this is the Karimadom colony designed by Costford (Laurie Baker Centre for Habitat Studies), Thiruvananthapuram, where open space is provided on each floor for carrying out economic activities.

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