Affordable Housing Development in India: Current Models and Their Replication

Article · April 2018

3 authors, including:

Ramakrishna Nallathiga
National Institute of Construction Management and Research
202 PUBLICATIONS **213** CITATIONS

SEE PROFILE

Some of the authors of this publication are also working on these related projects:

Project   Natural resource accounting in Yamuna river sub-basin   View project

Project   Legislative impact on urban land: ULCRA in Mumbai   View project

SHELTER

Theme Paper | **Policy Review** | **Case Studies**

hudco
Publication

Urban Design

housing

Mobility

Land

Slum Upgradation

Climate Change

Migration

Urban Basic Services

Resilience

Cities for All

THEME **CITIES 2030: CITIES FOR ALL**
Implementing The New Urban Agenda

WUF9
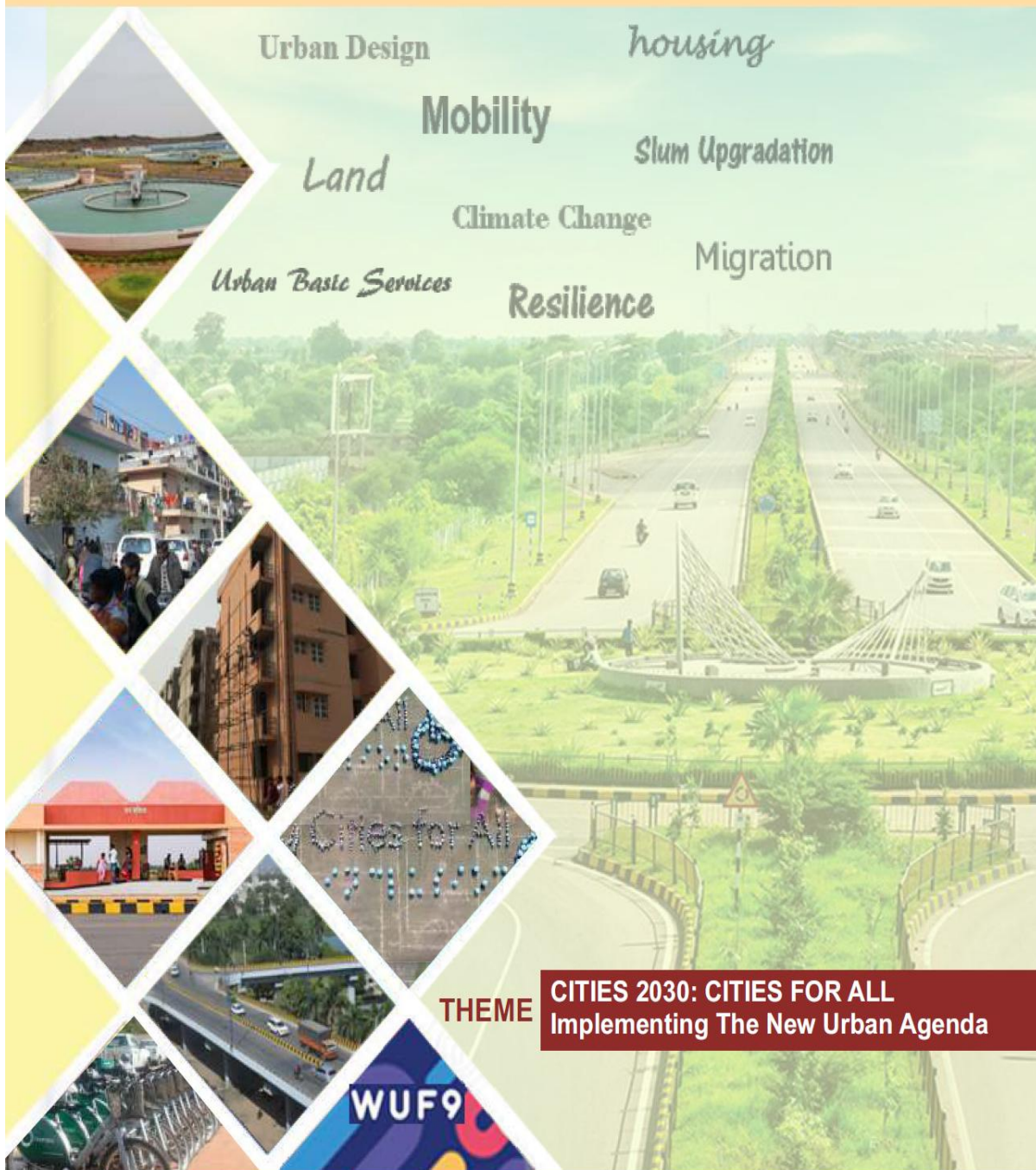
AFFORDABLE HOUSING DEVELOPMENT IN INDIA: CURRENT MODELS AND THEIR REPLICATION

Ramakrishna Nallathiga*$, S P Lele** and J V V Prasad**

*Associate Professor, National Institute of Construction Management and Research, Pune
**PGP ACM Students, National Institute of Construction Management and Research, Pune
$Author for correspondence (e-mail: nramakrishna@nicmar.ac.in)

Abstract

Affordable housing is perhaps the sought after topic in India that is discussed in both professional and policy circles in the current times. After an initial vagueness about what constitutes affordable housing, the later efforts to define it on built space and price parameters led to a better focus on the means of achieving affordable housing. Different agencies/organisations/government bodies have adopted different approaches/models for achieving affordable housing in India. This paper focuses on four broad models of affordable housing development in India – (i) area-based models (ii) agency models (iii) partnership models (iv) enterprise models. The salient features of these models are explained through specific case projects under each category. Finally, these models are compared on a matrix so as to help the various players of housing development in the adoption of such/ similar models in other areas. The replication potential of these models in other settings/contexts is also discussed through feature mapping done in the matrix.

Key Words: Affordable housing, development models, adoption, replication

1. INTRODUCTION

Affordable housing is considered as the need of the hour in India (JLL 2012). The ever increasing urban population has been putting a lot of pressure on the housing sector – especially that of low income housing. There is huge demand in this sector but very little supply (Agarwal et al 2013). This makes the study of affordable housing more important because it has a potential to unlock challenges, tap the huge demand in this sector and reduce the demand supply deficit (Cushman and Wakefield 2014). The government attempts through

plan allocations have not been sufficient to the issue of this magnitude and there was a policy shift from housing provision to enabling its provision by private sector (Nallathiga 2006). The 2008 global economic crisis led to a liquidity crunch in the Indian housing sector too and so a lot of developer's shifted their focus to affordable housing from luxurious housing due to unavailability of cash which previously would be available through the phased payments of the customers (Lincoln Institute 2009).

The lack of the definition of affordable housing has created confusion and widely varying interpretation of it by different groups that suits to their convenience. Deepak Parekh Committee (2009) first made an attempt to define affordable housing in terms of (i) space consumption norm viz., housing unit sizes (or, built space) (ii) affordability metric viz., rent or loan EMI to income ratios for two major sections of population – Middle Income Group (MIG) and Low Income Group (LIG)/ Economically Weaker Section (EWS). Subsequently, the Government of India (Ministry of Housing and Urban Poverty Alleviation) has defined it based on the household income as well as the built space as laid down in Table 1 under the Central Government Schemes – Rajiv Awas Yojana (RAY) and Prime Minister Awas Yojana (PMAY), which are the current norms for the provision of affordable housing.

Table 1 Affordable Housing Definition under Government Housing Schemes

Housing Group	*Annual Household Income*	*Carpet Area (sq m)*
Rajiv Awas Yojana Criteria/ Definition		
EWS	Up to Rs 100,000	21 – 27
LIG – A	Rs 100,000-200,000	28 – 40
LIG – B		41 – 60
Prime Minister Awas Yojana Criteria/ Definition		
EWS	Up to Rs 300,000	Upto 30
LIG	Rs 300,000-600,000	Upto 60

Source: Ahuja *et al* (2017)

Affordable housing has become the focus of successive governments at both Central and State levels in India. The media also reflects a view that this sector has a lot of growth potential and demand. The Central government recently began one of its program - Sardar Patel Urban Housing Mission, which aims at 'Housing For all by 2022'. With the rising levels of urbanisation, the amount of urban population living in slums as well as the rate at which the urban population is increasing (ADB 2014). This, in turn, is putting more pressure

on this sector (affordable housing[1]) to close the gap between demand and supply (Outlook 2012). It also gives opportunity to the government and the private players to take advantage of the unprecedented demand and cater to the needs by providing them with affordable housing units and several models of the partnered provision are emerging[2] (Sengupta 2014).

Given the current scenario and demand for affordable housing, we study the different affordable housing models adopted in the different parts of India to get a broader understanding of the uniqueness/differentiator of each model as well as the various aspects of each model, which help us to understand it better. The aim of the current paper is to have a better understanding of the different affordable housing models used in India and assess their replication/adoption potential. The objectives of the study include:

- To understand the concept of affordable housing and its dimensions.
- To review the various affordable housing models adopted in India.
- To perform a detailed study of select affordable housing models in India.
- To develop a comparative matrix of the different affordable housing models studied which can be used for adoption/replication.

A detailed literature review was done so as to identify the various affordable housing models in India e.g., APSRCL (2014), Charkrabarti and Sarkar (2008), Vastushodh (2014), IDFC (2012) and Monani et al (2014). Discussions were also held with housing developers and bureaucrats. As the focus of the study is on urban housing, where the shortages are very large, the focus is made on such models relevant to urban areas. Subsequently, we selected few affordable housing models for our study to perform a detailed case analysis. We used Case-study approach for studying different affordable housing models. Finally, we worked towards developing an adoption/replication matrix of the affordable housing models.

The affordable housing models selected for our study are unique or different in many aspects. These models have been selected carefully in order to get a sample which can be as ideal as possible for the formation of the comparative matrix which can be used for adoption and replication. These models can be broadly categorized as shown in Figure 1. In the subsequent sections, we will discuss the salient features of the initiatives of affordable housing provision falling under each of the respective model.

---

[1] A more detailed discussion of affordable housing definition and means can be found in Nallathiga (2010).
[2] There are partnership models emerging in the rental housing as well. For more details see Nallathiga (2016).
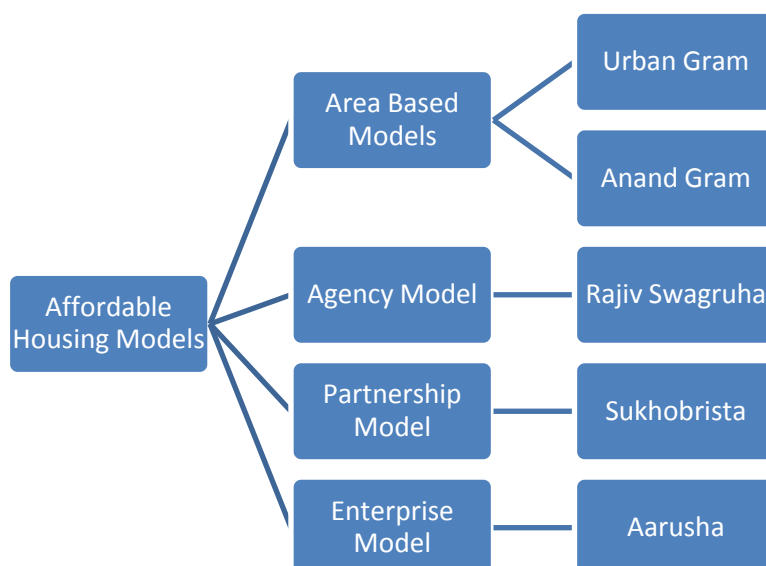
Figure 1 Different Models of Affordable Housing Development

2. AREA BASED MODELS

Vastushodh, a leading private construction company based in Pune, has introduced two affordable housing schemes under the titles of 'Anand Gram' and 'Urban Gram', which are area-based models. Anand Gram is an affordable housing scheme for Lower Income Group/Economically Weaker Sections (LIG/EWS) having housing units priced in the range of 5 to 15 lakhs. Urban Gram is an affordable housing scheme for Middle Income Group (MIG) having the housing units priced in the range of 15 to 30 lakhs. Vastushodh has converted Anand Gram and Urban Gram into a real estate franchise model, which is a first-of-its- kind in India for an affordable housing scheme. It provides flexibility in terms of four different franchise models for developing affordable housing schemes under Anand Gram and Urban Gram. The Four Franchise Models adopted include (Vastushodh 2014):

1) Investor Model

    Client: Brings in investment

    Vastushodh: Takes care of purchase of land, document sanctioning, appointment of consultants, project planning, construction, marketing, sales, brand usage etc.

2) Land Owner's Model

    Client: Has his own land and is also responsible for getting document sanctions.

Vastushodh: provides expertise in appointment of consultants, planning, construction, marketing, sales, agreement and home loan processing, project management, brand usage etc.

3) <u>Developer's Model I</u>

Client: responsible for obtaining land, pre-sanction document, infrastructure on site and construction.

Vastushodh: lends its expertise in appointment of consultants, planning, sales and marketing, agreements and home loans processing, project management and brand usage.

4) <u>Developer's Model II</u>

Client: gets his own land, pre-sanction documents, construction, sales, agreement and home loans processing, project management.

Vastushodh: helps in appointment of consultants, project planning, marketing, brand usage.

While the above franchise models are adopted by Vastusodh in its approach, there are some specific examples of the development under Anand Gram and Urban Gram projects. We will discuss hereunder two such projects in Maharashtra.

2.1 Urban Gram – Shirwal Case

Introduction

Shirwal is a small town located 48 km away from Pune in Satara district, Maharashtra. It lies in an industrial hub on the six-lane national highway and it is located on the proposed Mumbai Bangalore Industrial Corridor (MBIC). Apart from the industrial advantages, Shirwal also has a lot of educational and medical facilities in primary, secondary schools and hospitals. This makes it a potential site for affordable housing where the working class and their families need not have to travel to Pune for medicines, education, schooling and employment. Shirwal has adequate infrastructure in place, great connectivity and has a potential to grow further.

Structure

Urban Gram - Shirwal is a Joint Venture (JV) between ACG Worldwide and Vastushodh with an understanding of (i) ACG Worldwide supplies a 16 acre land parcel to Vastushodh just adjacent to the ACG Worldwide manufacturing unit (ii) Vastushodh creates 850 housing units out of which 210 will be given to ACG Worldwide for their employees and the remaining 640 will be sold by Vastushodh in the open market. Vastushodh offers housing

units with options of 1, 1.5 and 2 BHK in a parking plus 4 storey buildings. The size of the housing units ranges from 356 to 794 sq ft and price ranges from 10 to 25 lakhs.

Features

The following are the amenities and facilities provided with the housing units. It has adopted the concept of gated community and lives up to the standards of an urban lifestyle.

- Gated entrance gate with security cabins
- Semi-automatic lifts for all the building
- Generator back-up for all the lifts, common room lighting and water pumps
- Swimming pool and kids' pool
- Large landscaped area, community spaces and green corners
- Amphitheatre with performing platform
- Vermi-culture project and rain water harvesting
- Concrete roads, footpaths and tree lined avenues for internal areas
- Bore-well water for emergencies
- Street Lighting

Financing

Avenue Venture Partners became the second real estate private equity firm to invest in affordable housing sector after the Carlyle group by investing in Vastushodh projects. They have invested over Rs 40 crores in Urban Gram and Anand Gram. For this particular project in Shirwal, the financing is obtained from:

i. The phased payments of the customers and also in terms of the customers
ii. Being a JV with ACG Worldwide, the land given by the pharmaceutical giants could be used as an incentive and considered to be a kind of leverage.

Costing

Urban Gram - Shirwal offers an option of 1, 1.5 and 2 BHK units having sizes ranging from 356 to 794 sq ft and it offers homes at prices in the range of 10 lakhs to 25 lakhs. The target population of Shirwal are working class, mostly employed in industrial corporations or manufacturing units. Most of them have their monthly income in the range of Rs 25,000 to 35,000, which translates into an annual income range of Rs 3,00,000 to 4,20,000. Considering the definition for affordable housing in case of LIG and MIG, the affordability of the housing unit is not lost if it is priced within the range of Rs. 15,00,000 to Rs 21,00,000. Loan EMI/Income ratio of Urban Gram Shirwal housing is about 33 to 50%, which is more or less within the affordable housing range defined for MIG housing.

Unique Propositions

It is a first-of-its kind tie up between and industrial body and a real estate developer to create affordable housing units. This highlights the flexibility, the model of Urban Gram offers. ACG Worldwide gives a land parcel on which Vastushodh develops affordable housing units and gives back some of it to ACG Worldwide while retaining some to sell in the open market. It has made use of the Land Owner's model of franchise in the above case. It has not only provided the affordable housing units to the ACG Worldwide employees but also to the working class of Shirwal by selling the remaining units at affordable prices and giving boost to affordable housing.

2.2 Anandgram – Yavat Case

Introduction

Yavat is a village located at a distance of about 50kms from Pune. The national highway no. 9 (Pune – Solapur) runs through Daund having a length of 72 km connecting Yavat. Yavat is also well connected on the state highway. The district roads of Daund also connect all the agricultural and market centers including Yavat to the railway lines. The Pune-Solapur broad gauge has Yavat as one of its connecting stations.

Yavat is one of the six administrative centres of Daund taluka. It has black soil that has the capacity of holding moisture for a longer time, which enables sugarcane cultivation. Sugarcane farming is the main crop in the region. Majority of the population of Yavat is engaged in farming. It has presence of a private sugar manufacturer called Anuraj Sugars, which generates some employment opportunities. Yavat also holds a weekly Bovine market.

Structure

Anand Gram is a model to develop satellite townships around Pune. This development model offers housing units in townships with good amenities in a range of Rs 4-10 lakhs. Anand Gram Yavat is developed over a 10 acre area with 660 housing units of 1 RK, 1BHK and 2 BHK. Keeping in mind the occupation and the spending capacity of the majority of the population in Yavat, Anand Gram was launched here by Vastushodh.

Features

With a price band of Rs 4-10 lakhs, the following amenities serve to be very useful for the occupants who were previously never exposed to such levels of comforts and facilities.

- Play Park for Children

- Playground for outdoor games
- Multi-purpose community hall
- Amphitheatre
- 120 open car parks facility
- Sewage treatment Plant
- Rainwater harvesting facilities

Financing

Avenue Venture Partners became is the second private equity firm to invest in affordable housing sector after the Carlyle group in Vastushodh projects. They have invested over Rs 40 crores in Urban Gram and Anand Gram. For this particular project in Yavat, the financing is obtained from the phased payments of the customers of the project. Vastushodh has tied up with Micro Housing Finance Corporation (MHFC) Ltd, which provides housing loans up to Rs 5 lakhs to the people willing to buy housing units in the Anand Gram Yavat.

Unique Features

This project concentrates on the inclusiveness of customers in the entire concept. Its tie-up with MHFC was made while keeping in mind the target beneficiaries and their financing needs. As majority of the farmers do not have bank accounts, income tax returns and other documents necessary to avail housing loans, MHFC helps them to get loans up to Rs 5 lakhs without the above mentioned documents. This enables them to acquire housing units at ease. Anand Gram Yavat was the first project in Pune in the affordable housing sector to be awarded a CRISIL 5 star rating, which is a big achievement.

Targeting

Yavat population being farmers or working in industrial units have a monthly household income of around Rs 10,000 to 20000 and an annual household income of Rs. 1,20,000 to 2,40,000 per year. The Anand Gram project offers housing units in the range of Rs 4-10 lakhs. According to the affordability definition for EWS/LIG by Deepak Parekh Committee, the Anand Gram housing units will be affordable to the target beneficiaries with a loan EMI/income in the range of 33% to 40%. They also match with the EWS/LIG housing definition of the Government Housing Schemes (Table 1).

2.3 Urban gram and Anand gram as Affordable Housing Models

Urban Gram

The success of Urban Gram as an affordable housing model contradicts the popular belief that, for an affordable housing model to be successful, it has to be within the core city but not on the fringe. Urban Gram Shirwal has been set up in a small semi- urban pocket near Pune making use of the already established infrastructural facilities. Urban Gram adopted a strategy of setting up its housing schemes in well developed semi- urban pockets or on the fringes of urban cities with a majority of population as a working class. Such urban pockets are usually situated in industrial hubs or places having the presence of manufacturing units.

Shirwal has advantages of great road and rail connectivity, location on the MBIC, and the presence of industrial manufacturing units. Urban Gram takes these advantages and the predicted future growth of the region and combines it with low land prices of an urban fringe pocket. This is a clever yet simple strategy used by Vastushodh resulting into almost full bookings and occupancy rates in a short span of time. This strategy of Vastushodh should be studied and used by other private developers too, who without any government incentives want to venture into the market of affordable housing and yet be profitable.

The replication potential of this model is high. This model can be used urban fringes or semi-urban pockets with heavy presence of industries, well connected by road or railways. It makes use of the already existing infrastructural facilities and taps the huge demand for affordable housing due to the presence of working class who seek employment in that belt which has presence of industries. Such replication can also be seen in other Urban Gram projects by Vastushodh in Chakan, Pirangut and an upcoming project in Baramati. All these locations are well connected by road and railway; they also have the presence of automobile/industrial/manufacturing units and small scale industries apart from being agricultural hubs. Vastushodh has been successful in replicating Urban Gram model in Maharashtra. Such replication can also be done in other states by adopting this model and tapping the huge demand of affordable housing.

Anand Gram

Anand Gram is an affordable housing model for the LIG/ EWS groups and provides them housing of standard qualities, proper amenities and facilities. The tie-up with MHFC has helped consumer financing aspect of the project which has eliminated problems relating to the late phased payments of the EWS groups, ensuring timely completion of the project. Here, MHFC acts as an intermediary for the private developer for the collection of funds. This shows the presence of inclusivity in their concept.

Yavat is a rural settlement in Daund taluka of Maharashtra. Majority of population being farmers, it poses to be an ideal location for the model of Anandgram to be successful. Anand Gram which targets the LIG/EWS adopts a strategy of selecting locations which have a majority of its population engaged in agricultural works which has been seen a lot in Maharshtra and at the same time is connected properly through road and rail. It targets those villages/towns where people in general have low income and exploits existing demand.

Farmers usually have inconsistent income streams. Agriculture gives seasonal incomes to the farmers. The tie-up with MHFCs and inclusiveness in their concept helps them to tap the affordable housing demand in rural settings with very little access to formal routes of financing. By doing so, it tapped a new avenue in affordable housing having high demands which was till now neglected because of doubts over consumer financing.

The replication potential of this model is high. This model could be used in or applied to other rural pockets where the demand for housing is huge, but the target beneficiaries lack to access of finance makes it difficult to tap the demand. This model overcomes that limitation by looking after the consumer financing. This model can thus be replicated in rural settings surrounded by industrial hubs that are well connected by road/ rail.

3. Agency Models

3.1 Rajiv Swagruha (APRSCL)

Introduction

With the objective of "every person having no house of his or her own must own an affordable house", the Government of Andhra Pradesh (GoAP) started a unique 'affordable housing' scheme called "Rajiv Swagruha" for moderate income groups in the urban areas of the State in the year 2007. The idea was to provide housing units for the middle class, who earn Rs 6000 to 50,000 per month, and it also includes special housing for the senior citizens. The GoAP had set up a special agency – Andhra Pradesh Rajiv Swagruha Corporation Limited (APRSCL) – for the purpose of executing this affordable housing scheme.

Features

Freehold on absolute ownership over the dwelling unit and common amenities is given but restriction is placed on property that it cannot be transferred to any other person within 5 years of possession. This model is completely financed by the beneficiary population; as the progress of the project depends on the payments made by beneficiaries,

incentives were offered on prompt payment by beneficiaries. There are special houses catering to the needs of senior citizens. Individual homes are offered in places where land is available with the municipality. Innovative technology has been put to use to deliver good quality and durable structure in cost effective manner.

Leveraging the technology for better management has also been done in this project. The applications for allotment of housing units are accepted online. It provides housing units as apartments and as individual houses. This is done keeping in mind the lifestyle and taste of customers. Easy financing is made available through banks, where Single window clearance is given to beneficiaries.

Financing

The scheme is self financed - the allottees have to pay the cost in instalments regularly as it is linked to the construction of physical progress of each project. The tentative cost of flat is notified in advance and final cost is notified at final stage of project. The initial upfront cost is probably borne by the corpus fund of the corporation and then it is recovered from the beneficiaries. The working capital is pooled from beneficiaries and there are no costs towards commercial rate of interest if borrowed from banks. As the APRSCL follows a cost-plus-fixed profit model, the prices are below market price of similar units.

Market price is determined by demand rather than by the cost actually incurred by the developer. The availability of land with the government at the fringe areas at low prices helped to reduce the project costs. This is possible because the government has own lands and has entire machinery to survey about the availability of land, price of land. As this project is developed all over the state, the APRSCL exploited the economies of scale in procurement of raw materials and machinery. Land banking is done by the corporation which can reduce the cost of land for the coming phases of projects.

Unique Propositions

One bed room housing units of 545 sq ft and two bed room houses of 819 sq ft are provided under this model. The entire residential units are developed as a gated community. Amenities provided in housing units include:

- Piped Gas supply
- Solar water heating systems and lighting
- Well designed storm water drains with recharge pits
- Parks and playgrounds
- Shopping complex
- Entertainment facilities like amphitheatre / multiplexes

Targeting

The income category and the size of house developed are shown in Table 2.

Table 2 Income Groups and Unit Sizes of Rajiv Swagruha

Income Group	*Monthly income range*	*Unit Size (sq ft)*
LIG/EWS	Rs 6,000 to 10,000/-	523
MIG	Rs 10,000 to 15,000/-	757
MIG	Rs 15,000 to 20,000/-	1150

Source: APRSCL

However, there is a rule that the beneficiary should not have a residence in Municipal or local body limits in which he desires to get housing. There is also a lock-up period of 5 years before which the housing unit cannot be sold. The beneficiary should be resident for 5 years before 2007 in the state in order to become eligible for this scheme. After the eligibility norms are met, the allotted beneficiaries are informed on payment of full cost. A public lottery is conducted for the allotment of particular flat to the allotted. The allotment of the flat is provisional and subject to the following conditions:

- The allottee is not entitled to sell the flat till next five years.
- In case of double allotment or if both wife and husband get the allotment, the applicant is required to surrender one allotment to the Corporation.
- Registration will be done after completion of the flats and on full payment of the amount by the allotted to the APRSCL.

Allotment for senior citizens senior citizen projects

- According to APRSCL a senior citizen is an elderly active person, a person of relatively advanced age, especially a person at or over the age of retirement of state Government Service that is 58 years.
- There is no restriction of income and age for filing application for allotment subject to condition that "the occupant has to be a senior citizen".
- The occupant can be an owner or tenant.

Payment and maintenance

The amount of 25% of selected unit cost is to be paid in 45days, out of which 15% must be paid as booking advance. The payment should be made at mile stones like time of grounding basement level, roof level and finishing stage. There are incentives on payment of 100% amount to 25% amount within 3 months like allotting flat of own choice, offering a discount of 1%-0.5% on cost and choice of floor. An Agency is constituted to look after

management and maintenance of the enclave and it collects maintenance/user charges as fixed from time to time.

Affordability

According to the size of housing unit not all the projects under the scheme fall under affordable housing definition. There are projects for HIG under this scheme where the area varies from 1470sqft -1599sqft. However, there are housing projects catering to the needs of LIG/EWS and MIG population. The size of a unit offered for LIG/EWS is 500 sq ft and for MIG it varies from 800sqft -1150sqft. The cost estimate of 523 sq ft flat at Rs 1,635 per sq ft is Rs 8,55,105, which is ten times the household income and does not fall under affordable range unless upfront payment is made by beneficiaries. Similarly, a 757sq ft flat costs Rs 12,37,695, which is above 5 times the income, therefore becomes affordable.

Financing

There is a unique method adopted in which consumer will not choose at bank of his choice to get the loan instead banks will be invited by the APRSCL and choose to finance the projects. As a facilitator APRSCL has got an understanding will all banks that they will charge 0.5% less rate of interest to the allotted compared to their card rate, processing fee also will not be charged and single window clearance will be given. If he is not satisfied then he can choose a bank of his choice.

Construction Technology

The APRSCL used pre-cast Siporex blocks for wall and slabs panels, and it also used aluminium formwork which gives high repeatability. It has designed the building as earth quake resistant structures. It also followed some green construction practices like exposing the three sides housing unit to open sky, which gives good ventilation and sunlight, use of recycled water for landscaping purposes.

Unique Selling Point

The projects are located on the fringe areas of the city, where transportation is available. Special housing units are provided for senior citizens and incentives are offered for the timely payments made. The interest rate offered on the bank loan is less than the market rate. It is a gated community development which offers a good environment to people. These housing units are designed as earthquake resistant structures which gives good protection from earthquakes when compared to other type of construction.

Replicability

This model of affordable housing can be undertaken in Tier I cities and Tier II cities but not in Tier III cities, where the price offered is not affordable. This type of housing units can be developed in fringe areas of the city where the land costs are relatively low.

4 Partnership Models

4.1 Sukhobrishti

Background

The New Town Rajarhat is a satellite city developed on the eastern outskirts of Kolkata to establish a new business centre and to reduce the mounting pressure on the existing Central Business Districts. It is also planned so as to increase housing stock supply by creating new residential units houses for a population of 7.50 lakhs for all income groups with emphasis on housing for lower income groups. The State Government had entrusted land acquisition for the project to the West Bengal Housing Board in April 1996. It also constituted a new body called West Bengal Housing Infrastructure Development Corporation (WBHIDCO) for this purpose. The new town development is going on in a phased manner.

The WBHIDCO is the agency which plans and executes development projects and provision of infrastructure like roads, drains, sewerage line, water supply lines, major beautification works and other related major works in the entire 6,000–7,000 hectare area in Rajarhat. The New Town Kolkata Development Authority has been constituted under the New Town Kolkata Development Authority Act, 2007 for rendering various civic services and amenities within New Town. A lot of IT companies and financial institutions are coming up in the area which increased the migration from central city to this new satellite town.

Introduction

The Sukhobrishti is a mass housing development project of the WBHIDCO in partnership with the Bengal Shapoorji Housing Development Pvt Ltd, which constructs low-cost houses in New Town Kolkata for 20,000 families. The project is therefore built upon the strengths of both public sectors (in terms of land acquisition, development permissions and obtaining clearances) and private sector (investment capital, construction and maintenance). Sukhobrishti is therefore a unique project formulated under the public-private partnership (PPP) model of developing affordable housing units. Until 2014, three phases had been completed that accommodated 6,000 families.

Salient Features

This model is a success story of cross-subsidy by being able to provide good number of housing units within the affordable range. The success can be attributed to the off -site subsidy which was put to building IT/ITES facility meeting the objectives of the government. The State Government has allowed construction of 300 housing units per hectare, where 125-150 units in metropolitan urban areas is the norm set up by National Building Code (NBC,) thereby helping in reducing the costs.

Sukhobrishti is a project spread in 60 acres of New town Rajarhat, Kolkata, which is being developed as a satellite city in 6000 hectare area, so this brings the advantage of having all the facilities like education, healthcare, entertainment centers and connectivity. This is a complete package which remains not isolated from the places of work like we see in the other projects. The involvement of large private corporations like SPCL had bought quality and customer focused approach to this project.

Development Model

It is based on the PPP model that utilised cross subsidizing the MIG and LIG units by giving some land outside the project area for commercial activity like IT/ITES activity. The WBHIDCO gave the preferred bidder for the project 50 acres of land in the New Town at a sub-market price to construct IT/ITES industry. It laid conditions on the contractor that one would not wait to generate profits from IT/ITES industry before starting the construction of Sukhobrishti and that the work on Sukhobrishti would have to run concurrently. As a result of this customers can get housing units within Rs 3 lakhs to Rs 10.12 lakhs

Key Features

Sukhobrishti consists of 'Spandan' and 'Sparsh', which are the two residential complexes. Spandan consists of 1200 one bedroom houses with 4 floors without lift facility. Sparsh has 8000 two bed room houses of 14 floors with lift and parking facility. This has total infrastructure and amenities like health care centre, primary school, shopping complexes including institutions like banks post offices etc.

The road connectivity for the project is provided by the West Bengal state government and the centralized water storage system, drainage, and sanitation are provided by the Kolkata Municipal Corporation. The airport is 12 km away from the project and Howrah station is at 27 km with connectivity through bus.

Target Beneficiaries

The model envisages on providing LIG unit for less than 3 lakhs and MIG below 6 lakhs. In the phase 4 of the project 1 BHK, 2BHK and 3 BHK units are offered, where the

house hold income should be 1.8 lakhs, 3 lakhs and 4.8 lakhs respectively. The allocation of houses to the eligible beneficiaries is done through lottery. There is a lot of demand for these houses in public and the application forms get exhausted within 3 days of release.

Consumer Financing

The financing is done by Housing Finance Companies (HFCs) like HDFC, SBI Home Finance, LIC Housing Finance etc. For poor people who have no access to commercial banks, Micro HFCs are providing financial assistance. The purpose of the home loan should be for purchase of residential house for self-use. A maximum Rs 10 lakhs of maximum tenure for 15 years with interest rate between 12 to 14% is given by MHFC, Kolkata.

Conformity to Affordable Housing Definition

The size of one bedroom house is 322 sq ft, which conforms to affordable housing definition as the limit is 600 sq ft for LIG. The cost of unit is Rs 3,00,000 so the household income should be greater than Rs 6,250 per month, the limit of household income for 1BHK is Rs 15,000 per month. The size of two bedroom house is 479 sq ft which conforms to affordable housing (LIG) definition as stated above. The cost of the unit is Rs 5,70,000 so the household income should be greater than Rs 11,875 per month, the limit of household income for 2BHK is Rs 25,000. The cost of housing unit to the annual household income also falls under affordable housing definition.

Replication Potential

This kind of projects can be taken up in all major Indian cities like Mumbai, National Capital Region (NCR), Chennai, Hyderabad, Ahmedabad, Bengaluru and Kolkata. This can be extended to tier two cities like Pune, Mysore where there is presence of service industries.

Unique Features

The unique feature of this model is that it is able to provide good quality of housing units, whose construction quality is better than regular affordable houses. It also provides amenities like swimming pools, fitness clubs, entertainment centre etc. The houses are unique and well designed which gives pride for owners. The total housing complex resembles a gated community with security guards in uniform and closed circuit cameras for monitoring. It has 37,162 square meters of shopping complexes of retail market, malls and post offices. The residents work in the central part of Kolkata, they use the public transportation bus which reduces the cost of commute. This provides a good eco system all together.

4.2 Sukhobrishti as an Affordable Housing Model

Sukhobrishti provided good quality affordable housing for the urban poor and middle class. The provision of housing units at almost half the price of market rate is not possible unless the subsidy is used for creation of high income generating business which is possible only because of development of satellite city near to Kolkata, which is feasible in some parts of the country. The question of cross subsidy being spent properly for the beneficiaries is also a question which remains unanswered. Majority of the LIG are not able to pay 4.51 lakhs for the flat as access to credit is difficult from commercial banks and limited success of micro finance institutions.

Replicability of this kind of projects for all the Tier II and Tier III cities is difficult as development in a state is majorly focused around one or two major cities. However this can be extended to 'Township projects' in cities which have some local economy. Even though this is catering to needs of LIG, many are left behind which questions us if this model would be sufficient to address the demand of housing from LIG. Provision of 3 BHK units of 690sqft may not be suitable for all locations, the lifestyle and consumer taste should be kept in mind while offering 3 BHK housing units.

5. ENTERPRISE MODELS

5.1 AARUSHA Homes

Introduction

Aarusha Homes was established in 2007 by three alumni members of the Centre for Environmental Planning and Technology (CEPT) to meet the low income housing needs of urban residents and migrants. The first project was started in Hyderabad with Rs 70 lakhs as capital to cater the needs of students and working employees. It is now operating in three cities - Hyderabad, Pune and Bengaluru.

Aarusha Homes is a registered private company that is involved in providing rental housing solutions to lower income groups and economical weaker sections of the society. It started its first residential hostel in Hyderabad targeting rural youth (low income to middle income groups) who have migrated to the city for work/education. Later it expanded by setting up residential hostels in Bengaluru for the migrating youth seeking affordable accommodation in the city. Currently it operates hostels in 3 cities in India - Bengaluru, Hyderabad and Pune.

Business Model

Aarusha Homes does not buy plots; instead, it enters into a 3-9 year lease contracts with the landowners, obtains the right to use the plot and asks the landlord to build rooms. This also gives them the flexibility at the time of construction of the building as per their needs. As the landlord cannot construct a commercial building in a residential zone, Aarusha takes those plots to set up its hostels. It has adopted a strategy of locating these hostels just a few kilometres away from study /places of work of its occupants. Each tenant provides a nominal security deposit of Rs. 1,000 on registration. It provides hostels starting from monthly rent of Rs 2,400-5,000 in Hyderabad and Bengaluru. It is trying to consolidate the fragmented market of informal hostel sector in emerging cities.

Salient Features

A tenant of Aarusha homes typically enjoys 95-100 sq ft area that includes the room, kitchen, toilet and other common spaces. The tenant makes avail of services like meals, property maintenance, laundry service and utilities like electricity, internet and hot water supply. The occupants can get rooms in the range of Rs 4,000-6,000 per month and the cheapest rooms are in the range of Rs 1,200 to 2,400 per month, which excludes food.

It rents out to students and working employees in order to reduce default. In order to counter the reducing margins due to non-occupancy, Aarusha is trying to expand its operations to new cities like Nagpur and Ahmedabad and spread its risk. It started as private limited company in Hyderabad and currently has 350,000 hostel beds.

Target Beneficiaries

They target youth migrating from rural areas to urban areas in search of better educational facilities and work as entry-level employees who have low income levels and not much savings to go for high-end rental apartments.

Key Challenges

Since the hostel falls in non-residential category they are charged at commercial rates for property tax, water and electricity, apart from the levy of service tax. The property tax levied on the hostels may be high at 30 percent of their income. Very high trade license fee adds to the existing burden of managing the rented properties. There is also a stiff competition from informal hostels which provide low quality accommodation.

5.2 Aarusha Homes as an Affordable Housing Model

Aarusha Homes has adopted a very interesting strategy of risk mitigation. It de-risked its customer profile by spreading its services in Hyderabad and Bengaluru. In the Hyderabad market, students and entry-level employees earning in the range of Rs 6,500 to Rs 15,000 comprised 80% and 20% of Aarusha's customers. In Bengaluru, the ratio is in favour of employees with a work experience of five to six years and a salary bracket of Rs 12,000-28,000. Aarusha usually identifies plots in residential zones to set up its hostels, which are near the study/work places. As the landlord cannot construct a commercial building in that zone, the only option available to him is either to sell the plot or to build and rent it out.

Most landlords who like to hold on to their plots also want to avoid the hassle of following up for rents from different tenants in the hostel. That is where Aarusha steps in. It provides them a way of relieving themselves from the hassle of rent collection and maintenance of the property. This model banks on the economies of scale for profitable returns. Out of the rent it collects, 30% goes to landlord, 40% for food and 25% for repair and maintenance. Thus, Aarusha only aims at profit margin of 5-10%. The only way to translate this into more profitable margins is to scale up.

There is some replication potential in this model. It could be used to cater migrating working class and students in the cities with heavy presence of educational institutions and service sector companies. So, this model can be used in cities like Pimpri-Chinchwad (presence of IT sector and also an educational hub), Ahmedabad (Service sector), other Tier II and Tier III cities on the industrial corridors such as MBIC and DMIC.

6. REPLICATION/ADOPTION POTENTIAL MATRIX

A comparative matrix has been prepared after studying the above affordable housing models. Different factors have been considered carefully for comparison which can act as guidelines for a contractor/developer referring the matrix to adopt or replicate a particular model or some features of the model, or a combination of features of different models and use it in the location he intends to start the affordable housing scheme.   Table 3 shows the adoption/replication potential of the studied affordable housing models elsewhere in India.

6.1 Parameters of the Matrix

The following definitions can be used with reference to the parameters above:

(i) Purchase Power (in terms of household annual income)

EWS: less than Rs 2.5 lakhs

LIG: between Rs 2.5 and 5 lakhs

MIG: between Rs 5 and 12 lakhs

HIG: greater than Rs 12 lakhs

(ii) Occupation

Working class: industrial workers, construction labours etc

Entry- level employees: people of the age group 18-25who just started earning

(iii) Subsidies/incentives

Additional FSI, Transfer of Development Rights (TDR), Land subsidy, tax incentives,

single window clearance by authorities etc.

(iv) Level of local economy

The presence of industries in the region and their future growth potential

Mix of agricultural, service sector, educational institutions etc

(v) Demand

Demand is linked to the level of economy in the region.

Demand also has been linked to the availability of housing in the region.

(vi) Infrastructure

Includes road, rail connectivity, presence of hospitals, banks, health centers and

educational institutions.

(vii) Expected returns on the project

Financial: Measured in terms of profit margins

Goodwill: Measured in terms of building reputation and strong customer base

Economic: Measured in terms of considering social benefits arising from the scheme

6.2 How to Use the Matrix

i. A developer/development firm intending to start an affordable housing scheme gathers information regarding the beneficiaries he/she intends to target, the demographics of the location, expected returns from the project etc with respect to a particular location.

ii. The developer/entrepreneur can now compare his information with the factors/ parameter given in the matrix. He/she can then refer to the model which has the maximum factors/parameters matching with his/her own information or could refer to more than one model when his information matches with the factors/parameters of more than one model.

iii.   The developer/ entrepreneur can also give appropriate weightage to the different factors and then go for matching with the matrix.

iv.   Thus, this matrix acts as a matching model and a guideline for helping to adopt/replicate some features of a single model or a combination of models (or, a hybrid model).

Table 3 Adoption/Replication Matrix for Developers/Entrepreneurs

	Models				
Factors	*Urban Gram*	*Anand Gram*	*Aarusha Homes*	*Sukhobrishti*	*APRSCL*
Target Households					
☐ *Income Group*	MIG	LIG/EWS	LIG/ MIG	LIG/MIG	LIG/MIG
☐ *Household Age (in years)*	Above 30	Above 25	18-30	18-70	N.A.
☐ *Occupation*	Working Class	Farmers/ Working Class	Students/ Junior Employees	All	All
Location Characteristics					
☐ *Spatial Location*	Fringe	Hinterland/ Peri-urban	Central City	Peri-urban	Sub-urban
☐ *City/ Urban Centre*	Shirwal	Yavat	Hyderabad, Bengaluru, Pune	Kolkata (Rajarhat)	All cities in AP
☐ *City Class*	Tier III	Tier IV	Tiers I & II	Tier III	All tiers of cities
Built-In Features					
☐ *Subsidy*	Land subsidy (JV with an industrial unit)	-	-	Cross subsidy through IT park	N.A.
☐ *Internal Infrastructure*	Good	Sufficient	Good	Excellent	Sufficient to Good
☐ *External Infrastructure*	Connectivity through State and National Highways, Presence of hospitals and schools	Connectivity through State and national highways and rail; Presence of primary schools and health centres	Very good institutional infrastructure in the heart of city	Satellite town with good infrastructure and connectivity to city	Moderate infrastructure facilities

Socio-Economic Characteristics					
☐ *Local economy*	High presence of industries, part of MBIC	Medium presence of industries and agriculture	Well developed industrial/ service sector, esp educational services	Developing service sector esp financial services	Moderate to High depending upon City Tier
☐ *Demand in the region*	High demand due to the industrial corridor	High demand from LIG population due to the lack of housing	High demand due to presence of service sector in satellite town	High demand due to satellite city formation	High due to the presence of banking and small trade
Success Potential					
☐ *Financial return*	Yes	Yes	Yes	Yes	Yes
☐ *Good will*	Yes	Yes	Yes	Yes	Yes
☐ *Economic return*			Yes	Yes	

6. CONCLUSION

Affordable housing is the need of the hour. The ever increasing urban population is putting a lot of pressure on the housing sector – especially that of low income housing. There is huge demand in this sector but very little supply. This makes the study of affordable housing more important because it has a potential to unlock challenges, tap the huge demand in this sector and reduce the demand supply deficit. A lot of affordable housing schemes have been emerged for last few years. But, till now there has been no attempt of documenting these models in a distilled framework.

We chose four major affordable housing models from different parts of the country, based on a rigorous research, which are different and distinct on many fronts such as location, targeting, features etc. These models are broadly categorized into: (a) *Area Based Models* – Urban Gram and Anand Gram (b) *Agency Models* – Rajiv Swagruha (APRSCL) (c) *Partnership Models*- Sukhobrishti (d) *Enterprise Models* – Aarusha Homes

After a detailed analysis and documentation of each affordable housing model, the study also tried to develop a comparative matrix, which serves as a model choice matrix for any developer or entrepreneur who wants to start an affordable housing scheme. This matrix,

therefore, can be used as an adoption or replication potential of a model or a combination of the models by the developer as per his/her requirements.

REFERENCES

ADB (2014), 'Promoting Inclusive Urban Development in Indian Cities', *Technical Assistance Consultant's Report*, Asian Development Bank, Manila. Date of access: Dec 16, 2014.

Ahuja, C., D. Chawda and S. Nagrath (2017), 'An Analysis of Provision of Affordable Housing to Low-Income Groups', *Delhi Citizens' Handbook 2017*, Centre for Civil Society, New Delhi

Agarwal, A., V. Jain and A. Karamchandani (2013)*, State of the Low-Income Housing Market Encouraging Progress & Opportunity to Realize Dreams of Millions*, Deloitte Monitors, July 2013

APRSCL (2014): Website of Rajivswagruha http://www.rajivswagruhaap.gov.in/cis/index.php Date of access: December 26, 2014.

Chakrabarti, B. and R Sarkar (2008), Chapter 6.6: Sukhobrishti Model of Affordable Housing and New Townships, *India Infrastructure Report 2008*, Date of access: Jan, 2014

Cushman and Wakefield (2014), *Challenges and Opportunities for housing sector in Urban India*, Cushman & Wakefield Research Report, April 2014. Date of access: November, 2014.

IDFC (2012), Affordable Rental Housing, *Quarterly Research Note No. 15*, IDFC Policy Group, March 2012

JLL (2012), *Affordable Housing in India*, Jones Lang Lasalle (JLL), January 2012. Date of access: January 2015.

Lincoln Institute (2009), Inclusionary Housing, Incentives and Land value recapture, *Reading from Land Lines*, Lincoln Institute of Land Policy, Harvard. (January 2009). Date of access: August, 2014.

Monani, D., N. Sinha, TM Bhargavi, S. Dastur and S. Lodha (2014), *Affordable Rental Report*, January 2012, Indian School of Business, Hyderabad (Date of access: January 26, 2014)

Nallathiga, R (2006), 'Housing in India: Status, Policy and Interventions', In P S N Rao (ed): *Urban Governance: Indian Initiatives [Section IV: Shelter and Services]*, Kanishka Publishers, Delhi, pp 166-188

Nallathiga, R (2010), 'Affordable Housing in Urban Areas: The Need, Measures and Interventions', Paper presented at 7th Annual Thinkers and Writers Forum of the Skoch Summit held at India Habitat Centre, New Delhi on November 10-12, 2010

Nallathiga, R (2016), 'MMRDA Housing Scheme: A Case of Affordable Housing', *Shelter* 17(1): 10-16

Outlook (2012), "The Transit Shelter" *Outlook India* Report on September 1, 2012 http://www.outlookbusiness.com/article_v3.aspx?artid=282040. Date of access: Jan, 2014.

Sengupta, Urmi (2014): 'Chapter 9: New frontiers and challenges for affordable housing in India' in Bredenoord, J. P Van Lindert, P Smets (Eds) *Affordable Housing in the Urban Global South: Seeking Sustainable Solutions*, Routledge, London. Date of Access: September, 2014.

Vastusodh (2014),Vastushodh official website www.vasushodh.co.in. Date of access: December, 2014.