SHELTER

Theme Paper | Policy Review | Case Studies

Publication

HUDCO CELEBRATES

GOLDEN JUBILEE 1970-2020

Theme:

AFFORDABLE HOUSING AND SUSTAINABLE URBAN DEVELOPMENT

FROM THE EDITOR–IN–CHIEF

The world is going through very difficult times due to the Covid19 Pandemic resulting in huge loss of lives and livelihoods and India is no exception. Although the national lockdown has come at a very huge economic cost, with estimates predicting a contraction in India's GDP growth rate for the first time in last four decades, our priority of saving 'lives over livelihoods' (Jaan hai toh Jahaan hai) at the first place and moving to the next phase of both lives and livelihoods (Jaan bhi Jahaan bhi) has been the Indian strategy in dealing with this pandemic situation.

The current lockdown provides us a chance to reflect on what the housing and urban sector can do for reviving the economy. The significance of housing and urban development sector for the overall development of a nation is well documented, which can give a 'big push' to the economy, as it acts as a major stimulant for generating employment and income through its multiplier effects. The European economies, faced with utter devastation after the Second World War, began the reconstruction process largely based on housing. The multiplier effects of housing investments drove growth from construction materials to consumer durables. In India also, it has been established that the construction sector has strong 'backward' and 'forward' linkages with about 250 ancillary industries implying that its growth would provide significant stimulus for several other sectors to grow. What is more important in the context of large informal sector workers in India is that for every lakh rupee invested in the housing sector, 4.06 new jobs are created in the economy, out of which 3.95 jobs are for the informal sector workforce (NCAER, 2014).

It has also been realized that in the rapidly urbanising world, urban centres are fast becoming the engines of economic development as well as catalysts for social change and cultural transformation. Globally, it has been experienced that more urbanisation brings in more economic development of a nation due to agglomeration economies and economies of scale effects in terms of productive enterprise and public investment. In India also, the contribution of urban economy to GDP has increased from 29 per cent in 1950-51 to about 66 per cent today, which is further expected to increase to about 75 per cent by 2031. Thus for a developing country like India, the next few years present great challenges but even greater opportunities, because only the successful exploitation and harnessing of the growth potential of the agglomeration and urbanization economies can catapult it to a high growth path and help sustain the growth momentum thereafter. India's various Urban Missions would also help tide over the temporary joblessness and economic shock arising out of Coronavirus pandemic. The migrant workforce is the backbone of the urban economy in India and policy level intervention coupled with early implementation of housing choices such as affordable social rental housing for this group can trigger a reversal of the economic downfall.   In this context, the draft national urban rental housing policy formulated by the Ministry of Housing & Urban Affairs in 2018 needs a relook. Further, the skill India mission can refocus on fostering and encouraging traditional skills and crafts of the local populace for inclusivity.

This special issue of 'Shelter' is being published as part of the golden jubilee year of HUDCO and focuses on 'Affordable Housing and Sustainable Urban Development' which aims to give wider coverage to the various aspects involved in the twin issue of housing and urban development. The theme papers highlight the urban sustainability agenda for future growth; and progress of affordable housing and sustainable urban development in India with 50 years of HUDCO's contribution to nation building. The policy review section contains four articles which review the policies related to benefits and costs of PMAY, emerging issues in affordable housing in Tamil Nadu, NRuM and the issue of affordability respectively. This volume also presents four case studies of 4 different cities on different aspects of the main theme such as rental housing for low income households, co-living spaces as an affordable rental housing option, linking conservation of heritage, urban change and sustainability, and housing choices of migrants, etc. Two book reviews are also presented in this volume. The 'My Opinion' section contains my views on wide ranging issues relating to affordable housing, sustainable urban development and HUDCO's 50 years of stupendous contribution for building assets for the nation.

The volume of Shelter presents a bouquet of thought provoking articles on affordable housing and sustainable urban development in India. Hope this will trigger further discussions .

INSIDE

Theme

This special issue of 'Shelter' is being published as part of the golden jubilee year of HUDCO and the theme is 'Affordable Housing and Sustainable Urban Development'. The significance of housing and urban development sector for the overall development of a nation is well documented, which can give a 'big push' to the economy, as it acts as a major stimulant for generating employment and income through its multiplier effects. This year's theme aims to give wider coverage to the various aspects involved in the twin issues of housing and urban development.

The world is going through very difficult times due to the Covid19 Pandemic resulting in huge loss of lives and livelihoods and India is no exception. The European economies, faced with utter devastation after the Second World War, began the reconstruction process largely based on housing. The multiplier effects of housing investments drove growth from construction materials to consumer durables. In India also, it has been established that the construction sector has strong 'backward' and 'forward' linkages with about 250 ancillary industries implying that its growth would provide significant stimulus for several other sectors to grow. What is more important in the context of large informal sector workers in India is that for every lakh rupee invested in the housing sector, 4.06 new jobs are created in the economy, out of which 3.95 jobs are for the informal sector workforce (NCAER, 2014). India's various Urban Missions would also help tide over the temporary joblessness and economic shock arising out of Coronavirus pandemic.

HUDCO'S HSMI ORGANIZED DOPT IN-SERVICE TRAINING PROGRAMME FOR ALL INDIA SERVICE OFFICERS ON "FINANCING URBAN INFRASTRUCTURE AND SERVICES IN INDIA", 16TH – 20TH DECEMBER, 2019

HUDCO's HSMI completed 'One-Week Department of Training & Personnel (DoPT) In-service training programme for All India Service Officers' on 'Financing Urban Infrastructure and Services in India' during 16th -20th December 2019 at Sammelan Kaksha, HUDCO Bhawan, India Habitat Centre, New Delhi. 13 officers (12 IAS and 1 IFoS) participated in the Training Programme. The Programme was inaugurated at 10.00 am on 16th December 2019 by the chief guest Prof. O.P. Mathur, Senior Fellow, Institute of Social Sciences and former Director, National Institute of Urban Affairs, in the presence of Director Corporate Planning-HUDCO Shri M. Nagaraj and other senior officers of HUDCO.

analysis of infrastructure projects; Innovative financing options for Urban infrastructure including land value capture financing, capital market instruments, Public Private Partnerships for financing infrastructure including PPP in Railway Station Development; Road Infrastructure and its financing; Risk Management of infrastructure Projects; and Case Studies and Best Practices in financing urban infrastructure projects.

The programme was highly interactive and various experts and resource persons were invited to interact with the participants. Keys covered during the course include: Urban infrastructure in India: Trends, Issues and Policies; Government of India Urban Missions: SCM, AMRUT, PMAY-HfA; Overview of finances of ULBs and strengthening resource base of cities; Project Financing Structure, documentation and process; social cost benefit

As part of the Programme, full day field visits to two urban infrastructure projects: Waste to energy project at Okhla, New Delhi; and the Delhi International Airport Limited, both developed on PPP basis, by Jindal Group and GMR Group respectively were organised.

Field Visit to Delhi International Airport Ltd (DIAL), a PPP projects by GMR Group

The programme concluded with the valedictory address by Dr. M. Ravi Kanth, Chairman & Managing Director of HUDCO and distribution of Certificate of Participation to the course participants.

Field Visit to Okhla Waste to Energy Plant managed by Jindal Group

URBAN SUSTAINABILITY
-Agenda for Future Growth

MR. JIT KUMAR GUPTA

> No city can be sustainable and a great place to live unless it is made inclusive and self sufficient, catering to the basic needs of all its citizens, irrespective of their economic states, gender, sex, caste, creed and place of residence etc.

Key Words: Compact cities, environment, Green buildings, Green Mobility

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As definer of art, architecture, culture and development, cities have been globally recognised for their potential and contribution in promoting economy, generating employment, providing state of art amenities and services. Cities are also known to be storehouse of dualities and contradictions; containing poverty, prosperity, slums, exclusion, planned, unplanned and haphazard development. As a space, having high density, concentration of population, buildings and activities, cities have emerged as large consumers of energy and resources besides generators of waste. Consuming more than 75% of global energy and generating 70% of carbon footprints, global warming and climate change can be largely attributed to the cities. Unsustainable resource consumption, pollution, homelessness, and segregation are the major challenges posed by cities. Majority of urban ills have their genesis in the manner cities are planned, developed and managed. For making cities more liveable, humane, sustainable, promoters of quality environment and ecology, this paper looks at the options of rationalising urban planning process; making cities compact; creating options for green mobility; and green built environment.

INTRODUCTION

Led by massive increase in global population, urban areas are growing at a much faster pace. Year 2007 created an important milestone in global demography, when half of the world population lived in urban areas. By 2030, 60% of the global population is projected to make urban settlements as their preferred place of living (*United Nations, 2014*). As a hub for ideas, trade & commerce, culture, science and productivity, cities have enabled people to advance socially and economically. Operating as ever-evolving and ever-devolving dynamic physical, economic and social systems, contributing about 60 percent of global GDP, cities are fast emerging as powerhouses of economic growth. Known for bringing economies of scale, technological innovations and transportation efficiency, urbanization is also known to be breeding ground for exclusion, poverty and pollution. With every fourth urban resident living in slums (2018), 2 billion people having no access to waste collection, half (53%) of urban residents having access to public transport, over half of urban population exposed to air pollution levels 2.5 times higher than prescribed safety standards,

and basic infrastructure/services eluding majority of urbanites, cities are fast emerging as the storehouse of physical, social and environmental problems. Known to occupy just 3 per cent of earth's land, cities account for 60-80 per cent of energy consumption and 70 per cent of carbon emissions, making them vulnerable to impart climate change and natural disasters. Large concentration of people and activities in densely built-up urban spaces, tend to come with challenges of their own in terms of social and economic disasters, both natural and manmade (*United Nations University of Environment and Human Security-UNU-EHS*). Looking at the entire context of prevailing growth and development, cities have emerged as major determinants and propellers of poverty, pollution, exclusion and global warming. With urbanites projected to rise to 5 billion by 2030, it will be critical that efficient urban planning and management practices are put in place to deal with the challenges posed by massive urbanization, for ushering an era of sustainability and making urban areas inclusive, safe, sustainable and resilient.

INDIAN URBANISATION

Globally known for its uniqueness, peculiarities and complexities, Indian urbanization is characterized by its massiveness and numbers. With 378 million persons, constituting 11% of global urban population residing in 7,935 urban centres, India has emerged as second largest urban system in the world after China, despite level of urbanization standing at 31.11%. Census 2011 will be known in the Indian demographic history for two distinct milestones. For the first time, Urban India added more population (91 million) as compared to Rural India (90 million) and secondly, recorded largest increase of 52% in urban centres, with numbers going up from 5161 to 7,933. With 53 metropolitan centres holding more than 43% of urban population, Indian urbanisation is also called metro-led urbanisation. Last eleven decades (1901-2011), have witnessed enormous change in the demographic contours of India, with urban population increasing 15-fold from 25.8 million to 377.1 million; urbanization level going up merely three fold- from 10.84 to 31.15% and number of urban centres multiplying by a factor of 4 from 1917 to 7,933 (Census 2011). Considering the massive differential between urban and rural growth rate (2.1% against 0.7%), number of urban and rural dwellers projected to share parity by 2050. Next three decades will witness enormous growth in numbers, size and population of urban centres with metros numbering around 100 and 10-million plus cities count at 9. Kolkata, Mumbai and Delhi would rank globally, among largest urban centres, both in economy and population.

Looking at the urbanisation, urban India suffers from various developmental maladies involving acute housing shortage and high deficiency in provision/delivery of basic amenities and infrastructures. The 54th round of National Sample Survey observed that only 72% of urban households had access to potable water supply, 26% households had no access to latrines, only 60% municipal solid waste generated daily is lifted; every fifth urbanite is a migrant whereas every sixth urbanite is a slum dweller. Open spaces available in cities are merely 2.7sqm/person when compared to the specified norm of 9 sqm (*World Health Organisation*). Migration-led Indian urbanisation is known to be urbanisation of population, poverty and pollution. Considering the fact that by 2031, Urban India will be home to 13% of global population, contributing 70% to the national GDP. Accordingly, it will be critical that appropriate policy framework is immediately put in place to make urban settlements more productive, efficient, liveable and sustainable.

URBAN SUSTAINABILITY

Globally, urbanization is considered a panacea and essential condition for leveraging growth and poverty reduction. If planned and rational urbanisation is a bliss, rapid and unplanned urbanisation is known to cause numerous challenges for the communities. While urban centres act as the generators of economic growth, uncontrolled and accelerated pace of urbanization create burden on the existing natural resources; demand for mass transportation; increase in commercial and industrial activities; pressure to use the vacant urban land; destroy natural landscape; eliminate water bodies; increase energy consumption and cause severe damages to the quality of air, water and other natural resources, making human settlements vulnerable to natural disasters. Since, urbanization is known to be closely associated with global warming, accordingly new pattern of urban planning and development has to be evolved, defined and put in operation to make cities sustainable. Rationalising urbanisation would call for reducing urban sprawl; making cities compact and inclusive; creating green buildings; promoting green public transport; reducing carbon footprints; and providing better quality of life for its citizens, besides creating options for planned development to usher an era of global and local sustainability. The '2030 Agenda for Sustainable Development', enunciated by United Nation Organisation for promoting sustainability at global level, also places cities at the central stage with the inclusion of a stand-alone Goal 11, recognising that cities are the string that connect all other goals.

REDEFINING URBAN PLANNING

Urban planning aims at rationalising the growth and development of cities to make them both, orderly and sustainable. Urban planning is also known for its role in making cities elite, exclusive and promoters of dualities and contradictions. Accordingly, urban planning has to be carried out with care and caution. Existing practices of planning in India has done more damage than good with urban growth largely marked by unplanned and haphazard development. Considering the complexity of cities, a new order of urban planning would be required for making cities sustainable, liveable, productive and efficient. New order of planning would involve making planning transparent, community oriented, resource/ energy efficient and environment friendly, sustainable and flexible. Its focus shall be, to minimize prevailing urban dualities/ contradictions and to promote development based on equity and inclusiveness. New order of urban planning shall focus on making cities human-centric and functional besides creating large public spaces for promoting social interaction, to make cities great places to live and work.

Planners have also to revisit their planning tools to usher an era of urban sustainability. Master Plans, used by planners as the panacea to overcome all the urban ills, will have to be rewritten, redrawn /redefined with appropriate innovations/ changes made in their intent, contents and scope. New order of Master Plans will not be merely land-use plans, defining/ freezing the city's future for next two decades. They will be drawn adopting a 'whole city' approach to planning, focussing on the urban form, shape and typology to make cities sustainable. Since cities are dynamic entities, they will require plans which would be provider of in-built flexibility to cater to ever evolving urban dynamism. Accordingly, Master Plans would be growing and evolving with the growth of towns. Preparing new breed of Master Plans would invariably involve using state-of-art technologies and defining a distinct vision, evolved after detailed study, analysis and understanding of the city fabric, duly supported by detailed planning and development

guidelines. Each development project shall be evaluated within the framework of defined vision and guidelines, by a multi-disciplinary team of experts/ stakeholders before accepting. City planning shall not be dictated exclusively by planners but by a group of experts, representing different hues and shades of city planning, growth and management to rationalize decision making. Architects, urban designers, landscape experts, service providers, environmentalists, transport experts, conservationists, art and culture historians and sociologists etc. will have major role in conceptualising and planning the sustainable cities. New order of urban planning will be geared to make cities compact for reducing travel and minimising the extent of service network to bring economy and operational efficiency. With people as the focus, urban planning shall be geared to promote better relationship between living and working by adopting the mechanism of transit oriented development towards mixed land use. In the new order, housing, offices, work areas, commercial and institutions shall be juxtaposed along the mass transport network, within walking distances. Green spaces on the defined norms shall form integral part of urban living, for promoting highest order of environment and ecology. Cities

will be planned with minimum carbon footprints on the basis of inclusiveness, self-reliance and self-sustainability, to make value addition to environment and ecology. Considering major energy and resources implications of urban areas, the new regime of planning will focus on minimising travel; creating green buildings; defining parameters of quality liveability; efficient delivery of urban services/ waste management; making adequate provision of green spaces etc to ensure urban sustainability.

MAKING CITIES COMPACT

Prevailing patterns of massive urbanization, uncontrolled population growth and urban planning strategies have led to promoting enormous urban sprawl and large urban conurbations. Irrational spatial distribution of people and resources; improper use and consumption of land; less dense and more inefficient land use patterns; car-centred urban models; pure land-use zoning, have cumulatively promoted spatial spread and horizontality in cities. Horizontal cities, perpetually suffer from large external negativities involving, inadequate infrastructure and rising social disaggregation, making them developmentally cost-intensive, operationally inefficient and functionally non-sustainable. No horizontal

and outward looking city can ever be sustainable, efficient and productive. Horizontally spread cities are known to be cost-intensive, energy and land inefficient. These cities promote larger travel demand and make trip lengths longer, adding large number of private vehicles on the urban roads causing traffic congestion and pollution. Large number of vehicles make cities major consumers of resources/ energy; generators of green house gasses; promoters of global warming and pollution, adversely impacting health, hygiene and quality of life of the residents. Horizontality invariably makes cities environmentally unsustainable, socially disintegrated and operationally inefficient. For facilitating social, economic, and environmental sustainability, cities must be made compact, absorbing more population by increasing their densities. Compact cities offer distinct advantages in countering global warming by saving precious land resource; accommodating growing population in smaller ecological footprints; providing agglomeration advantages; minimising dependence on personalized vehicles; making city life supportive of social living; overcoming the two worst disadvantages of urbanization-travel and traffic; improving health of residents besides making cities more humane and liveable. In addition, compact

Figure 1: Compact City

cities, lower costs of providing infrastructure and services; reduce mobility demand; ensure energy efficiency; promote pedestrianisation, cycling and mass transportation. Through agglomeration, compact cities innovate, generate wealth, enhance quality of life and accommodate more people in a sustainable manner. Compact cities also make business sense because of lower financial cost/resources involved in city development while making adequate provision for basic infrastructure/amenities/ services and their effective operation and maintenance.

Making cities compact (Figure-1) would however require; innovative approach to planning; defining realistic norms and standards for land use planning, amenities and basic services; ensuring optimum quality of life and providing basic services/ amenities for all. Compact cities will be planned, designed and developed as vertical and inward

looking cities; promoting high density development; creating large built up area, using minimum land; supporting/ protecting environment and rationalising urban open spaces. It would also include; suburban densification, brown field development; allowing taller structures and providing adequate public spaces. Well-designed public spaces not only improve the overall visual character, invigorate economic activities but also enhance the functionality of the city. High density neighbourhoods with adequate public space, infrastructure and public transport facilities, encourage walking and cycling, thereby reducing carbon emissions and global warming.

Provision of pedestrian friendly streetscapes and public structures, where residents can gather for sports, recreation, or cultural activities, promote social connectivity and diversity, thus making these

neighbourhoods more cohesive, lively, and attractive. Compact cities offer higher order of safety to human life, property and liberty as compared to horizontally spread cities. Requiring less manpower to manage the city, makes compact cities operationally economical and efficient. Largely dependent upon non-mechanised vehicles, compact cities would have low car ownership, requiring much less area under traffic and transportation/parking of vehicles. Area thus saved can be utilised for providing better amenities and facilities for the urban residents. Cities of Singapore and New York have clearly demonstrated the distinct advantages of vertical development in promoting quality of life and higher order of operational efficiency in urban areas. For making city development inward and vertical, Singapore carried out digital survey of the city, identified low rise buildings, evolved a policy and provided incentives to owners to put high rise buildings to overcome the problem of high cost of living besides providing more dwelling units in the city. City of New York permitted sub-division of land and construction of studio apartments on the terraces of the existing buildings to create more housing space in the city. Though system of re-densification of the existing cities may be slow and cumbersome

but new and green field cities offer enormous opportunities to be planned and developed as vertical cities. Developing compact cities will be vital for India, because India owns merely 2.4% of global land with 17.3% of global population to hold/ support. India would require land resource to be preserved, conserved, protected, using land on 24×7 basis for ensuring sustainability and survival of the nation. However, planning and developing compact city has its own limitations. Striking a balance between compactness and access to nature is the major challenge faced by such cities globally. However, compact city is a model that promotes urban development without compromising with the benefits of nature, water, infrastructure and land for urban dwellers.

MAKING CITIES INCLUSIVE

Despite being powerhouse of economy, employment and infrastructure, cities also promote poverty, unemployment and lack of access to basic services on large scale. With rising cost of land and living, large cities believe in marginalising vast majority of population. Cities believe in welcoming elites and people with resources. Cities remain largely stratified, duly showcased by areas having good infrastructure and poor infrastructure; good housing and bad housing; planned and

Figure 2: Inclusive City
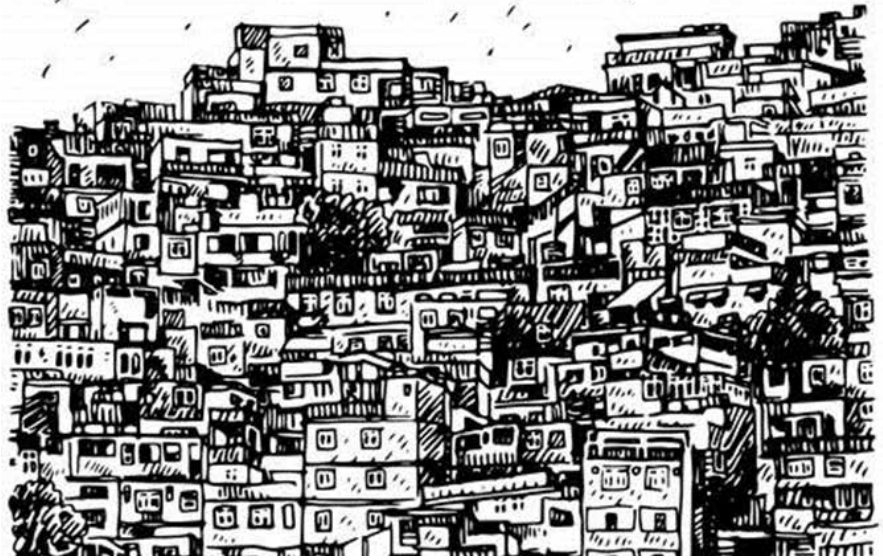
unplanned development; excess and lack of open spaces/amenities etc. Accordingly, rapid growth and mushrooming of slums, dilapidated housing, inadequate basic infrastructures; poor quality of life; informal housing; informal shopping; lack of open spaces, poor amenities and services etc. are some of visible signs of exclusions displayed by majority of cities. For making cities sustainable they have to be inclusive (Figure-2), providing appropriate options of living and gainful employment to its residents so as to enable them have decent living/ wages/adequate resources to meet their day to day needs. Sustainable cities are known to offer their citizens opportunities and a sense of personal pride, belonging and ownership for the place. Cities should make provision for adequate spaces, duly marked and developed, to enable all its residents, a place

for living and to do business. No city can be sustainable and great place to live unless it is made inclusive and self-sufficient, catering to basic needs of the all its citizens, irrespective of their economic status, gender, sex, caste, creed, place of residence etc.

GREEN MOBILITY

Globally, mobility has emerged as the major activity in everyday life of people in cities. Cities are known to be engines of the economic growth and transportation as wheels of that engine. Accordingly, efficiency of any city is contingent upon the efficacy and efficiency of its traffic and transportation system. Majority of the cities in India are suffering from traffic blues including pollution, congestion, delays, accidents, parking etc. Studies have indicated that cities are largely responsible

for green house gas emissions, with majority of contribution coming from transportation and buildings. Using traditional fuels, transportation sector alone contributes about half of the total carbon emissions. Challenges posed by transportation sector accordingly remain daunting and formidable. To make cities cleaner and greener, urban transport systems must be made more rational and sustainable.

Planning sustainable cities would essentially revolve around, *providing safe and clean transport for all* and promoting sustainable transport based on twin principles of *'planning for people and not for vehicles'* and *'promoting accessibility rather than mobility'*. Sustainable transport would prioritise pedestrians and bicycles over cars, as has been done in Copenhagen, where a bridge exclusively dedicated to bikes (Figure 3), has been constructed. Oslo city centre has been made car-free, by

removing all on-street parking and narrowing car lanes, to build new bicycle paths and prioritise pedestrians. Increased use of environment-friendly public transport and halting of urban sprawl can make cities sustainable. A Study conducted in 2014, by Central Road Research Institute (CRRI), revealed the efficacy, efficiency, role and importance of rail based mass transportation in promoting urban sustainability and quality of life in Delhi. The Study concluded that Delhi Metro, with daily ridership of over 27 lakh, has helped in taking off 3.9 lakh vehicles from roads, saving Rs 10,364 crores in terms of fuel, pollution/passenger's time and annual reduction of 2.76 lakh tonnes in fuel consumption besides bringing down travel time of each commuter by 32 minutes. Besides making Delhi cleaner and greener, study states that metro has made the city safer by reducing number

of fatal accidents. Sustainable cities would have different travel order/priority, led by pedestrianisation followed by cycling. Travel options in such cities shall be: totally integrated, connected, convenient; time- and energy-efficient; affordable; safe and eco- friendly; product mix of numerous public and private transport; development and management of rational land use policies; incentivising, discouraging, or eliminating certain mobility choices besides testing and implementing new technologies, which provide more efficient and less polluting modes of transport and involving communities and stakeholders. It would also include leveraging information technology to reduce mobility by using homes as offices, schools, libraries, monitoring traffic etc.

GREEN BUILDINGS

Buildings, as definer of urban fabric, consumer of energy and resources, are major contributor to the climate change and determinant of environment and urban sustainability. Built environment is known to deeply impact the quality of life, because 80% of human life is spent within building envelop. According to *World Energy Council Report 2016*, buildings consume over 40% global energy, 30% raw materials, 25% timber harvested, 16% fresh water withdrawal, 35% of world's CO2 emission, 40% municipal solid

Figure 3: Green Mobility

Figure 4: Green Building
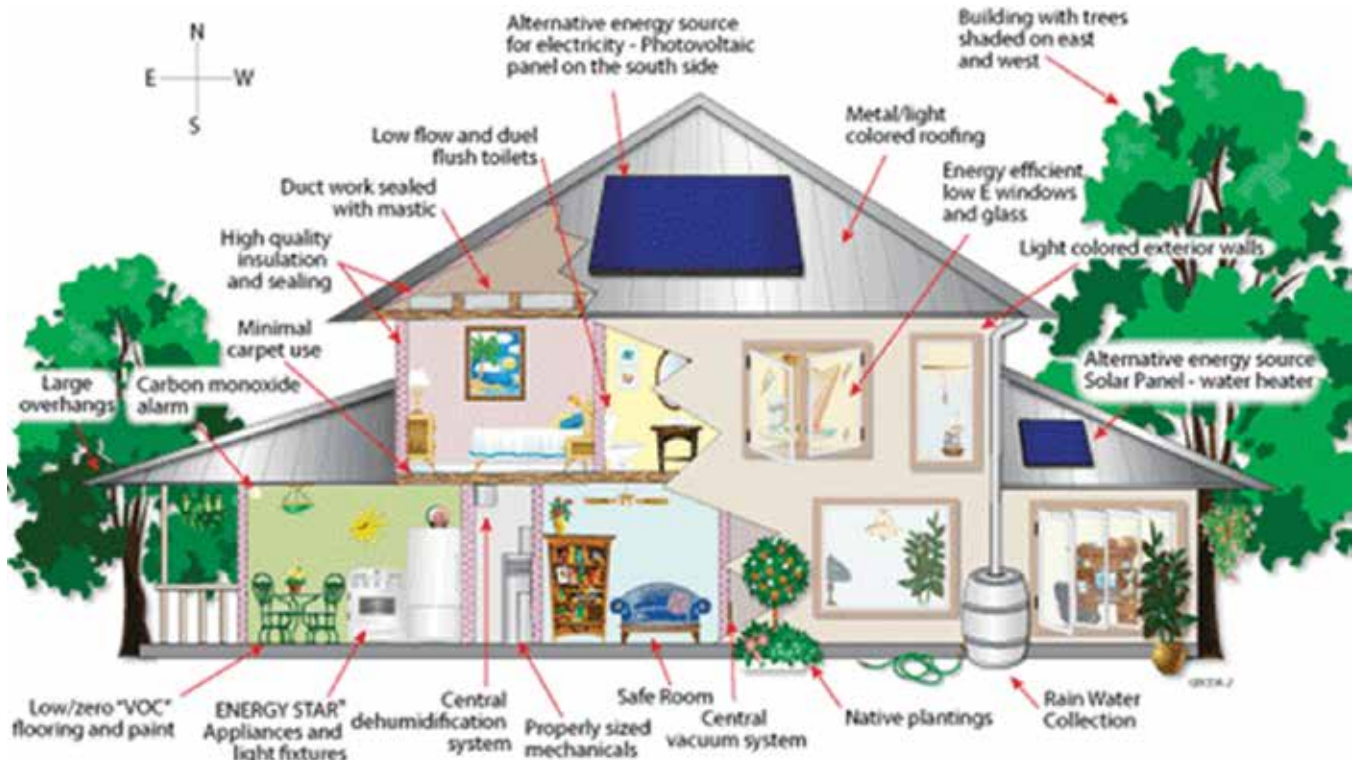
waste and 50% ozone depleting Chloroflorocarbon (C F C) , besides making 30% residents sick. Large consumption of resources and generation of waste can be attributed to the way built environment is designed, constructed and operated. Considering the contours of Indian urbanisation, requirement of built space is rising sharply. Studies made by *McKinsey Global Institute* reveals that annual built space requirement for meeting various urban needs of urban India will be in the range of 700– 900 million sqm. Enormity of built area requirements, calls for close scrutiny and monitoring of building/construction sector, for effecting overall economy

in the levels of energy/resource consumption to promote sustainability. Accordingly, buildings need to be made energy/resource efficient besides minimum generators of waste (Figure-4).

Planning with nature and using natural elements besides adopting an integrated approach to design can reduce energy implications of buildings. Planning with nature would essentially involve, making optimum use of *Panchbhutas-Prithvi (site), Agni(energy), Jal (water), Vayu (air) and Aakash (Space)*. Whereas rational site planning; optimising orientation, low surface to volume ratio; efficient structural design; adopting passive

techniques; using energy efficient equipment; rational lighting, heating, ventilation; leveraging solar energy/air movement; landscaping; etc. would form part of integrated approach to building design. However, building design would vary from region to region, state to state and within regions and states, based on prevailing climatic conditions. For making optimum use of solar and wind energy, site planning must be carried out considering local climatic conditions to ensure that majority of sites have best orientation. In addition, ratio between width and depth of plot should be so fixed, as to ensure that entire building gets access to natural day light.

Green buildings offer best option to make cities sustainable, because such buildings have genesis in using practices and processes that are environmentally responsible and resource efficient throughout the building's life-cycle. Green buildings promote urban sustainability through enormous energy and water saving, both at building and city level besides generating less waste. Green buildings with green roofs are also known for their capacity to prevent heat island and floods. Considering importance of Green Buildings, Singapore has prepared a Master Plan targeting 80 percent of its buildings to be certified green by 2030 for saving 35% electricity consumption. Retrofitting of existing buildings also offer great opportunity to make cities sustainable. Retrofitting *Empire State Building* (New York) has led to achieving reduction of 3.5 MW of electricity load besides reducing green house gas emissions by 1,00,000 tonnes over a 15-years period. Besides, economising on resources, energy and improving productivity of occupants, green buildings make business sense and are known to create win-win situation for owners, users, tenants, cities and communities.

SMART TECHNOLOGIES

In this era of globalisation, liberalisation and complexity of urban operations, technology is known to play critical role in helping cities become more sustainable, resilient, and inclusive. Technology has been leveraged globally for; promoting effective and efficient planning; ensuring state of art development; promoting qualitative management and ensuring efficient operation and good governance of cities. Technology creates better, cost-effective, cheaper, time-efficient, faster, scalable and easy to use solutions for everyday problems facing cities. Adopting sustainable development practices along with proven technologies and business practices, can catapult cities move forward, both economically and socially (*David Jonker*). Globally, cities are looking at ever evolving/devolving technologies, which can transform social, economic and environmental quality of cities and communities. For making cities, sustainable, user-friendly and supportive of higher order of productivity, they have to make technology integral part of the planning, development and management process besides day to day operations/policy formulation. Technologies create two-way communication, bridging gap between government and citizens; building cities of citizens' choice; creating pool of resources and collective intelligence for resource optimisation; providing smart solutions; promoting safety, security and transparency. Globally, successful cities are extensively using *Information Communication Technology* (ICT) to promote good governance; bringing transparency in decision making; reducing pollution and green house gas emissions; monitoring service delivery and plugging leakage in services. Technology has been leveraged to generate enormous data and use it for planning and decision making. Technology also helps in bringing broad spectrum of expertise including financing, urban planning, architecture, transport and energy on the same platform for conceptualising and implementation of various projects to make cities sustainable. Smart technologies create opportunities for collaboration; revolutionising the way cities operate; way people interact; bringing city authorities, businesses and citizens on same platform besides empowering people. Innovations in *Cape Town,* have shown how data from sensors in water utilities, electrical smart meters etc. can be leveraged to improve basic services and improve the financial management of taxes and other revenues. *Delhi and Boston,* are showing, how mobile apps can deliver city services to residents and collect information about the state of roads and other infrastructure. Pune, is using mobile technology for carrying out census of trees-

crucial to improve air quality and quality of life. Parking apps are being used extensively to inform drivers about the nearest available parking spots, saving commuter's time, gas, emissions and money, while easing flow of traffic. City guide app, with information about museums, parks, landmarks, real-time traffic etc. launched by *Baltimore, Ottawa, Charlotte and New Orleans*, have helped citizens and tourists to improve their experience in the city.

GOOD GOVERNANCE

Good, fair and effective urban governance is pre-requisite for any city to become sustainable and to ensure that development benefits, both people and the planet. Good Governance offers a powerful impetus for promoting reforms in policies/ programs for sustainable development; entails processes, decisions and outcomes that sustain natural resources, alleviate poverty and improve the quality-of-life. The real test of good governance is when citizens feel secure and trust governments to conduct public affairs in the best interests of society; when governments

Figure 5: Good Governance

are accountable and responsive to their citizens; transparent in their reporting on the use of public resources and decision making; create opportunities for participation in policy and service delivery; foster a climate of respect for universal rights; promote inclusion for disadvantaged citizens; provide political and institutional context for realizing sustainable development; ensure poverty reduction; promote inclusive growth; protect natural resources and tackle inequality (Mark Robinson). Studies have revealed that sustainability of cities is largely contingent upon the qualitative governance and excellent leadership they had (Figure-5). United Nations Economic and Social Commission for Asia and the Pacific has emphasised the *role of Good Governance as the panacea for all urban ills and Bad Governance as one of the root causes of all evil within our societies/ cities*. The Commission has listed eight fold pre-requisites for achieving good governance which include *Transparency, Accountability, Consensus, Responsiveness, Effectiveness & Efficiency, Equitable, Inclusive and following the rule of law.* Ownership remains another pre-requisite for good governance. In the Indian context, with large number of agencies operating at local level, ownership of urban areas remains diluted and hazy. For promoting good

governance at local level, clear ownership needs to be created. Looking at the ground realities, ULBs emerge only institutions that have intimate knowledge of city fabric and accordingly, deserve to be vested with exclusive ownership at local level. Capacity to perform is the key to good urban governance. However, urban local bodies in the present format have little capacity, capability and resources for ensuring good urban governance. Accordingly, they need to be adequately strengthened in terms of their leadership, administrative, managerial, structural, fiscal, techno-legal, manpower and political capacities to enable them to emerge as institutions of good governance and discharge all their obligations to urban centers with effectiveness and efficiency. 74th Constitutional Amendment Act has already mandated and laid down a framework for action, which need honest implementation to make urban local bodies effective institutions of self-governance for promoting urban sustainability.

CONCLUSION

India is urbanising at a rapid pace. Already one third is urban. Half of India will live in cities by 2050. Cities are known to be economic power houses, having large ecological footprints. With ill effects of urbanisation and climate change

converging in dangerous ways, nations and communities are heading for disasters. Search for solutions to make urban settlements sustainable will be critical. For achieving the goal of the 2030 Agenda for Sustainable Development of prosperity within planetary boundaries, cities will have to lead the way. Considering vital role of urban areas in promoting sustainability, it becomes important that the entire gamut of urban planning, development and management is, critically and objectively looked at and new agenda put in place to promote urban sustainability. Strategy to promote urban sustainability should essentially revolve around adopting state of art urban planning; making cities compact; creating green buildings; and redefining order of mobility with focus on planning for people not for vehicles. In addition, cities will have to focus on enhancing people's everyday lives; applying practices that bring city and nature under one umbrella; using natural landscape as the underlying principle for urban development; balancing adaptation and mitigation for safeguarding cities against climate change; focusing on the reduction of greenhouse gas emissions increasing opportunities for biodiversity and recreation; developing resilience through multifunctional urban spaces;

adopting circular ecosystem initiatives; and mixing housing & mixing people to counter social segregation. These approaches will cumulatively overcome combined adverse effect of rapid urban development, increased urban sprawl and pollution to make cities sustainable, healthy, low carbon, inclusive and more accessible, pleasant and safest places to live and work. For making urban sustainability a distinct reality, India has to put in place appropriate policy, legal and institutional framework, duly supported by dedicated manpower and resources. However, creating sustainable city will always be a complex process. There is no single solution. Thousands of small steps would be needed for making cities sustainable.

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AFFORDABLE HOUSING AND SUSTAINABLE URBAN DEVELOPMENT IN INDIA
- Fifty Years of HUDCO's Contribution to Nation Building

DR. AKSHAYA KUMAR SEN

> The housing and urban development activities in India rapidly accelerated with the establishment of HUDCO in 1970 and it can be said that the history of housing and urban development in India is closely related to the fifty years' history of HUDCO.

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Affordable housing and sustainable urban development have been two key priority areas of action of the Government of India since independence. The history of housing and urban development in India is closely related to the history of HUDCO, which was set up in 1970 as a specialised sectoral Institution for comprehensively dealing with the problems of growing housing shortages, rising number of slums, deficient urban services and for fulfilling the pressing needs of the economically weaker sections and lower income groups of the society. This paper tries to give a brief account of various policies and programme initiatives taken by the government of India for provision of affordable housing and sustainable urban development in the country. The sustained role of HUDCO as the unique and largest financial intermediary in the public sector for nation building in last 50 years has also been documented in this paper.

INTRODUCTION

Increasing urbanisation trend in India is one of the key components of demographic dynamics in India. In 2011, India had a total population of 1.21 billion out of which 377.1 million lived in urban areas, constituting about 31.16% of the population. The pace of urbanisation in India can be gauged from the fact that whereas the total population of India has grown by 3.4 times during the period 1951 to 2011, i.e. from 361.2 million in 1951 to 1,210.2 million, the urban population has grown 6 times during the same period i.e. from 62.4 million in 1951 to 377.1 million in 2011. Similarly, the level of Indian urbanisation increased from 17% in 1951 to 31% in 2011 and projected to cross 50% by around 2040. While urbanization has been a catalyst for economic growth across the globe and particularly true in India with the contribution of urban economy to India's GDP has increased from 29 % in 1950-51 to above 66% today due to localisation, agglomeration and economies of scale effects, it is also true that rapid urbanisation in the Indian context is synonymous with severe shortage of housing and basic services like potable water, well laid out drainage system, sewerage network, sanitation facilities, electricity, roads, transport and appropriate solid waste disposal. In view of this, sustainable management of urbanisation has become

an overarching governance, management and financial challenge for urban planners and policy makers in India in the last several decades. Therefore, provision of affordable housing and sustainable urban development in the country has become priority area of action by the Government of India since independence.

GLOBAL DISCOURSE ON SUSTAINABLE URBAN DEVELOPMENT

One of the major global developments in this decade has been the adoption of Sustainable Development Goals (SDGs) by United Nations in September 2015, with 17 ambitious goals and 169 indicators, covering a broad range of interconnected issues, which requires every country to judiciously prioritize, and adapt the goals and targets in accordance with local challenges, capacities and resources available. India is committed to implement the SDGs. One of the key goals, which is also called the Urban Goal, is Goal 11 "Make cities and human settlements inclusive, safe, resilient and sustainable" with targets such as affordable and adequate housing and basic services for all, transportation, human settlement planning and management, cultural and natural heritage, disaster management, mitigation and

rehabilitation, development of safe, inclusive and greener cities, etc. to be achieved by 2030.

Another significant development is the adoption of the 'New Urban Agenda – Quito Declaration on Sustainable Cities and Human Settlements for All' during the Habitat-III Conference at Quito, Ecuador in October 2016. The Quito Declaration enlists commitments from member Nations for actions towards promoting sustainable cities and human settlements for all in the next two decades. The commitments are in sync with the SDG 11 and cover broadly affordable housing, infrastructure provision including water supply and sanitation, housing, infrastructure, basic services, food security, health, education, jobs creation, safety, and natural resources, among others.

Some of the other key global conventions that focus on sustainable habitat include the Paris Agreement on climate change (COP21) in 2015, the Sendai Framework for Disaster Risk Reduction in 2015; and the 2015 Addis Ababa Action Agenda for financing and creating an enabling environment at all levels for sustainable development in the spirit of global partnership and solidarity. All these recent global discourses resolve around sustainable urban development.

HOUSING AND URBAN DEVELOPMENT SECTORS AS GROWTH ACCELERATORS

The significance of housing and urban development sectors for the overall development of a nation is well documented. As one of the three basic needs of a human being, the access to and the quality of housing and urban basic services directly influence the quality of life of people, their productivity levels and growth potential. In fact, Housing is regarded as an 'engine of economic growth' which can give a 'big push' to the economy, as it acts as a major stimulant for generating employment, output and income. This has been witnessed in many countries. The European economies, faced with utter devastation after the Second World War, began the reconstruction process largely based on housing. The multiplier effects of housing investments drove growth from construction materials to consumer durables.

In India, it is estimated that the housing sector has strong 'backward' and 'forward' linkages with more than 250 ancillary industries, implying that its growth provides significant stimulus for several other sectors to grow. As per a Study by IIM Ahmedabad (July 2000), housing investment has inter-industry linkages and investment in housing/ construction sector has strong

multiplier effects on generation of income and employment in Indian economy. A unit increase in the final expenditure on the construction sector would generate additional income in the economy as a whole which would be almost 5 times as high as the direct income generated within the construction sector itself. Further, investment in housing has an employment multiplier of almost 8. As per another Study (NCAER, 2014), through direct, indirect and induced effects, the output and income multipliers for housing sector are 5.11 and 2.84 respectively. Every additional rupee invested in the housing sector will add Rs. 1.54 to the GDP and with household expenditure considered, this is going to add Rs. 2.84.

It has also been realised that in the rapidly urbanising world, urban centres are fast becoming the engines of economic development as well as catalysts for social change and cultural transformation. The fact that urbanisation and the state domestic products have quite high positive inter-linkage effects in India has been brought out by a collaborative research study by HSMI & NIUA (2014) through the logarithmic regressions between urbanisation and per capita gross state domestic product (PCGSDP), thus providing proof to the hypothesis that cities are the engines of growth; and therefore, sustainable

Figure-1: Inter-linkage effects of per capita income and urbanisation level across states in 2011
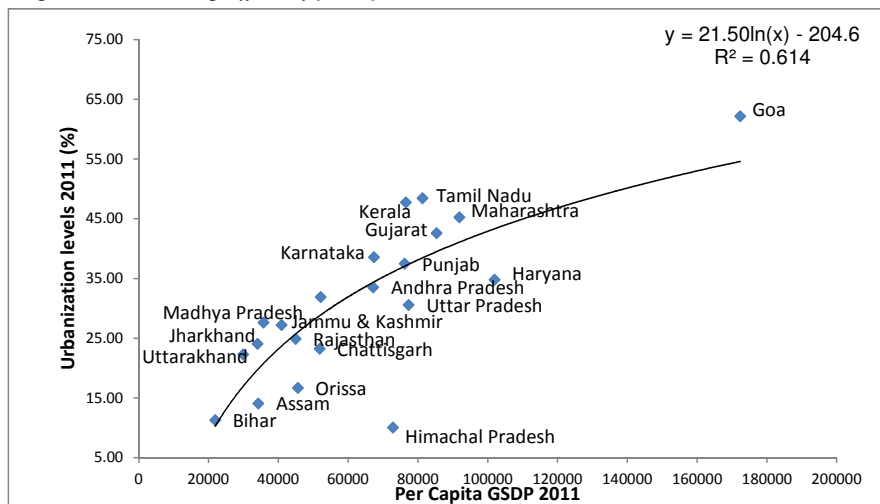
Source: Metropolitan Cities in India, HSMI & HUDCO-Chair NIUA Collaborative Research Report, 2014

urbanisation is the way forward.

As can be seen from Figure-1, the relationship between urbanisation and State per capita income has a strong correlation with R-square, or the explanatory power, being 0.614, indicating that cities hold the key to economic growth. Urbanisation is gradually aligning itself with the economic growth processes in India. The contribution of urban economy to India's GDP has increased from 29 per cent in 1950-51 to 63 per cent in 2011 and to about 66 per cent today, which is further expected to increase to about 75 per cent by 2031 (Table- 1).

The Twelfth Five-year Plan (2012-17) of India has noted that urbanisation would be central to India's strategy of achieving faster and more inclusive growth because agglomeration and densification of economic activities (and settlements) stimulates economic efficiencies and provides more opportunities for earning livelihoods; and thereby enables faster inclusion of more people in the process of

Table-1: Share of Urban Sector in National Income

Year	Share of Population (%)	Share of National Income (%)
1951	17.3	29.0
1981	23.3	47.0
1991	25.7	55.0
2001	27.8	60.0
2011	31.16	63.0
2031 (Proj.)	40.0	75.0

Source: Ministry of Urban Affairs & Employment, Govt of India (now MoHUA) & HPEC Report (2010), MoHUPA, GoI

economic growth.

But, the inter-linkage effects are still quite low by international standards, indicating the fact that the positive impact of agglomeration economies on urbanisation is far from being saturated. Thus for a developing country like India, the next few years present great challenges but even greater opportunities, because only the successful exploitation and harnessing of the growth potential of the agglomeration and urbanisation economies can catapult it to a high growth path and help sustain the growth momentum thereafter.

HOUSING & URBAN DEVELOPMENT IN NATIONAL PLANS

Recognising the importance of housing and urban development in the economy, the government of India has been promoting housing and urban development activities as one of the priorities areas of action right from the starting of the national planning framework in 1951. From first (1951-56) till the sixth plan (1980-85) period, the government played a direct role in the provision of housing in India, which can be categorized as the 'Government-led housing and urban development' in India. Housing and the related subjects of land and urban basic infrastructure are state subjects. In this regard most states had set

up State Housing Boards (SHBs), Development Authorities, Urban Improvement Trusts, and specialised Boards such as Water Supply Boards, Sewerage & Drainage Boards, etc. for taking up public housing schemes with special attention to the economically weaker sections, lower-income groups and urban development activities. One of the key institutional developments during this phase of planned development is the establishment of the Housing and Urban Development Corporation Limited (HUDCO) as a public sector enterprise by the Government of India in 1970 to provide long term techno-financing service to state public agencies for housing, especially for housing projects for economically weaker sections (EWS) and lower income groups (LIG) of the society as well as urban development projects. Another important institutional development is the establishment of Housing Development Finance Corporation (HDFC) in 1977 in the private sector to provide individual loans for housing.

The second phase of housing and urban development in India came about from seventh five-year plan (1985-90) onwards which can be called the 'market-led housing and urban development' with Government as a facilitator and enabler and enhanced participation of the private sector. The focus of this phase was that the Government

should be involved in housing not so much to build but to promote housing activity. For orderly and regulated functioning of the housing sector, the National Housing Bank (NHB) was set up in 1989, as a fully owned subsidiary of the Reserve Bank of India (RBI) as a regulator of the housing activities and Housing Finance Companies (HFCs). With the onset of liberalisation in 1991, the economic landscape of India underwent a sea change. The economy witnessed high growth rates in GDP and Per Capita Income and with that the aspiration levels of people have soared. The market interest rates fell from very high levels to reasonable levels in consonance with the policy changes. As competition emerged, Banks and many Housing Finance Companies (HFCs) came into lending for housing sector especially in retail housing. The government aided the funds flow to housing sector by intervening on both the demand and supply side. On the demand side, the government of India provided incentives in the form of tax rebate on interest outgo and principal repayment on housing loans. On the supply side, real estate developers were given various tax exemptions on profits. As a result of all these developments, housing sector started to flourish and many large private developers came into the housing sector delivering houses. Government

liberalised its foreign direct investment (FDI) policy by allowing foreign investment into integrated townships in January 2002. The urban development activities, including the urban infrastructure and services, also found market players including the development of various public private partnerships (PPP) models for urban projects such as water supply, sewerage, roads, etc.

The last almost 70 years of planned development in India has seen many programmes and policies initiatives in the housing and urban development sector which have had significant positive results in the overall living conditions of the urban citizens, especially the urban poor at large. Some of the key housing programmes since the first five-year plan are given in Table-2.

These schemes are implemented by the State Governments

Table-2: Major Housing Programmes in India

Sl. No.	Major Scheme	Year since
1.	Subsidised Industrial Housing Scheme (Revised in 1966)	1952
2.	Low Income Group Housing Scheme	1954
3.	Subsidised Housing Scheme for Plantation Workers(Revised in 1967)	1956
4.	Slum Clearance and Improvement Scheme	1956
5.	Village Housing Projects Scheme	1957
6.	Middle Income Group Housing Scheme	1959
7.	Land Acquisition and Scheme	1959
8.	Rental Housing Scheme for State Government Employees	1959
9.	Jhuggi & Jhopri Removal Schme (in Delhi)	1960
10.	Rural House Sites-cum-Hut construction Scheme for landless Workers	1971
11.	Environmental Improvement of Urban Slums (EIUS)	1972
12.	Workshed-cum-Housing Scheme for artisans & Handloom weavers	1974
13.	Integrated Low Cost Sanitation (ILCS)	1980
14.	Fishermen Housing Scheme	1985
15.	Night Shelter Scheme for Foothpath Dwellers in Urban areas	1988
16.	SHASHU (NRY) (discontinued in 1997)	1989
17.	Indira Awas Yojana (exclusively for rural areas)	1990
18.	EWS Housing Scheme for Beedi workers & Hamals	1991
19.	Shelter Upgradation under PMIUPEP (discontinued in 1997)	1996
20.	National Slum Development Programme (NSDP)	1996
21.	Two-million Housing Programme for EWS/LIG	1998
22.	Prime Ministers Gramin Yojana- Gramin Awas Yojana	2000
23.	Valmki Ambedkar Awass Yojana (VAMBAY)	2001
24.	Jawaharlal Nehru National Urban Renewal Mission (JNNURM)	2005
25.	Interest Subsidy Housing for Urban Poor (ISHUP)	2009
26.	Affordable Housing in Partnership	2009
27.	Rajiv Awas Yojana (RAY)- Slum-Free India Mission	2012
28.	Pradhan Mantri Awas Yojana (PMAY)- Housing for All (Urban)	2015

Source: Author's Compilation

through state level public housing agencies viz. Housing Boards, Development Authorities, Improvement Trusts, Slum Clearance/ Improvement Board, etc. with Government budgetary support and loans from financial institutions, particularly Housing and Urban Development Corporation Ltd (HUDCO). The public agencies of the States broadly followed the financing pattern of HUDCO in respect of social housing schemes.

The Twelfth Plan (2012-2017) further reaffirmed that urbanisation will be central to India's strategy of achieving faster and more inclusive growth because agglomeration and densification of economic activities (and habitations) in urban conglomerations would stimulate economic efficiencies and provide more opportunities for earning livelihoods. The 12th plan recognized that though the proportion of urban population concentrated in larger cities continued to remain high, there was some evidence that other urban growth nodes were emerging that underscored the need for adequate policy attention to smaller cities and peri-urban areas as against the narrow focus of concentrating on large 'Mission Cities' as was followed in the Eleventh Plan period. Therefore, the strategy for the Twelfth Five Year Plan focused on strengthening the five enablers for planned,

Figure-2: Key Constitutes of India's Urban Future
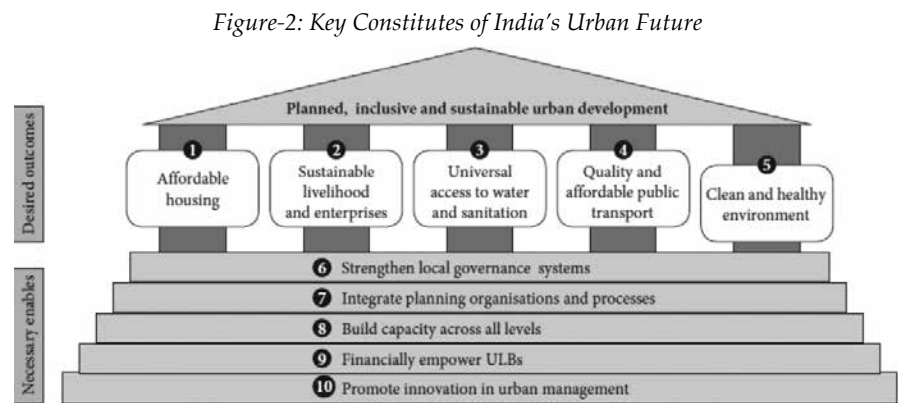
Source: Twelfth Five Year Plan Document, Volume II, Planning Commission, Govt. of India, 2013

inclusive and sustainable urban development - governance, planning, financing, capacity building and innovation (Figure-2).

The focus on provision of affordable housing and infrastructure including urban basic services was more evident in the 12th plan with the announcement of new housing programme of Rajiv Awas Yojana (RAY) for a slum-free India along with more fiscal incentives to boost housing activities. RAY mandated giving 'property rights' to slum dwellers by suitable enactment within a year of the project being sanctioned. The 12th Plan Period also witnessed the launch of key urban missions in 2015 by the Government of India for transformation urban India, namely, Pradhan Mantri Awas Yojana (PMAY)- Housing for All (Urban); Smart Cities Mission (SCM) and Atal Mission for Rejuvenation and Urban Transformation (AMRUT), in addition to Swachh Bharat

Mission of 2014.

The Government also acted on the supply side to tackle implementation problems holding up large infrastructure projects. In view of the importance of the urban transport, various schemes/projects were mooted under the Twelfth Plan such as: all urban transport projects including urban road projects and related activities including provision of buses, which improves public transport were admissible components under JNNURM-II; and Provision for metro rail projects and rapid rail transport system (RRTS). Further, the 12th plan also aimed at substantially improving the urban basic services such as Water Supply, Sewerage, Storm Water Drainage, and Solid Waste Management.

The 12th plan also mooted the idea of merger the of the Ministry of Urban Development with that of the Housing and Urban Poverty Alleviation, as urban development, housing

and poverty alleviation are inter-related subjects and therefore a concerted effort must be made for convergence of the programmes and initiatives of both the Ministries. The merger happened in 2017 when the Ministry of Housing and Urban Affairs (MoHUA) was formed. Ultimately all schemes run by different Ministries of the States and the Central Government must converge on ground at the municipal level.

NATIONAL POLICY INITIATIVES

The post-independence India has seen the gradual development of housing and urban development sector with some key policy initiatives such as National Commission on Urbanisation in 1986, formulation of three national housing policies, urban transport policy and the recent national urban policy.

National Commission on Urbanization, 1986

A comprehensive study on various issues relating to housing and urban development sector was undertaken when the Government of India appointed the National Commission on Urbanization (NCU) in 1986. In its final report in August 1988, the NCU included the rural-urban nexus, the growing problems of slums and urban poverty, principal constraints of land supply and finance which impede the pace of housing supply and reaching the basic services like roads, water, power, sewerage and other municipal services to the people. The NCU also suggested several changes in the laws affecting housing, including the Urban Land (Ceiling and Regulation) Act, 1976 and Rent Control Act. Taking a comprehensive look at the past trends in housing and urban sector, the Commission made specific recommendations on a broad range of policy interventions which could generate rapid economic growth with social justice. The Commission identified 329 urban centres whose economic and fiscal bases need consolidation, strengthening and expansion. In the field of housing, the Commission recommended that the housing policy must aim at increasing the supply of serviced land and low-cost shelter, improving and upgrading slums and conserving the existing housing stock. Apart from providing access to land, the housing programme must also provide for finance, infrastructure development and community facilities.

National Housing Policy, 1994

The Global Shelter Strategy adopted by the United Nations in 1988 called upon national Governments to take steps for the formulation of a National Housing Policy (NHP) to achieve the goals of the Global Shelter Strategy. Accordingly, the first National Housing Policy (NHP) in India was formulated in 1988, which was approved by the Parliament of India in August 1994, after several rounds of modifications. The long-term goal of the NHP was to eradicate houselessness, improve the housing conditions of the inadequately housed and provide a minimum level of basic services and amenities to all.

National Housing & Habitat Policy, 1998

The NHP 1994 was reviewed and in July, 1998, another housing policy in the name of 'National Housing & Habitat Policy -1998'(NHHP) with the aim to create surpluses in housing stock either on rental or ownership basis and provision of quality and cost effective housing and shelter options to the citizens, specially the vulnerable group and the poor. NHHP-1998 was announced with some landmark initiatives like involvement of multi-stakeholders, repeal of Urban Land Ceiling Act, permitting FDI in housing and real estate sector, etc.

National Urban Housing & Habitat Policy, 2007

In the year 2007, NHHP-1998 was modified as the National Urban Housing and Habitat Policy(NUHHP)-2007, to specifically cater to the urban sector with the goal of providing 'affordable housing for all'. This

policy sought to earmark land for economically weaker sections (EWS) & lower income groups (LIG) in new housing projects for provision of affordable housing. Many state governments such as Rajasthan, Odisha, Uttar Pradesh, Haryana, Telangana, etc. have also brought state Affordable Housing Policies.

Housing policy in India also focus on simplification of procedures for issue of construction permits with an approach of single window clearance with increased automation. Building Codes and byelaws have also been modified and now incorporate provisions for 'green buildings', natural disaster resilience and inclusive design for the elderly and the differently abled. Incorporating all these, the Government of India has recently brought out Model Building Bye-laws for adaptation by the states.

National Urban Transport Policy 2006

The Government of India introduced the National Urban Transport Policy (NUTP)- 2006 which focuses on planning for people rather than vehicles, by providing sustainable mobility and accessibility to all citizens to places of work, education, social services and recreation at affordable cost and within reasonable time. This involves incorporating urban transportation as an important parameter at the urban planning stage rather than being a consequential requirement, introducing Intelligent Transport Systems (ITS) for traffic management, raising finances through innovative mechanisms, establishing institutional mechanisms and building capacity for enhanced coordination in the planning and management of transport systems.

National Mission on Sustainable Habitat, 2008

As part of the National Action Plan on Climate Change (NAPCC) 2008, the Government of India launched eight "National Missions", one of which is the 'National Mission on Sustainable Habitat' (NMSH) with objectives of promoting energy efficiency in residential and commercial sectors, developing a comprehensive approach to managing water, solid waste and wastewater and refurbishing urban transportation to increase usage and energy efficiency. In line with the NAPCC, 27 States have prepared their State Action Plans for Climate Change (SAPCCs).

National Urban Policy Framework, 2018

The Ministry of Housing & Urban Affairs, Government of India has come out with a National Urban Policy Framework (NUPF)-2018 which is structured along two lines. Firstly, at the NUPF's core lie ten sutras or philosophical principles, which include: (i) Cities are Clusters of Human Capital; (ii) Cities require a 'Sense of Place' (i.e. Indianness); (iii) Not static Master Plans but evolving Ecosystems; (iv) Build for Density; (v) Public Spaces that encourage Social Interaction; (vi) Multi-modal Public Transport Backbone; (vii) Environmental Sustainability; (viii) Financially Self-Reliant; (ix) Cities require Clear, Unified Leadership; and (x) Cities as Engines of Regional Growth. Secondly, the ten sutras are applied to ten functional areas or pillars of urban space and management. These ten pillars are: Urban Economy; Physical Infrastructure; Social Infrastructure; Housing and Affordability; Transportation and Mobility; Urban Planning and Design; Urban Finance; Urban Governance; Urbanization and Information System; and Environmental Sustainability. Within each functional area, the status quo and its challenges are analysed, key priorities are formulated, and specific possible actions points suggested.

The vision underpinning NUPF 2018 is to see cities as complex and changing agglomerations of people who are constantly interacting with each other, with socio-economic institutions and with the built environment. The NUPF recognizes that the urban evolution takes place slowly but, once embedded, its impact can remain in place for decades or even centuries. Therefore,

this Policy framework would go a long way for sustainable urbanisation in the country.

POSITIVE RESULTS AND EMERGING CHALLENGES

The various policies and programmes undertaken by the Government of India have had significant positive results in the overall living conditions of the urban poor at large. The urban housing stock has increased from 52.06 million in 2001 to 78.48 million in 2011, an increase of 51% in just one decade (Table 3). The absolute housing shortage in terms of the difference between the number of households and number of housing stock in urban areas has significantly reduced from 1.63 million in 2001 (3% of the households) to 0.39 million (0.5% of the households) in 2011. The gross credit deployment to housing sector by Banks has increased from US$ 1.7 billion in 1997 to US$ 69 billion in 2011. This increased availability of funds to the housing sector has enabled in increased housing stock in urban areas.

In addition to the huge growth in urban housing stock, there has also been substantial improvement in access to urban amenities (Table 4).

In spite of the appreciable growth in the urban housing stock in comparison to urban households, and the difference between

Table 3: Growth of Urban Households and Urban Housing Stock

Census Year	No. of Households (Mn)	Decadal Growth Rate (%)	Urban Housing Stock(Mn.)	Growth Rate (%)
1971	19.10	28	18.50	39
1981	29.30	53	28.00	51
1991	40.70	39	39.30	40
2001	53.69	32	52.06	32
2011	78.87	47	78.48	51

Source: Census of India, and Report of the Technical Group on Urban Housing Shortage for the 12th Plan period, MoHUPA, Govt. of India, 2012

houses and households being marginal (0.39 million in 2011), the urban housing shortage has increased considerably due to housing congestion (in terms of no exclusive rooms for married couples, etc.) and obsolescence factors (temporary as well as dilapidated houses which require new construction) as mentioned in Table 5. According to the estimation of the Technical Group on Urban Housing for the 12th five-year Plan period, the total urban housing shortage in the country in 2012 was 18.78 million dwelling units, and about 96 per cent of this shortage pertains to the economically weaker sections and the lower income groups of the society.

The challenge ahead for the policy makers and government of India is not only to fulfil the target of providing 20 million houses by 2022 but also better quality housing providing for women privacy and better amenities to ensure sustainable human settlements development. Over the years, the development of urban basic services and infrastructure services like water supply and sanitation facilities, transportation, power, etc. have also not kept pace with the growth of population. As per the estimates of High power Expert Committee (2010) Report (Table 6), a total investment of INR 39.2 trillion ($ 650 billion) at 2009-10 prices would be required for

Table 4: Percentage of Households with access to Various Amenities

Urban Scenario	2001	2011
Water Source within Premises	--	65.4
Water with Taps	68.7	70.6
Electricity for Lighting	87.6	92.7
Bath Room within House	70.4	77.9
Latrine within House	73.7	81.4
Kitchen within House	76.0	82.0

Source: Census of India,2011

Table 5: Urban Housing Shortage in India in 2012

	Housing Shortage (Million)
Households living in Non-serviceable Kutcha (Temporary) Houses	0.99
Households living in Obsolescent Houses	2.27
Households living in Congested Houses requiring new houses	14.99
Households in Homeless conditions	0.53
Total Urban Housing Shortage in 2012	18.78

Source: Report of the Technical Group on Urban Housing Shortage for the 12th Plan period, MoHUPA, Govt. of India, 2012

urban infrastructure services over the 20-year period (2010-30).

In addition, funds required for meeting urban housing shortage would be in the range of Rs. 10 trillion to 22.50 trillion, assuming different cost per unit for different income categories. It is also estimated that an investment of US$ 115 billion (INR 7000 billion) would be required for developing 100 smart cities over 20-years period with an annual investment requirement of US$ 5.75 billion. With such mammoth need for housing and city infrastructure development, there lies the opportunity for Development Finance Institutions like HUDCO to scale up financial assistance for the sector. The public sector efforts have to be supplemented by private sector investment as well. Methods to augment municipal resources as well as raise resources through PPP mode and market sources including capital market borrowing and external commercial borrowings, need to be found.

RECENT IMPETUS TO HOUSING & URBAN DEVELOPMENT

With the aim to eradicate open defecation by 2nd October 2019, the 150th birth anniversary of the Father of the Nation, Mahatma Gandhi, the Government of India launched a Pan-India campaign on 2nd October 2014 in the name of 'Swachh Bharat Abhiyan' or 'Swachh Bharat Mission' (SBM) both in rural as well as urban areas. In addition to the construction of household, public and community toilets, the Mission also aims at modern and scientific municipal solid waste management, eradication of manual scavenging, behavioural change and awareness regarding healthy sanitation practices, capacity augmentation of local bodies, and creating an enabling environment for private sector participation. Sustained efforts under SBM have yielded significant positive results. In the urban areas, as on 10th April 2020, 61.39 lakh individual toilets, 5.82 lakh community & public toilets have been constructed; 4324 cities have

Table 6: Investment Requirement for Urban Infrastructure and Services in India (2010-30)

Sectors	Investment Requirement (Rs. lakh cr.)
Urban Roads (44.1%)	17.29
Urban Transport (11.5%)	4.49
Renewal & Redevelopment including Slums (10.4%)	4.08
Water Supply(8.2%)	3.20
Sewerage (6.2%)	2.42
Storm Water Drains (4.9%)	1.91
Capacity Building (2.6%)	1.01
Traffic Support Infra. (2.5%)	0.98
Solid Waste Management(1.2%)	0.48
Street Lighting (0.5%)	0.19
Other Sectors (7.9%)	3.09
TOTAL	39.18

Source: High Powered Expert Committee Report on Urban Infrastructure & Services, 2010, MoHUPA, GoI.

been declared open-defecation free; out of 84,358 wards, 81,135 (96%) now have 100% door-to-door waste collection; almost 61 megawatts (MW) of energy is generated from waste-to-energy (WTE) projects; and the waste-to-compost production stands at 31,82,435 metric tonnes.

In the year 2015, three significant urban missions were launched by the Government of India for transformation of urban India, namely, Pradhan Mantri Awas Yojana (PMAY) -Housing for All (Urban) for provision of 20 million affordable houses by 2022; Smart Cities Mission (SCM) for development of 100 smart cities to enhance the quality of urban life and to provide a clean and suitable environment; and Atal Mission for Rejuvenation and Urban Transformation (AMRUT) of 500 cities of above 100,000 population to create infrastructure that has a direct link to provision of better services to the people.

In order to providing affordable housing for all by 2022 and creating slum free cities across the country, the 'Pradhan Mantri Awas Yojana (Prime Minister's Housing Scheme): Housing for All (urban)' Mission, addresses the housing requirements of urban poor including slum dwellers through 4 programme verticals:

(i) Slum rehabilitation of slum dwellers with participation of private developers using land as a resource and additional FSI/FAR/TDR;

(ii) Promotion of Affordable housing for weaker section through credit linked subsidy with interest subvention of 6.5% by the Government of India;

(iii) Affordable Housing in Partnership with public and Private sectors;

(iv) Subsidy for beneficiary-led individual house construction with central assistance of INR 150,000 per housing unit constructed by the beneficiary;

A *Technology sub-mission* has been set up under Pradhan Mantri Awas Yojana (Urban) to facilitate adoption of modern, innovative and green technologies and building materials for faster and quality construction of houses. Similarly, towards incentivising commercial banks and financial institutions to lend to the urban poor, the Government of India implemented a 'Credit Risk Guarantee Scheme' whereby lending institutions are guaranteed against the loan default to the extent of 90 per cent. As on 10 February 2020, under PMAY-Urban, 21,566 projects involving investment of Rs. 6.16 lakh crore and central assistance of Rs. 1.63 lakh crore for construction of 10.3 million housing units under the above 4 verticals have been sanctioned by the Government of India. Out of 10.3 million units, 3.21 million units have been completed.

Government of India launched the *Smart Cities Mission* on 25th June, 2015 with a broader objective to promote cities that would provide core infrastructure and decent quality of life to its citizens, a clean and sustainable environment and application of Smart Solutions. The core infrastructure elements in a Smart City include water supply, electricity supply, sanitation, including solid waste management, efficient urban mobility and public transport, affordable housing, especially for the poor, robust IT connectivity and digitalization, good governance, especially e-Governance and citizen participation, sustainable environment, safety and security of citizens, particularly women, children and the elderly, and health and education. As on 10th April 2020, for 100 smart cities, projects worth Rs. 2.05 lakh crore have been sanctioned consisting of Rs. 1.64 lakh crore for area-based development projects and pan-city solution projects worth Rs. 38,914 crore which will cover almost 10 crore urban population. Similarly, under AMRUT, as on 10th April 2020, work completed for 2,619 projects for basic urban infrastructure projects including affordable housing projects worth Rs. 9783 crore and 2,766 projects in progress worth Rs. 64,216 crore. Total State Annual Action Plan under AMRUT is

already Rs. 77,604 crore for 4,672 projects which will substantially improve the urban infrastructure situation in 500 small and medium cities.

The government of India has introduced more missions such as HRIDAY, DAY-NULM, NRuM, etc. for better and sustainable living conditions in urban areas. The aim of Heritage City Development and Augmentation Yojana (HRIDAY) is to undertake strategic and planned development of heritage cities. Currently 12 cities are being developed under HRIDAY. Under the Deen Dayal Upadhyay Antodaya Yojana-National Urban Livelihoods Mission (DAY-NULM), urban poor are organized in Self-Help Groups, imparted skill training for self and wage employment and assisted to set up self-employment ventures by providing credit at subsidised rate of interest. Also, the Mission provides for shelters for urban homeless and infrastructure for street vendors.

Drawing upon the lessons learnt from the past programmes and in order to have symbiotic balanced regional development, the Government of India has launched the National Rurban Mission which is being administered by the Ministry of Rural Development and aimed towards making villages smart by stimulating local economic development, enhancing basic

services and creating well planned Rurban clusters.

In order to provide uniform regulatory environment to protect consumer interests, help speedy adjudication of disputes and ensure orderly growth of real estate sector, the Real Estate (Regulation and Development) Act 2016 has been enacted which mandates setting-up of Real Estate Regulatory Authorities and Real Estate Appellate Tribunals for the sector. This is expected to bring in transparency in the sector. Further, with a vision to create a vibrant, sustainable and inclusive rental housing market in India, a draft National Urban Rental Housing Policy- 2018 has been prepared by the Ministry of Housing and Urban Affairs, which would encourage promotion of rental housing for various segments of incomes and suiting their needs.

EMERGENCE AND CONTRIBUTION OF HUDCO

The Housing and Urban Development Corporation Ltd (HUDCO) is celebrating the Golden Jubilee of its glorious existence. The housing and urban development activities in India rapidly accelerated with the establishment of HUDCO in 1970 and it can be said that the history of housing and urban development in India is closely related to the fifty years' history of HUDCO. The Fourth Five-

year Plan of India recognised the need for providing long term housing finance. It was in this context that Government of India established HUDCO on 25th April 1970 as a specialised Housing Finance Company in the public sector for comprehensively dealing with the problem of growing housing shortage, rising number of slums and for fulfilling the pressing needs of the economically weaker section of society. The Union Budget of 1970-71 declared that *'An Urban Development Corporation (HUDCO) with an authorised share capital of Rs.10 crores is being set up. The Corporation will borrow in the market to supplement its share capital and to set up a revolving fund for financing activities, such as slum clearance, housing and urban land development'*. A scheme for improvement of infrastructure was also undertaken to provide basic amenities in cities across the country.

Since its establishment in 1970, HUDCO now has a Pan-India presence with a networking of 21 regional offices and 11 development offices across the country in addition to its Corporate Office and Research & Training Institute (HSMI) in Delhi and has a Vision '*to be a leading techno-financial institution promoting sustainable habitat development for transforming the lives of people'* and a Mission to *'promote sustainable habitat development to enhance the quality of life'*.

HUDCO has been playing a catalytic role in formulation and implementation of the National Housing and Habitat Policies and has became a powerful vehicle for carrying out the mandate of the Government of India flagship programmes and urban missions to the length and breadth of the country, in both the rural as well as urban areas through several ways:

First, it has been involved in the formulation of the all three National Housing Policies and National Urban Policy acting as a brain trust as well as facilitator in deliberations on outcomes of various issues of the Policies.

Second, it has evolved a financing pattern which reflects the priorities arid concerns as laid down in these National Policies.

Third, it has been providing significant support, in implementation of various government of India flagship programmes and missions such as Jawaharlal Nehru National Urban Renewal Mission(JNNURM), Rajiv Awas Yojana (RAY) and Pradhan Mantri Awas Yojana (PMAY) - Housing for All (Urban), Smart Cities Mission, Atal Mission for Rejuvenation and Urban Transfor¬mation (AMRUT), ranging from planning to viability gap funding, from appraisal to monitoring, and from designing to preparation of City Development Plans (CDPs) and Detailed Project Reports (DPRs).

Fourth, it has developed housing norms, standardized housing designs, construction practices, etc., which aim at containing the costs and bringing housing within the reach of the common man. The norms advocated by HUDCO are location-specific and responsive to the social and cultural needs of the people.

Fifth, HUDCO has been designing comprehensive mechanisms for providing credit and improving living conditions of the urban poor in the slum settlements.

Sixth, considering the fact that supply of services at an affordable price is a critical input for housing activities, HUDCO has been financing land acquisition and development schemes with revealed bias in favour of low-income households.

Seventh, since 1989 HUDCO has been providing financial assistance for urban infrastructure schemes including water supply, sewerage, solid waste management, integrated area development, etc. It has also been making a concerted effort for promoting sustainable urban development with an emphasis on recycling of resources and overall financial viability of schemes.

Eighth, HUDCO has been in the field of rural housing since mid-1970s, with around 60 per cent of the total dwelling units sanctioned by HUDCO pertaining to rural areas.

Ninth, it has been assisting the country in times of natural calamities like cyclones, earthquakes, tsunamis etc. by picking up pieces from the scattered lives of the affected and giving them a shape and hope all over again.

Finally, HUDCO has been providing training and capacity building support to its borrowing agencies such as urban local bodies, housing boards and development authorities to initiate changes in their priorities and programmes in a manner that they truly play the role of a facilitator and an enabler so that other actors, namely households, private builders, corporate houses, cooperatives, etc., play their role efficiently and effectively. For this purpose, the Human Settlement Management Institute (HSMI), the Training & Research Division of HUDCO, set up in 1985, has been playing active role in imparting customised training to over 47,000 local, national and international professionals engaged in the habitat sector as well as carrying out collaborative research through national institutes of repute. HSMI has also established HUDCO Chairs in various academic and professional institutions in the country.

A broad spectrum of functions and products of HUDCO is

Figure 3: Schematic view of HUDCO's Functions and Products
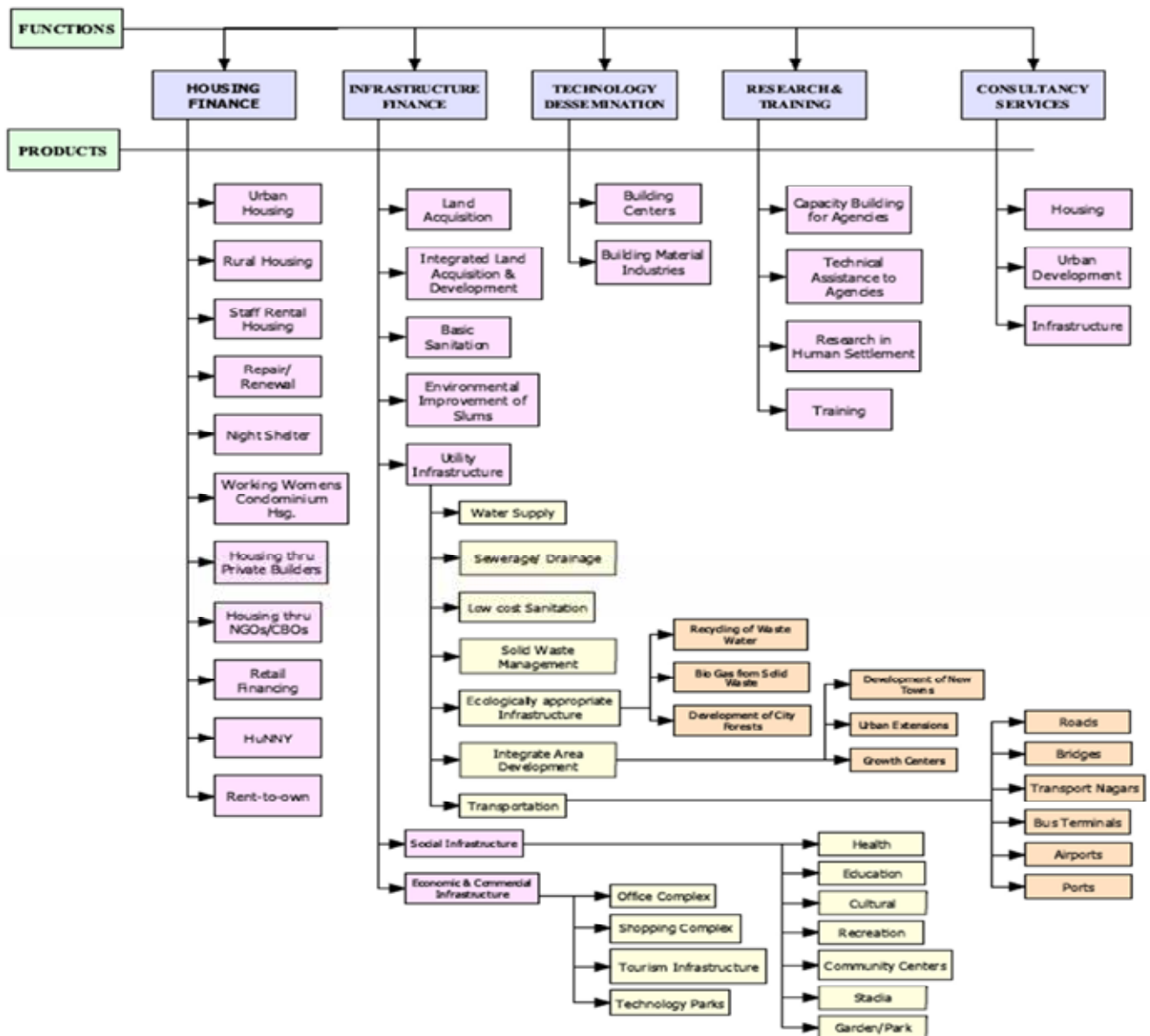
Source: HUDCO Corporate Plan 2022.

given at figure 3.

Starting with a paid up capital of Rs. 2 crore in 1970, the total resource base of the Company has reached Rs. 70,857 crore as on 31st March 2019. Cumulatively, it has sanctioned financial assistance of Rs. 20,259 crore for 17,264 housing and urban development projects to various housing and urban development agencies, facilitating the construction of nearly 19.34 million housing units, 6.70 million sanitation units, over 2322 infrastructure projects and over 0.65 million residential plots in different parts of the country, as at end of January 2020. The loans outstanding of HUDCO was Rs. 52,783 crore as at end of March 2019. Considering the total number of occupied residential census houses of 236 million units in the country as per 2011 census, it can be said that every 12th house in the country is a HUDCO-financed house.

Figure 4: Share of Housing Units sanctioned by HUDCO
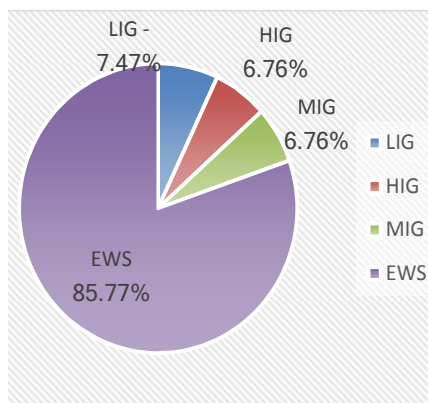
The social orientation of HUDCO is reflected in the fact HUDCO has financed over 93% housing units pertaining to economically weaker section and lower income groups (Figure 4), with lower interest rates and longer repayment period.

Similarly, starting its urban infrastructure division in 1989, initially HUDCO provided finance to the core urban infrastructure sectors which were otherwise not catered to by the private sector such as water supply, sanitation and sewerage, solid waste management. Gradually HUDCO has expanded and entered into Transport, Power, Commercial Infrastructure and other infrastructure projects. Therefore, water supply projects alone financed by HUDCO constitute 25% of the total urban infrastructure financing (Figure 5) and roads, bridges and transportation projects constitute 34%. These are followed by social infrastructure projects (7%) and sewerage, drainage and solid waste management projects (6%).

HUDCO'S INNOVATIVE FINANCING

Apart from its traditional products, recently HUDCO has developed three innovative schemes, viz, Rent to Own scheme which is a rental-cum-ownership scheme; Senior Citizen Homes Scheme to finance the senior citizen homes along with the special care equipment for senior citizens; and HUDCO Nav Nagar Yojana (HuNNY) for financing urban extensions and new townships.

Some of the innovative financing of housing projects include: (i) Financing Zila Parishads (District Panchayats of Rajasthan) for construction of 6.8 lakh houses in rural areas for below poverty line (BPL) households and convergence with other schemes for sanitation facilities such as centrally sponsored, 'Total Sanitation Campaign' and Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) Scheme; (ii) Financing Rs. 420 crore to Tamil Nadu Slum Clearance Board (TNSCB) for construction of 20,000 Green Houses for EWS Households in Town Panchayats of Tamil Nadu in 2015-16 where the innovative features include repayment of HUDCO loans out of the expected revenues to the tune of Rs.24050 million through sale of Transfer of Development Rights (TDR) in the market and solar lighting system as the green component provided free of cost by the Government's renewable energy unit; (iii) A loan assistance of Rs.3345 crore to the Telengana State Housing Corporation Ltd for construction of 60,000 units of two-bed room houses with dwelling unit size of 560 sft for BPL in urban & rural areas in Telengana, where the scheme was implemented by dovetailing the funds available under Government of India

Figure 5: Share of Sector-wise UI sanctioned by HUDCO
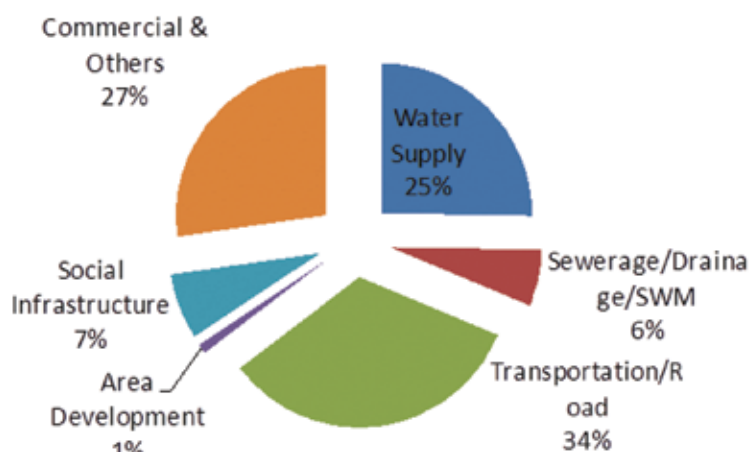
housing programmes, vis. Rs.35,000 available under Indira Awas Yojana (IAY) in rural areas and Rs. 1,00,000/- available under PMAY for urban areas, apart from the loan from HUDCO as viability gap funding; (iv) a loan assistance of Rs.1500 crore under the cash loan scheme to the Uttar Pradesh Rural Housing Board for construction of 60,000 houses for SC/ST/OBCs Households in rural areas of the State, in the name of 'Lohia Housing Scheme' where the innovative features of this Beneficiary-led construction model include the convergence of this Lohia Housing with other Schemes such as Nirmal Bharat & MNREGA for provision of sanitation and quality living; and Solar lighting system through additional grant of Rs.30,000 per DU provided by the State government.

Apart from the innovative housing finance models, HUDCO has also financed urban infrastructure projects in innovative ways, some of which include:

(i) Punjab Model of innovative financing for Infrastructure Provision and improvements in ULBs of the State of Punjab, in which for repayment of HUDCO loan of Rs.700 crore, was done through Tax Incremental Financing (TIF) model where there is no burden to the State Government. The State Government introduced a special State level Act –

Punjab Municipal Infrastructure Development Fund Act, 2011 under which 20% of the additional tax on Value Added Tax (VAT) collected under the provisions of Punjab VAT Act, 2005 to be credited to the Fund equivalent to Rs. 220 crore every year, for a period of 10 years. Under a second model of Water Supply Schemes of Different Cities/Towns in the State of Punjab with a HUDCO loan of Rs. 2,000 crore, a special State level Act – Punjab Municipal Fund Act, 2006 (PMF) was introduced under which about 10% of the VAT collected kept in a separate fund of Rs. 550 crore every year to service the debt;

(ii) Madhya Pradesh Model of innovative model of financing urban development project for water supply in selected Urban Local Bodies of Madhya Pradesh with a HUDCO loan component of Rs. 1,000 crore. 75% of the HUDCO loan is served by State Government through Budgetary Provision and remaining 25% has to be paid by ULBs, collected through reform measures such as metering of water of all consumers within 1 year of completion of scheme, and appropriate Water Charges for recovery of dues and for O & M of scheme; and

(iii) Aurangabad Model of innovative financing for Sewerage Treatment Project, with HUDCO loan of Rs. 192 crore to Aurangabad City under

Maharashtra Suvarna Jayanti Nagarothan Mahabhiyan for Underground Sewerage line and Sewerage Treatment project. In this project, the debt is serviced by revenues generated from Sewage Cess and sale of recycled water. Deficit, if any, will be met from identified revenue stream (Property Tax & Local Body Tax) with 150% of repayment amount as pass through revenue. The Debt Reserve Fund (DRF) is established for timely repayment of loans.

INTERNATIONAL & NATIONAL RECOGNITION

In recognition of HUDCO's impressive and lasting contribution towards low income housing and use of cost-effective technologies and transfer mechanisms, the United Nations Centre for Human Settlement (Currently known as UN-Habitat) accorded the 'World Habitat Award Scroll of Honour, to HUDCO in 1991. Growing collaboration with KFW of Germany, OECF of Japan, IHS of the Netherlands, the CITYNET are some of the more significant initiatives aimed at further intensifying and expanding the role of HUDCO within the country and beyond its frontiers. Nationally, as an acknowledgement of HUDCO's sustained outstanding performance and profitability, Government of India conferred the 'Miniratna' status to HUDCO

in August 2004. HUDCO is an ISO 9001:2015 certified organisation and it has always been quality conscious in its endeavors.

CONCLUSION

With the pressure of rapid urbanisation and its consequent urban challenges for provision of housing and urban services, it is imperative that the sustained efforts need to be taken by all the urban stakeholders for promoting affordable housing and sustainable urban development. Further, as India is a signatory and committed to implement the SDGs and the Habitat III New Urban Agenda with targets to be achieved by 2030, this is the opportune time for India as well as HUDCO to make cities and human settlements inclusive, safe, resilient and sustainable by providing affordable and adequate housing and basic services for all. In its part, HUDCO has been an able ally of the government of India as well as state and local governments for the last glorious 50 years in serving and building assets for the nation. HUDCO is fully committed and geared up for substantial contribution by addressing the financial requirements of different stakeholders for the success of all the urban missions as well as state level programmes in line with its motto of 'Profitability with Social Justice' for furtherance of affordable housing and sustainable urban development in India.

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HUDCO WELCOMES ITS NEW DIRECTOR FINANCE, MR. D. GUHAN

Mr. D. Guhan assumed the charge of Director (Finance) of HUDCO Limited with effect from December 31, 2019. He has been associated with our Company since May 1, 1987 initially selected as Trainee Officer (Finance). He has over 32 years of experience in our Company, having rich experience of working in Corporate and Regional offices at different capacities in all the sections and departments of Accounts, Finance and heading the Regional office. He has wide exposure in credit appraisal and financing of Housing and Infrastructure projects. He has handled multiple assignments including resource mobilization, hedging of foreign currency exposure, loan accounting, treasury management, compilation & preparation of balance sheet, investor relations and IPO Management.

Mr. D Guhan is a fellow member of Institute of Cost Accountants of India. He also holds a Bachelor's degree in Commerce (Honours) from Delhi University, Master's degree in Commerce from University of Rajasthan, Post Graduate Diploma with commendation in second position in the order of merit in Housing, Planning and Building from Institute of Housing and Urban Development Studies (IHS) Rotterdam, The Netherlands. He was also conferred Honours Diploma in Network Centred Computing, with Excellent Performance evaluation from National Institute of Information Technology (NIIT).

We wish Mr. D. Guhan all the best as Director (Finance) of HUDCO Ltd.

Expert Opinion of Mr. M. Nagaraj on

AFFORDABLE HOUSING AND SUSTAINABLE URBAN DEVELOPMENT

Mr. M Nagaraj, is the Chairman & Managing Director (Additional Charge) and Director (Corporate Planning) of Housing & Urban Development Corporation. He is a qualified Cost Accountant & Company Secretary and also a certified Banker having qualification of CAIIB. He holds Post Graduate degree in Management i.e., MBA with Specialisation in Finance. He has varied experience of around 30 years in multitude of sectors such as Housing, Infrastructure Finance, Skill Development & Micro Finance in Social Sector, and International Trading. He has strong fundamentals in Managerial Capabilities and e-governance for corporate sector. Prior to joining HUDCO, he was Chairman-cum-Managing Director of PEC Limited (formerly Projects and Equipment's Corporation of India Limited) under the Ministry of Commerce and Industry. Prior to that, he was Managing Director in National Safai Karmacharis Finance and Development Corporation (NSKFDC) under the aegis of Ministry of Social Justice and Empowerment. Before that, he was Director in IIFCL Projects Limited (a group company of India Infrastructure Finance Company Limited) and also General Manager in IIFCL under Ministry of Finance, handling the Portfolios of Project Finance especially Take-out Finance Scheme of IIFCL, Board Secretariat, Vigilance Activities, Business Development, etc. Excerpts of the interactions of Mr. M. Nagaraj, CMD HUDCO with the Editorial team on wide ranging issues pertaining to affordable housing and sustainable urban development.

A critical requirement globally for addressing the challenge of providing housing for all: Provision of affordable housing is a global challenge with about 1 billion people - a seventh of total world population living in slums in 2018 and as per the SDG 11 Synthesis Report of UN-HABITAT (2018), it could double to 2 billion by 2030 and 3 billion by 2050, if nothing is done. Moreover, Asia has the largest number of slum dwellers overall, which is around 554 million. The urban population globally has increased to more than 50% and countries all over the world are addressing the affordable housing needs under sustainable habitat development. In this context, recent global conventions such as Habitat III New Urban Agenda (NUA) focus on progressive realization of the right to adequate housing as a component of the right to an adequate standard of living. India is the second largest urban system in the world with 377 million people living in 7935 towns and cities in 2011. The decadal slum growth is at 34% that has resulted in shortage of 18.78 million housing units (2012), characterized by 95% shortage in EWS and LIG houses. The Urban population in India was reported at 34.03 % in 2018, according to the World Bank collection of development indicators. This poses an immense challenge to provision of adequate housing to all in urban areas. India is a signatory to the New Urban Agenda (NUA) of Habitat III, which was adopted in October 2016 by the UN-Habitat, for sustainable urbanization. The implementation of NUA contributes to the implementation and localization of the 2030 Agenda for Sustainable Development in an integrated manner, including Goal 11 of making cities and human settlements

inclusive, safe, resilient and sustainable. Implementation of all these global agendas requires huge resources, sensitization, awareness, apart from capacity building of all stakeholders. One of the targets of SDGs is to substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015-2030, holistic disaster risk management at all levels.

Localizing SDG framework-

Linkages of the PMAY scheme with the contribution of India: The 17 SDGs have 169 indicators that comprehensively address all the development issues whether social, economic, governance or environment related. India has been leading discussions on critical issues such as poverty, south-south cooperation and climate justice, at the global level. The Ministry of Statistics and Programme Implementation (MoSPI) is responsible for developing and maintaining the National Indicator Framework (NIF) for monitoring the progress of the SDGs and associated targets. Statistical indicators of NIF help in monitoring of SDGs at the national and state level and providing a feedback of the

policies to achieve the targets under different SDGs. The SDG India Index is prepared under the leadership of NITI Aayog partnered with United Nations to assess the performance of State and Union Territories with regard to achieving the localized framework of the Sustainable Development Goals. Under SDG 1 'No Poverty', access to safe housing is a critical part of essential services, which is ensured under the initiative "Housing for All by 2022". Under SDG 5 'Gender Equality', efforts to ensure access to essential services, such as food security, primary education and health care, housing, water and sanitation, are underway to address challenges affecting women and girls. PMAY has made a mandatory provision for the female head of the family to be the owner or co-owner of the dwelling unit under this mission. Under SDG 11 'Sustainable Cities and communities' to ensure adequate, safe and affordable housing and basic services for all and upgrade slums by 2022, the Government of India has launched Pradhan Mantri Awas Yojana- Housing for all in urban areas. Housing is at the centre of the Sustainable development agenda.

Prime Minister Awas Yojana (PMAY)-

Progress towards addressing the problem of inadequate housing in urban India: The

PMAY is flagship Mission of the Government of India for bringing urban transformation by providing affordable housing to the urban poor eligible families through the States and UTs. This is the biggest housing programme in the world in terms of its scale. A milestone achievement of the scheme was the sanction of more than 1 crore houses in the four year period from 2015-2019 under 4 housing verticals catering all sections of the society, especially the poor, needy and vulnerable sections of the society. Under the PMAY (Urban) the MoA has been signed with 35 Union Territories and States for 4427 Cities which include 472 Class I Cities. State Level Nodal Agencies (SLNA) have been established in all these States/ UTs and State Level Sanctioning and Monitoring Committees (SLSMC) have been formed. 21.93 Lakh Houses have been sanctioned in 100 Smart Cities & 49.87 Lakh Houses in 487 AMRUT cities. The Hon'ble Prime Minister had expressed his desire to utilize new cost effective construction techniques for faster and cheaper construction of houses. He had also expressed the need for change management of Pradhan Mantri Awas Yojana - Urban (PMAY-U) beneficiaries during their life transformation phase. Taking his vision forward Shri Hardeep S Puri, Hon'ble Minister for Housing and Urban Affairs, launched the Global Housing Technology Challenge

on 2nd March 2019 and 'ANGIKAAR' a campaign for change management for PMAY (U) beneficiaries on 29th August 2019. Progress of PMAY(Urban) –has been stupendous with 104.7 lakh houses sanctioned, 64 lakh houses grounded, 33.5 houses completed of which in 15.08 lakh houses new technology has been deployed. The total investment has been Rupees 6.31 lakh crore and the central assistance released has been Rupees 69,585 crore. The numbers of CLSS (Credit Linked Subsidy Scheme) beneficiaries are more than 8 lakh and many more applications are under process. To resolve the grievances of the public, which are mostly related to status of their application, the government has launched CLSS Awas Portal (CLAP) on 25th November 2019. The portal has been designed, developed and implemented by MoHUA in consultation with NIC and CNAs. It is a transparent and robust Real-time web based system, with application status tracking and real time data integration amongst all stakeholders. It has increased standardisation in process through a uniform system for all CNAs. Moreover 30 Lakh BLC houses have been geo-tagged using Bhuvan Mobile App and 1,100 AHP/ISSR projects geo-tagged using the NIC Mobile App.

Potential areas of focus: For the PMAY- a Mission that is the

world's largest programme for the poor as per a recent report by NIPFP, focus on investment in housing is paramount since that impacts 21 sectors of the economy fuelling employment. The total employment generation through PMAY (U) in 2019-2020 is 120 lakh person days including direct and indirect, skilled and un-skilled labor. The construction sector adds tremendously to the carbon footprint and use of green, resource efficient materials and technology has a huge potential for sustainable urban development. The growing built up spaces being added to urban areas offer challenges and potential to the architects and planners for optimizing design and planning for culturally sensitive and climate responsive development. The convergence of the PMAY (U) Mission with AMRUT, HRIDAY, SCM, SBM and NULM has the potential for enormous urban transformation, thus justifying the financial investment of Rs. 6.31 lakh crore under PMAY(U). To position itself in the list of Developed Nations India is striving towards its goal of 5 trillion dollar economy by 2025 and the real estate sector is a major growth driver. India is now investing more in solar energy than coal thus leveraging the power of renewables. India's renewable energy capacity has doubled in less than 3 years and it has built the world's largest

solar plant. The installation of solar panels on roof tops of all housing projects is a huge potential for renewable energy generation of the PMAY (U). Though the funding mechanism of the PMAY has delivered housing to the EWS and LIG, still more spread can be achieved through devising innovative financial mechanisms and policy initiatives for achieving greater financial inclusion for reaching the poorest of the poor. The most important and potential area of focus for PMAY is the provision of security of tenure to the homeless, women empowerment, better quality of life for the urban poor, affordable cities with adequate physical and social infrastructure.

Real Estate Sector- forward and backward linkages, which can boost the Indian Economy

The real estate market faces many Land, Governance, Finance and Developer & Construction related current challenges of real estate housing. The Indian real estate sector is expected to contribute 13 percent to the country's gross domestic product (GDP) by 2025 as predicted by subject experts. It is very important that the consumers and developers are aware of their rights and provisions of the Act. The real estate agents are an interface between the homebuyers and developers; they are required to register themselves with

RERA since their role is vital in bringing transparency. Real estate is a growth engine for development and stimulator of the economy of over 250 ancillary industries. Most importantly, Real estate growth gives boost to construction, steel and cement sectors. RERA, the Real Estate (Regulation and Development) Act, 2016 was notified on May 1, 2016 and went into effect from May 1, 2017. It is a landmark legislation, which is designed to regulate and reform the real estate sector. The aim of the legislation is to ensure and encourage greater transparency, citizen centricity, accountability and financial discipline in the real estate sector. It is a requirement of the Act to collect amount from buyers and deposit 70 percent in an escrow bank account for construction of that project only. Refund of amount in case of delay in giving possession as per the provisions of the sale deed and stringent penal provisions against the promoter in case of any violation of or non-compliance with any provisions of the Act would infuse financial discipline in the real estate sector. All these regulatory mechanisms would enhance the credibility of the genuine developers and boost the confidence of the financial institutions in real estate sector and in turn, channelize investment into the sector. As of now, 23 states and UTs have set up the Real Estate Regulators and now there is also a realization among the developers that they and their every project has to be registered with the Regulators under the RERA. This is a significant paradigm shift in the real estate sector.

Innovative schemes - Rental Housing for providing affordable housing in India

The Ministry of Housing & Urban Affairs, Government of India has drafted a National Urban Rental Housing Policy -2018 which aims at facilitating provision of 3 types of rental housing options: Social Rental Housing, Need-based Rental Housing; and Market-based Rental Housing. The draft Policy envisages a large market for the Rental Housing within affordable housing segments, especially for need-based rental housing for migrant labourers. The lockdown imposed by the Indian government to counter the threat of the Covid -19 pandemic exposed the vulnerability of the migrant population to disasters- natural, man-made or biological. The rental housing choices of migrants are based on their economic conditions and education requirements, which determine their livelihood choices leading to relocation from their native villages. Since these migrants may in the long-term decide to make the native village the final place of residence, they stay in rental accommodation, the nature of which varies across the regions and states in India. Out of about a hundred million, total intra-state and inter-state migrants in the country during the last decade of twentieth century, 61 million have moved to rural areas and 36 million to urban areas. There is not only wide scope for Rental Housing filling gaps in the affordable housing but also opportunity for Institutions like HUDCO to spread and diversify its business to other areas like affordable Rental Housing for different target groups .

HUDCO's involvement-

Contribution and future roadmap for improving the housing sector in the country: The history of housing and urban development in India is closely linked with the history of HUDCO. Established in 1970 as the wholly owned Government of India enterprise, this year HUDCO completed 50 years of its glorious existence and contribution to the nation building. HUDCO has a vision to promote sustainable habitat development to enhance quality of life and cumulatively has provided techno- financial assistance to 17,264 numbers of multifarious housing and infrastructure schemes across India having varied scales for proactively providing support to city level infrastructure projects as well as social housing with a special thrust on providing housing to the weaker

sections i.e. EWS and LIG. The cumulative loans sanctioned from 1970- 2020 are Rs. 2,14,853 crore. HUDCO has supported more than 19.35 million houses in the country, both in rural and urban areas, out of which 93% have been financed to EWG and LIG categories. HUDCO offers many products for benefitting the masses under an extensive gamut of programmes of urban & rural housing, staff rental housing, Shelter for Urban Poor, Pay and Use Toilets, HUDCO Niwas, Land acquisition for housing. HUDCO is also a Central Nodal Agency of the Credit Linked Subsidy Scheme under the PMAY-HfA(U). In the Infrastructure sector, it offers support for Integrated Land acquisition and development, Environmental improvement of slums, utility infrastructure, social infrastructure, economic and commercial infrastructure. HUDCO has advocated cost effective and alternate technologies for the built environment through its building centre movement and in its Consultancy assignments. It has provided Building Technology support at grass-root levels through capacity building, technology transfer and funding to Building Materials industry. HUDCO consultancy has undertaken a number of projects in the areas of cost effective housing, environmental improvement, development plans, post disaster

rehabilitation, landscape and conservation. HUDCO has taken up significant initiatives for post-disaster rehabilitation involving construction of houses and community buildings as well as organization of training programmes for capacity augmentation. HUDCO has been extensively involved in design and planning of tourism circuits, greening of cities, rejuvenation of Haridwar Ghats, provision of facilities in and around heritage areas like Ajanta caves, Mahabalipuram, Somnath temple, Taj Mahal. HUDCO has received Prime Ministers National Award for "Excellence in Urban Planning and Design", Journal of the Indian Institute of Architects (JIIA) Award for Applied Research, Journal of the Indian Institute of Architects (JIIA) Award for Excellence in Architecture, Best Practice Award of UNCHS, Aga Khan International Award to name a few. HUDCO has through its Research and Training Wing "Human Settlements Management Institute" infused professionalism and strengthened capacities for sustainable development in the built environment by providing a knowledge platform and networking forum for national and international organisations in the urban sector.

HUDCO is poised to play a more proactive role in tiding over the Pandemic and help the country in putting up a robust healthcare

and economic infrastructure. The pandemic has lead to economic losses and the impact is still to be ascertained. To bring about a recovery the requirement of investment would be huge both in housing and urban development sector and HUDCO is geared up for this.

Policies and products of HUDCO for promoting affordable housing and sustainable urban development in the various regions and states: HUDCO has ably supported PMAY (U) through viability gap funding, raising extra budgetary resources, etc. along with innovative financing mechanisms that will go a long way in achieving the goal of 'New India 2022', which aims to emerge India as '*Swachh, Swastha, Shikshit, Sampann, Saksham and Surakshit by 2022*'. HUDCO's vision is "t*o be a leading techno–financial institution promoting sustainable Habitat Development for transforming the lives of people*" and the Mission is "*to promote sustainable habitat development to enhance the quality of life*". HUDCO provides housing finance for Social housing-EWS&LIG in rural & urban areas of the country; Housing for MIG &HIG; Rental housing for employees by govt. and public agencies; Land acquisition by govt.& public sector agencies for housing projects and Individual Housing Loans. HUDCO is a Central Nodal Agency (CNA) for

channelizing the subsidy under CLSS component of PMAY(U) for providing Housing for All as well as supporting other 3 verticals of PMAY(U) in financing and technical areas. In 2018-2019 HUDCO sanctioned viability gap financing to 2 PMAY(U) projects with project cost of Rs.2147.48 crore to Kerala and Andaman & Nicobar Islands, offering a loan of Rs.1064 crore for construction of 50,555 housing units. Upto 31st March, 2019, conducted site inspections of 551 Night Shelters under Shelter for Urban Homeless component of Deendayal Antyodaya Yojna-National Urban Livelihood Mission in respect of 20 States/UTs and undertook site inspection and DPR scrutiny of 125 projects, for construction of 2.06 lakh housing units in 20 states/UTs, resulting in fee based income of Rs.2.64 crore. Cumulatively till December 2019, the total housing units sanctioned by HUDCO are 190 lakh units of which 93% are to EWS & LIG i.e. 180.35 lakh units, justifying its raison d'être of Profitability with social justice.

CONCLUSION

Affordable Housing has been at the center stage of the urban agenda for ensuring a good quality of life in the inclusive and just cities. In the aftermath of a global disaster the national priorities are for the provision of affordable housing and urban services to the vulnerable population. Though the elite, educated and well informed urbane citizen is quick to adapt to the new norms like wearing masks, gloves and following hygienic practices but bringing about a similar behavioral and habitual change in the lower strata requires immense mentoring and hand holding efforts. The insightful perception offered by this event of Covid-19 is not lost on our minds that have observed the renewal of the environment and ecosystems brought around by the reduction of anthropogenic activities at the global scale. The improved air quality indices, water quality of rivers flowing through urban areas, ozone hole reduction, and wildlife proliferation even in urban areas are a few examples of the rejuvenation witnessed by the planet. There is 17% drop in carbon emissions due to the confinements globally as reported in an International Study. Now the human race has observed the visible changes in nature and faces the challenge to sustain this improvement in their quality of life while balancing the economic activities essential for survival of even the poorest of the poor of us. The Hon'ble PM Shri Modiji gave a clarion call for being "vocal for local" for greater self reliance in our economy. The construction sector that is so vital for the economy has to take the lead for use of local materials, technologies, resources and labour. The requirements of better connectivity, reduced emphasis on physical travel, lower need for commercial and office spaces, larger spaces for homes inside and outside are some of the paradigms that shall balance the sensitive equation for welfare of earth and humanity. The densification of residential areas may have to be stalled if not totally reversed by giving it higher priority and larger chunks of land in the planning process than the commercial spaces that historically took the lion's share on the grounds that these activities earned better rentals. Similarly the public open space that offers to the urban population a respite from the congestion, to the children a release from their indoor school schedules and to the entire society a place for interactions has to be re designed for more functionality, better pedestrian access, inclusivity and accessibility. The crossroads of difficult choices are often an opportunity for resurrection and a meaningful dialogue and debate must go on for the provision of affordable housing and sustainable urban development. Predictions, theories of mass upheavals and researches on possibility of disastrous pandemics in the future along with the onslaught caused by the ongoing worldwide contagion are a sentinel of the change, which is the need of the hour.

ASSESSING THE BENEFITS AND COSTS OF THE PROGRAM VERTICALS OF PRADHAN MANTRI AWAS YOJANA (URBAN)

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The results of the present analysis suggest the urgent need for the implementing agencies to address the issue of slow progress in slum redevelopment programme, wherein the benefits per rupee of investment are much higher than the other two CSS verticals under PMAY-U.

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This article discusses the state of social housing in urban India and assesses the progress of Pradhan Mantri Awas Yojana – Urban (PMAY-U) with a focus on its three Centrally Sponsored Scheme (CSS) verticals. These are In-situ Slum Redevelopment (ISSR), Affordable Housing in Partnership (AHP) and Beneficiary-led Construction or enhancement (BLC). It attempts to quantify the benefits and costs of these three CSS program verticals under PMAY-U for selected large cities of India and compare their relative advantages, by computing their benefit-cost ratios (BCRs), using alternate rates of discount. Based on these, certain recommendations for the social housing sector in urban India and for PMAY-U have been made to achieve the goals of 'Housing for All' by 2022.

INTRODUCTION

The Pradhan Mantri Awas Yojana (PMAY)-Housing for All (Urban) Mission, was launched by the Government of India in June 2015 with a mission to provide Housing for All by 2022, the year when the Nation completes 75 years of its Independence. The Mission, launched by the Hon'ble Prime Minister of India, seeks to address the housing requirements of all sections of urban poor including homeless population, slum dwellers for

more equitable living conditions for all through four programme vertical such as: (i) In-situ Slum Redevelopment (ISSR); (ii) Credit Linked Subsidy Scheme (CLSS); (iii) Affordable Housing in Partnership (AHP); and (iv) Beneficiary-led Construction or enhancement (BLC). The CLSS is the central sector scheme whereas the other three are under the centrally sponsored scheme (CSS) for social housing. The different categories of beneficiaries under PMAY-U include economically weaker section (EWS) household with income upto Rs. 3 lakh and housing unit size of 30 sqm; and lower income groups (LIG) household with income from Rs. 3-6 lakh and housing unit size of 60 sqm. However, the States/UTs have the flexibility to redefine the annual income and house size criteria as per local needs. For the CLSS vertical of PMAY-U, the benefits have been extended subsequently to middle income groups (MIG) whereby MIG-I & MIG-II are categorized as having annual household income slabs of Rs. 6-12 lakh and Rs. 12-18 lakh respectively. A technology sub-mission under the Mission has also been devised to promote cost effective and

modern building materials and consrtruction technologies.

BENEFIT COST ANALYSIS OF THE VERTICALS UNDER THE CENTRALLY SPONSORED HOUSING SCHEME

The key characteristics of the CSS verticals i.e. ISSR, AHP and BLC under PMAY-U are described below:

1. *In-situ* **Redevelopment of existing slum dwellers using land as a resource through private participation (ISSR)** – This is undertaken by a public agency jointly with private developers using land as a resource. The engagement of the slum community is encouraged under this vertical. The central government subsidy is Rs. 1 lakh along with certain other benefits given to developers such as extra Floor Area Ratio (FAR).

2. **Affordable Housing in Partnership (AHP)** - Projects[2] are to be undertaken in partnership with public and private sectors, with 35 percent of the houses within the project reserved for the poor. The central government subsidy is Rs. 1.5 lakh with some additional benefits to private developers.

3. **Subsidy for Beneficiary-led individual house construction/enhancement (BLC)** - Poor households having legal land entitlement, can construct/extend their houses as per sanctioned plan, and claim a central government subsidy of Rs.1.5 lakh.

This article attempts to quantify the benefits and costs of the aforementioned CSS program interventions for urban poor and compare their relative advantages. For this purpose, it computes their benefit-cost ratios (BCRs) for select large cities of India, using alternate rates of discount. These verticals envisage differential levels of engagement by the public agencies. While ISSR is operationalised through public-private partnership and community engagement, BLC and AHP are led by individual beneficiary and private developers respectively. The benefits and costs are estimated based on the guidelines and operational procedures under the respective verticals (Kundu & Kumar, 2018 a; Kundu & Kumar, 2018 b).

Officially available information have been used for computation of benefits and costs, sourced from National Housing Bank (NHB) RESIDEX, Census of India 2011, National Sample Survey 60th and 71st round, Labour Bureau, Ministry of Urban Development (MoUD) Reports on Minimum Standards and Service Level Benchmarking and High-Powered Expert Committee's (HPEC) Report on Indian Urban Infrastructure and Services, 2011, Housing and Urban Development Corporation (HUDCO), National Buildings Organisation (NBO), National Buildings Construction Corporation (NBCC), Construction Industry Development Council (CIDC), Circle rates, Management Information System (MIS) data from Mission Directorate PMAY-U, among others. Some parameters have been determined in consultation with the officials of various public agencies, select subject experts, functionaries in concerned civil society organisations and other stakeholders engaged in slums, social and affordable housing projects at ground level.

More specifically, the housing prices used in this study is sourced from RESIDEX of the NHB. The assessment prices for Q1 2017-18, reported in June 2017 for 50 select large cities are considered. To deal with the problem of extreme cases or outliers, 5 cities out of these 50 cities are excluded, bringing the number of large cities to 45 in order to arrive at the all-India house prices. Prices are available in Rs. per sq. ft. for carpet area for houses with less than 60 sq. mt. (applicable for EWS and LIG houses under PMAY-U). To arrive at the average house price in large cities at national level from these 45 cities, weights

are given to cities as per their respective population, obtained from the population Census of 2011.

Distinctive Features of Benefit Cost Analysis[3] used in the study:

- Costs and benefits are calculated on a per house basis for urban poor, under each vertical for large cities of India. Size of the dwelling unit is taken to be 300 sq. ft. The time required for construction of a house is assumed to be 1.5 years. This time period would be realistic only if the concerned agencies implement the projects with a sense of urgency, and is backed up by political will (as envisaged under the Mission), which could lead to a further reduction in the time taken. Aided by modern technology, it is even possible to construct a house in six months, with the caveat of the complexities in the Indian institutional and bureaucratic structures.

- The unit costs are taken from projects that involve building average number of units where efficiency level is reached and not stand-alone units. Estimation of benefits have been computed taking time horizon of 10 years after house possession.

- The net present value (NPV) of the stream of benefits and costs have been worked out after discounting by different rates of interest viz. 3%, 5% and 8%.

- Benefits stream taken under different verticals are value of a planned ownership dwelling unit at market price, household health, employment opportunities, re-utilisable building material, and benefits to the builder. The sum total of benefits stream accruing to a resident household is considered equivalent to the value of a planned dwelling unit at market price. Additional benefits would accrue to the poor households in terms of savings in health care, improved employment opportunities that are not reflected in the housing prices in the market. Furthermore, those shifting from an unauthorised slum or squatter settlement would realise the benefits of re-utilisable building materials. Finally, under AHP, a builder would realise a margin of profit.

- Costs would include: land, construction of the dwelling unit, internal and external infrastructure, community mobilisation, project management and completion of procedures, and provision of transit accommodation and rehabilitation.

- The benefits that have been considered under ISSR include: value of a planned ownership dwelling unit at market price, household health, employment opportunities and re-utilisable building material, whereas the costs are construction of the dwelling unit, of the internal and external infrastructure, community mobilisation, project management and completion of procedures, and provision of transit accommodation and rehabilitation. Land cost is not included, as it will be an in-situ development.

- The benefits that have been considered under AHP are: value of a planned ownership dwelling unit at market price and benefits to the builder. Costs include that of land, construction of the dwelling unit, internal and external infrastructure, community mobilisation, project management and completion of procedures.

- The benefits that have been considered under BLC are: value of a planned ownership dwelling unit at market price and costs include: costs of land, construction of the dwelling unit, internal infrastructure, community mobilisation, project management and completion of procedures.

The benefit-cost analysis carried out for the three verticals in large cities of India reveals that AHP enjoys a distinct advantage over BLC in terms of the BCRs

(Table 1). Similarly, the ISSR has BCRs, significantly above the other two. The figures for ISSR work out to be slightly more than double of BLC. This implies that any resource re-allocation from BLC to AHP would result in greater net social benefit. Understandably, if ISSR is accorded a greater priority (which we recommend) the benefits to the society would be manifold as compared to BLC and AHP.

The quality of evidence for this study is quite strong. It uses data from credible formal secondary sources, official information generated and gathered through a system of cross-validation, and intensive discussion with a variety of stakeholders. The sensitivity analysis carried out shows that the rankings of the three interventions do not change with the adoption of different rates of interest for discounting.

Table 2 Vertical wise Summary of BCRs for Large Cities in Andhra Pradesh (Vijayawada)

Interventions	Benefit	Cost	BCR
BLC	12.63	10.02	1.26
AHP	11.83	7.23	1.64
ISSR	10.74	4.34	2.48

Table 3 Vertical wise Summary of BCRs for Large Cities in Rajasthan (Jaipur)

Interventions	Benefit	Cost	BCR
BLC	9.95	8.32	1.20
AHP	9.49	6.39	1.49
ISSR	8.92	4.05	2.20

Notes: All figures assume a 5% discount rate. Benefits and Costs are in Lakh (hundred thousand) Rupees.

Similar results were also found while performing the BCR exercise for large cities in Andhra Pradesh (Vijayawada) and Rajasthan (Jaipur) respectively (Tables 2 and 3).

PMAY-U: PROGRESS AND ASSESSMENT

As on January 1, 2018, the demand survey for housing in urban India recorded 168.4 lakh housing needs as evidenced from the MIS database of PMAY-U (submitted by each city) (Ministry of Housing and Urban Affairs (MoHUA), 2018). Out of this, the MoHUA has finalised the validated demand for about 120 lakh units. It must be pointed out here that a comprehensive information about this demand survey highlighting the disaggregation by program verticals, city, state, profile of beneficiaries, etc. are not available in the public domain, which could foster detailed policy analysis.

The houses sanctioned during 2015-2020 has demonstrated exponential growth as well as compounded development as per the planning of phase-wise implementation of the mission harnessing scale. Moreover, the progress towards achieving the revised target has been phenomenal, especially in the recent years.

The monitoring of progress report from Mission Directorate of PMAY-U[4] provides some

Table 1 Vertical wise Summary of BCRs for Large Cities in India

Intervention	Discount Rate (%)	Benefit	Cost	BCR
BLC	3	14.00	10.59	1.32
	5	13.59	10.56	1.29
	8	13.01	10.51	1.24
AHP	3	13.06	7.47	1.75
	5	12.68	7.42	1.71
	8	12.14	7.35	1.65
ISSR	3	11.91	4.40	2.70
	5	11.47	4.36	2.63
	8	10.87	4.30	2.53

Notes: All Benefits and Costs are in Lakh Indian Rupees.
Source: Author's Calculation.

information across program verticals for analysis, as on February, 2020. As per the report, 4302 cities have been included in the PMAY-U[4], with a total of 469 Class-I cities. Around 103 lakh houses have been sanctioned, of which- 32 lakh is completed, 60 lakh houses grounded for construction, 15 lakh houses using new technologies, since the launch of the mission (June 2015 onwards). It demonstrates significant acceleration in sanctions of houses, especially on the account of BLC and AHP verticals.

Across verticals, the houses sanctioned under ISSR, BLC, AHP and CLSS are 4.6, 62, 28, 8.2 lakh respectively. The average cost of per house sanctioned under the mission is around Rs. 5.4 lakh. It comes out to be Rs. 3.6, 7.4, 6.24[5] and 10.7 lakh for BLC, AHP, ISSR and CLSS, respectively (MoHUA, 2018).

It is also interesting to note that the importance given to the four verticals designed under the Mission, has undergone changes in the process of implementation. Remarkably, BLC has made significant progress because the public institutions have found it easier to deal with households with access to land for providing housing assistance. The success has been modest in CLSS due to lack of affordability among the poor as well as middle class to repay even the heavily subsidised loans. The progress

towards AHP, too, has not been satisfactory because of the low level of participation of the private sector and their reluctance to adhere to various stipulations, as envisaged under the Mission.

The Mission also notes that at the slum decadal growth rate of 34%, the slum households are projected to go upto 18 million and 2 million non-slum urban poor households are proposed to be covered under the Mission[6]. Hence, total housing shortage envisaged to be addressed through the new mission is 20 million. With only about 4.6 lakh houses sanctioned so far, the ISSR vertical has clearly not kicked off at a pace that was expected. This has been attributed to the problems related to legislative and administrative difficulties in providing land title to slum dwellers, private sector participation, civil society involvement, the absence of agencies coordination dealing with land and such projects at city and state levels, etc.

The central assistance involved in the mission verticals per house are highest for CLSS (upto Rs. 2.67 lakh), followed by BLC (Rs. 1.5 Lakh), AHP (Rs. 1.5 Lakh), and lowest for ISSR (Rs. 1 lakh). This reiterates the need for dedicated planning to tackle the urban housing scenario among various verticals and prioritising them.

The government has showcased

seriousness in achieving overall targets for housing shortage owing to human, social, economic and political considerations. The total benefit accruing to the country attributable to PMAY-U would, however, depend not just on the total number of units constructed but on the nature of the verticals through which this is achieved.

The total investment (as on February 2020) in projects stands at around Rs. 6.2 lakh crore, and the central assistance sanctioned is around Rs. 1.65 lakh crore[7]. The budget estimate allocation of PMAY-U have also been allocated accordingly (and for FY 2020 stands at around Rs. 7000 crore) and the Affordable Housing Fund under the NHB (announced in the budget 2018-19) is raising Rs. 25,000 crore in extra budgetary resources (outside general budget) for the implementation of PMAY-U.

The MoHUA has also taken several measures for social and affordable housing industry: under the Goods and Services Tax (GST) (the effective rate being 1% for affordable housing and 5% for other than affordable housing), Real Estate (Regulation and Development) Act, 2016 (RERA[8]), draft National Urban Policy Framework, draft National Urban Rental Housing Policy, dedicated Affordable Housing Fund for financing the mission, geo-tagging, discussions of utilising vacant

government lands and buildings for housing the urban poor, etc., launch of the Global Housing Construction Technology Challenge, Housing for All Knowledge Lab[9], Draft Model Tenancy Act 2019[10], PMAY Urban Gurukul - Knowledge Lab[11], Compilation of Success Stories and Best Practices[12], incentivizing and promoting good initiatives and practices by the local bodies, etc.

CONCLUDING REMARKS

The results of the present analysis suggest the urgent need for the implementing agencies to address the issue of slow progress in slum redevelopment programme, wherein the benefits per rupee of investment are much higher than the other two CSS verticals under PMAY-U. The goal for the government must, therefore, be not just meeting the overall target of housing shortage but also ensure that the programmes under ISSR and AHP are streamlined, and the bottlenecks at ground level are resolved urgently. ISSR must have the top priority in the Mission, because of the enormity of the benefits accruing to the society under this, as compared to BLC and AHP.

While the upsurge in house construction activities is welcome, it would be important to monitor the composition of the verticals. The concerned

authorities at the central and state level must take immediate steps in upscaling the interventions with regard to slums redevelopment. The states must examine the hurdles being encountered in the slum redevelopment projects and take appropriate steps to overcome the legislative hindrances and bureaucratic delays, proactively facilitate such projects, as well as increase the subsidy amount provided, which is abysmally low under the ISSR vertical. Failure to do this would only lead to a continuation of serious deprivation of slum dwellers and serious deficit in achieving Sustainable Development Goals (SDGs). This would also imply large slum land being put to suboptimal utilisation, thereby leading to huge social costs.

It would also be important to examine the factors responsible for slow progress in affordable housing projects. We suggest a pro-poor thrust in this vertical and a reservation of over 35% of houses for the poor in AHP projects. This would ensure higher social return than building houses for the households having title to land under BLC. Finally, given the fact that housing poverty in India is largely because of the congestion factor (married couple sharing room with an adult family member), the thrust of BLC ought to be on expansion or addition of room rather than constructing a new house. A

greater focus is also required in the area of providing affordable and adequate planned non-ownership (rental) housing, workers housing, hostels, dormitories and so on, especially for migrant and marginalised families and citizens in cities.

The vertical-wise trends under PMAY-U which suggests high sanctioning of BLC and slow progress under ISSR, reveals an opposite picture to the findings from the benefit cost analysis, where ISSR has highest return followed by AHP and BLC. These suggest that there is an urgent necessity to reprioritise the verticals in order to maximise their impact in terms of social well-being in the area of urban housing.

Overall, the houses sanctioned (103 lakh out of target 120 lakh) during 2015-2020 (till February 2020) demonstrates unprecedented exponential growth as well as compounded development as per the planning of phase wise implementation of the Mission, harnessing scale and technology. This pace and scale would be one of the best examples in the world in terms of any large public program in general and social housing in particular. The complex and challenging issues, across the globe, pertaining to redevelopment of slums and unplanned settlements (eg. land, community mobilization, private sector participation, gestation

period, project finances, identification of beneficiaries) require thrust from all the stakeholders and acted upon. For this, the active role of state government and urban local bodies as well as communities is of paramount importance, learning from the best practices and bad experiences. PMAY-U along with Government of India's flagship schemes would be gamechanger for the achievement of SDGs in the world, which is inherent in the vision of New India. Understandably, the pace and performance of the PMAY-Housing for All (Urban) Mission and its impact sets the stage for achieveing the goal of $ 5 trillion economy and providing ease of living to each citizens in Indian cities.

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[2] Under AHP, eight PPP options, including six for promoting affordable housing with private investments using government lands have been suggested by the MoHUA (http://mohua.gov.in/upload/uploadfiles/files/PPP%20Models%20for%20Affordable%20Housing.pdf).

[3] Full research paper is available on www.appriorities.com/urbanisation-migration-and-transport (goo.gl/hBHskT or https://www.copenhagenconsensus.com/sites/default/files/ap_social_housing_formatted_sm.pdf and goo.gl/pGp8F6 or https://www.copenhagenconsensus.com/sites/default/files/raj_social_housing_formatted_sm.pdf)

[4]http://mohua.gov.in/upload/uploadfiles/files/4(26).pdf
https://dashboard.mohua.gov.in/
https://pmay-urban.gov.in/
[5]Excluding Jharkhand figures, which was exhorbitantly high and subject to some error.
[6]http://mohua.gov.in/cms/pradhan-mantri-awas-yojana.php
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INTERNATIONAL TRAINING PROGRAMME FOR OVERSEAS PROFESSIONALS ON "FORMAL SOLUTIONS TO INFORMAL SETTLEMENTS" FROM 4TH NOVEMBER 2019 TO 13TH DECEMBER 2019

The Human Settlements Mangement Institute (HSMI), the Research and Training Wing of Housing and Urban Development Corporation (HUDCO) has conducted 43 training programmes under ITEC in which about 950 participants from more than 75 partner countries have been successfully trained in the field of Housing and Urban Management.

Human Settlements Mangement Institute (HSMI), organised the 41st Training Programme "Formal Solutions to Informal Settlements" from 4th November 2019 to 13th December 2019 of six weeks duration. The training programme was sponsored by the Ministry of External Affairs (MEA) under ITEC. The programme was inaugurated on 6th November 2019, by CMD HUDCO in the presence of Dr S. K Gupta, EDT; Shri Surendra Singhai, General Manager (Projects) and Ms. Pooja Nandy, Deputy General Manager (Projects) & course coordinator.

The programme addressed key issues in housing the poor under six modules Introduction to Urbanization, New Urban Agenda & SDGs; The Formal City vs. the informal city, GoI Policy and Programmes; Land use Regulations & growth of informal settlements; Options for In-situ development and relocation of informal settlements; Urban livelihood options and Government schemes; and Urban governance and financing.

The technical outstation visit to Bhopal showcased the diverse sectors under GoI missions including a presentation and site visit to PMAY affordable housing site at Kokta, Transport nagar. The participants visited the Bhopal Municipal corporation, its command and control centre and also the Minto Hall. The participants also visited the Habibganj railway station under PPP project of IRSDC. They also saw the cultural and tribal heritage of India and MP during the visit.

Figure 2: Houses under PMAY- Bhopal

Figure 3: Control and Command Center, Smart City

Figure 1: Group Photo- Formal Solutions to Informal Settlements 2019

SUSTAINABLE AND INCLUSIVE RURAL DEVELOPMENT PROGRAMMES

-Insights of National Rurban Mission

AR. JAWALE MADHURI VASUDEV

MS. RITU SINGHAI

National Rurban Mission has been designed to be one of its kind wherein proper infrastructure is the main focus along with developing new socio economic system for sustainable development which could result in viable growth centers of rural economy. The success of the Mission mostly depends on the state as to how it manages the district and cluster management units under it.

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Many countries have started realizing that managing the rural environment is a strong way to help them to grow their economy in a better way. The rural sector is important for the society as it generates the growth and development of the civilizations to sustain and achieve human goals for better survival. The socio-economic disparities between rural and urban areas are widening and creating tremendous pressure on the social and economic fabric of many developing Asian economies. It is very important to improve the rural and agriculture sector, as a country like India is mainly dependant on agriculture. One policy that is currently addressing this disparity is the National Rurban Mission, which aims to improve infrastructure and service provision, facilitate regional development and attract investment in rural areas. This paper tries to study in detail National Rurban Mission with respect to PURA (Provision of Urban Amenities in Rural Areas). Also the study focused on various other schemes and their comparison with National Rurban Mission.

INTRODUCTION

"The soul of India lives in its villages" -M. K. Gandhi

According to the 2011 Census of India, 68.84% of total population lives in 640,867 villages, the size of which varies considerably. 236,004 Indian villages have a population of fewer than 500, while 3,976 villages have a population of 10,000 plus. The Report on Housing Conditions and Amenities in India, 2008-09 by the National Sample Survey Office (NSSO) reveals that just 18% households in rural India have access to basic amenities such as drinking water and electricity. Further, the social groups – STs (75%), SCs (76%) and OBCs (69%) (Census of India, 2011)– in rural areas don't have sanitation facility in their households. Bathroom facility was not available to nearly 64% of the rural households. Further, nearly 65% rural households had no latrine facility as against 11% for their urban counterparts. The government survey highlights that only 30% of rural population had access to safe drinking water and 55% depend on tube wells or hand pumps to meet their drinking water requirements. In fact, 15% of rural people were still looking for dependable source of water. The rate of poverty is another aggregate which reflects

the prevailing conditions of poor livelihood scenario and lack of basic amenities in the rural areas. The SCs/STs, who constitute the bottom layer of the pyramid, remain backward in economic and social development and vulnerable to various forms of discrimination including in areas such as education, healthcare and social security measures. There are various such push and pull factors responsible for migration. Push factors in rural areas include: poverty, unemployment, low and uncertain wages, uneconomic landholdings and lack of facilities for education, health, recreation and other services. Pull factors of the urban areas include: better employment, regular and higher wages, fixed working hours, better amenities of living, facilities of education, health and socio-cultural activities. It is necessary to provide basic amenities and facilities in rural areas which are similar to those in urban areas for better rural development to control the migration from rural to urban areas.

RURAL DEVELOPMENT AND ITS VARIOUS PROGRAMMES

Rural development is the backbone for any country's economic development and it helps the economy to grow and sustain as well as improves the quality of life of rural people .

Rural development is one of the processes leading to sustainable improvement in the quality of life of rural people, especially the poor (Ramesh, 2012). The rural developmental programmes intend to reduce the poverty and unemployment, to improve the health and educational status and to fulfill the basic needs such as food, shelter and clothing of the rural population. The main aim of all these schemes is to reduce the gap between rural and urban people which would help reduce imbalances and speed up the development process. Some of the major programmes being operated by the Ministry of Rural Development in rural areas include the following:

Mahatma Gandhi National Rural Employment Guarantee Act 2005 (MGNREGA) for providing wage employment. It provides enhancement of livelihood security of households in rural areas of the country. It gives at least 100 days of guaranteed wage employment in every financial year to every household.

Pradhan Mantri Gram Sadak Yojana 2000 (PMGSY) was launched as a fully funded Centrally Sponsored Scheme. Provision under this scheme is to provide all weather road connectivity to all eligible unconnected habitation in the rural areas of the country. This project has constructed a total of 4,53,367 km roads all over in

India. The fund sharing pattern of PMGSY has been made in the ratio of 60:40 between the Centre and States for all States, except for 8 North Eastern and 3 Himalayan States for which it is 90:10 (MoRD, 2019).

National Rural Livelihoods Mission 2011(NRLM) was launched for self-employment and skill development, which was later renamed as Deen Dayal Antodaya Yojana- National Rural Livelihoods Mission (DAY-NRLM) in 2014. The objective of DAY-NRLM is to organize the rural poor women into Self Help Groups (SHGs) and continuously encourage and support them till they attain significant increase in incomes over a period of time and improve their quality of life and come out of poverty. There are also provision for Interest Subvention to women SHGs to avail loans upto 3.00 lakh from banks at an interest rate of 7 percent per annum (MoRD, 2014).

Pradhan Mantri Awas Yojana-Gramin (PMAY-G): To realize the goal of Housing for All by 2022, the Government is implementing the Pradhan Mantri Awaas Yojana-Gramin (PMAY G) from 1st April, 2016. Under PMAY-G, 1.00 crore pucca houses were to be constructed in rural areas of the country by March, 2019. The Cabinet had considered 2.95 crore households with housing deprivation under PMAY G and given mandate for

construction of 1.0 crore houses over a period of three years from 2016-17 to 2018-19 in first phase with financial implication of Rs. 81975 crore (MoRD, 2019). Remaining 1.95 crore households will be covered in the next three years, i.e. 2019- 20 to 2021-22 (MoRD, 2016).

Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDU GKY) is placement linked skill development scheme for rural poor youth under NRLM. The scheme has been aligned with the Common Norms for Skill Development schemes. Even though DDU GKY is applicable in all the States of the country, as a result of wider awareness and demand for implementation of DDU GKY projects State led implementation of DDU GKY has expanded into 28 states (MoRD, 2014).

Start up Village Entrepreneurship Programme (SVEP) support Self Help Group (SHG) and their family members to set up small enterprises in the non-farm sector. This is done by setting up an eco system for supporting small enterprises in rural areas. The programme is currently being implemented in 153 blocks across 23 states and aims to support around 20000 enterprises during the project period (EDII, 2016).

National Rural Health Mission (NRHM) 2005 was launched to provide nearby, inexpensive and quality health care to the rural population, especially the vulnerable groups. The thrust of the mission is on instituting a fully functional, community owned, decentralized health delivery system with inter-sectoral convergence at all levels, to ensure simultaneous action on a wide range of determinants of health such as water, sanitation, education, nutrition, social and gender equality (NRHM, 2005).

Swachha Bharat Mission 2014 was launched to accelerate the efforts to achieve universal sanitation coverage and to put focus on sanitation, **both in rural and urban areas**. The urban component is being implemented by the Ministry of Housing & Urban Affairs (MoHUA), while the rural component is being implemented by the Ministry of Drinking Water & Sanitation (MoDWS). The main purpose of the Mission was to achieve a Swachh Bharat by 2019, as a fitting tribute to Mahatma Gandhi on his 150th birth anniversary (MoDWS, 2014).

The budgetary allocation in last 2 years for some of the key programmes of rural development is given in Table 1.

PROVISION OF URBAN AMENITIES IN RURAL AREAS (PURA)

PURA was a scheme initiated by Ministry of Rural Development (MoRD), Government of India (GoI) intended to provide quality infrastructure, giving urban like amenities and services and building livelihood opportunities in rural areas so as to reduce migration of people to urban spaces due to lack of such basic requirements in the rural areas. It was first initiated in a pilot phase for three years from 2004-05 to 2006-07 with a total budget of Rs. 30 Crore from the Planning Commission and seven clusters were selected in seven states, with a budget of Rs. 4 crore - 5 crore per cluster. The identified agencies were being made responsible for implementation of all the works.

Table 1: Budgetary Allocation for Rural Development.

(In Rs. Crore)

Sr. No.	Name of Department/ Programmes	2018-19	2019-20
1	Mahatma Gandhi National Rural Employment Guarantee Act	55000	60000
2	Pradhan Mantri Gram Sadak Yojana 2000 (PMGSY)	19000	19000
3	National Rural Livelihoods Mission 2011(NRLM)	5750	9024
4	Pradhan Mantri Awas Yojna (PMAY) – Rural	21000	19000
5	Rurban Mission	1200	800
6	National Social Assistance Program	9975	9200

Source: Ministry of Rural Development (MoRD), Govt. of India 2019.

However, it could not yield desired results due to several reasons like projects being mostly infrastructure oriented; limited attention was being given to the implementation of economic activities; the criteria of selection of clusters did not factor the growth potential of that area; and the state government did not take any ownership due to which entire institution lacked proper institutional support. Also there was no convergence with other schemes of rural development departments or other departments (MoRD, 2011).

In February 2012, a restructured version of PURA was launched on the basis of the advisory of the Planning Commission in 2007 to make it a demand driven Public Private Partnership (PPP) scheme. It aimed to achieve "holistic and accelerated development of compact areas around a potential growth centre in a Panchayat (or group of Panchayats) through PPP by providing livelihood opportunities and urban amenities to improve the quality of life in rural areas" (MoRD, 2011) which meant that the project would be formulated by a private developer with consultation of stakeholders' viz. gram panchayats, and other panchayat raj institutions, state government and Ministry of Rural development. The key features were:

• Selection of lead agency/

anchor partner with a clear articulation of the roles, rights and responsibilities of the partnering agency;

• Selection of clusters based on economic growth potential;

• Commitment of the State Government for facilitation support;

• Financial outlay for a PURA cluster was Rs. 70-80 crore, with the Central Government contribution being limited to Rs. 20-25 crore;

• Focus on livelihood opportunities; and

• There was no revenue model, instead the operation and maintenance was to be done by the private players in accordance with the specification detailed in the Concession Agreement.

• Selection of private developers was done through an Expression of Interest(EOI) followed by Request for Proposal (RFP) for a period of 13 years (3 years to construct and 10 years for operation and maintenance).

Today the PURA has lost its heat, because things did not progress much with regard to allocation of resources and implementation of programmes (Sengar, 2017). In an ambitious vision to transform rural areas to economically, socially and physically sustainable spaces, the Union Cabinet approved the Shyama Prasad Mukherji

Rurban Mission (SPMRM) with a financial budget of Rs. 5142.08 crore on September 16, 2015.

SHYAMA PRASAD MUKHERJEE RURBAN MISSION (NATIONAL RURBAN MISSION)

After the learnings from the failures of PURA, Shyama Prasad Mukherjee Rurban Mission was announced in the Budget speech by the then Finance Minister in July 2014 and was finally launched on February 21, 2016 by the Prime Minister from Kurubhat in Rajnandgaon district of Chhattisgarh with a motto of "*Shahar ki Suvidha, Gaon ki Atma*" i.e. providing high quality urban facilities while retaining the community bond and strength of village life.

Rurban basically is (R ural+ U rban). Within India, the term rurban has been used to capture the 'rapid transformation that is taking place in the villages of India'. The rural-urban continuum is a set of two-way flow of people, money, services, resources and information between rural and urban areas. Therefore, it includes flow of tangible aspects such as market linkages, water resources abstraction, etc and the intangible aspects such as flow of ideas and aspirational changes. Migration is also a type of flow (of people) from rural to urban which includes flow of materials (remittances) and flow

of nonmaterial (ideas) (Singh & Rahman, 2018).

The National Rurban Mission (NRuM) follows the vision of "Development of a cluster of villages that preserve and nurture the essence of rural community life with focus on equity and inclusiveness without compromising with the facilities perceived to be essentially urban in nature", thus creating a cluster of "Rurban Villages".

NRuM Objective

The objective of the mission is to improve the economic, social, and infrastructural development in rural areas. This can be achieved in four ways:

- Bridging the rural-urban divide-viz: economic, technological and those related to facilities and services by providing infrastructure that are perceived to be mostly urban in nature.
- Stimulating local economic development with emphasis on reduction of poverty and unemployment in rural areas by making income generating facilities.
- Spreading development in the region.
- Attracting investment in rural areas through other schemes, private partners or CSR.

RURBAN MISSION IN COMPARISON TO OTHER SCHEMES

1. Rurban Mission acts as an umbrella program that covers different components under various schemes that are not infrastructure based. For the overall development of the rural areas it is essential to have a proper infrastructure along with the economic and physical development of community. Schemes like NRLM, DDUGKY, PMAY, MNREGA etc. are focusing on a specific issue of rural areas but a sense of overall and sustainable development of the whole village is lacking.

2. Although PURA was an infrastructure based program and the vision of both were similar as to provide urban like amenities to rural areas so as to improve the economic growth but the main difference lies in its implementation strategy. PURA was totally PPP based model in which private players were responsible for implementation as well as operation and maintenance. This lacked the sense of community involvement which ultimately results in loosing of the essence of rural community life.

3. Considering this lacuna, in National Rurban Mission the community is given the top position in planning of activities and the onus of implementation lies on state, district and Gram Panchayat

level by means of forming State Level Empowered Committee (SLEC) and state nodal agencies at the state level, District Project Monitoring Unit headed by District Collector at the district level and Cluster Development Management Unit at the cluster level all of which is managed at the national level. The roles of each of them have been clearly defined in the State Implementation Framework of the Mission. Moreover, the Critical Gap Funding (CGF) is not completely center funding, it is a mix of center and state funding so that the state takes the implementation of the program seriously.

4. In National Rurban Mission the smallest implementation agency can be community groups like Voluntary Organisations (VOs), Farmer Producer Organisations (FPOs), Common Interest Groups (CIGs). There are no beneficiary based activities due to which it becomes very important that all the members in the group are held equally responsible and take interest in the activities. Proper training and formation of a strong management committee should be done. Proper representation from all classes of society should also be maintained.

5. Revenue based model in which the operation and

maintenance providers are the stakeholders (CIGs, SHGs, VOs, CLFs) themselves, is a key differential factor of Rurban Mission.

6. There are 14 essential components that Rurban Mission has adopted for each of which there are ongoing schemes of different departments. Rurban Mission takes these schemes into convergence and funding is only for areas where there are bottlenecks due to scheme policy or lack of funds known as Critical Gap Fund (CGF). Therefore the Mission follows convergence to CGF ratio of 70:30.

WAY FORWARD

National Rurban Mission has been designed to be one of its kind wherein proper infrastructure is the main focus along with developing new socio economic system for sustainable development which could result in viable growth centers of rural economy. The success of the Mission mostly depends on the state as to how it manages the district and cluster management units under it. The SLEC has an important role in forming the Detailed Project Reports DPR of the activities which should not only be done in coordination with the subject experts but a proper operation and maintenance strategy should be well formulated in advance. Care should be taken such that

the handing over of the activities to the community identified is completely interested and capable by means of providing them necessary training on the subject. Feedback should be taken timely for a period of few years in order to provide them with some hand holding support. Community involvement forms the basis of the Mission as the objective is to make villages self-sufficient. Economy and livelihood of the villages will only improve when the community itself will be the owners of all the facilities provided which should necessarily be income generating. Inherent knowledge, dying art and culture of the village community should be promoted by providing them with proper infrastructure, skill enhancement which they have never got.

The DFID has designed a sustainable livelihood framework which recognizes 5 assets, viz human capital, financial capital, physical capital, natural capital and social capital that are central to the sustainable livelihoods approach as poverty is not merely lack of income but also lack of such assets that make people self-dependent and move out of poverty. Mostly the government schemes have been centered on developing human, financial and natural capital by means of only skill, livelihood, agricultural development programs along with financial inclusion but the physical asset is less thought over.

Rurban Mission concentrates on developing physical capital by incorporating society and choosing activities that are itself income generating. Therefore a proper integration and coordination with all the concerned sectors is very much necessary for making Rurban Mission a success.

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AFFORDABLE HOUSING IN TAMIL NADU
-Emerging Issues

PROF. (DR.) INDERJEET SINGH SODHI

Availability of affordable housing in urban areas is hampered due to rising land cost as well as cost of construction. Tamil Nadu's real estate sector continues to grapple with the issue of manpower shortage. This shortage has adverse impact on the delivery and cost of affordable housing projects particularly to the LIG/EWS sections of the society.

Keywords: Urbanization, Urban Housing, Affordable Housing, Pradhan Mantri Awas Yojana (PMAY) (Urban), Tamil Nadu

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With rapid pace of urbanization, one of the biggest challenges is the availability of affordable housing in urban areas. Urbanization in Tamil Nadu state has been on the increase since 1901. With more than 48% of urban population, Tamil Nadu is one of the most urbanized states in the country. While the percentage of urban population in the country increased from 10.29% to 31.2% during 1911-2011, Tamil Nadu registered a much higher percentage increase i.e., from 15.07% to 48.5% during the same period. Tamil Nadu has the fifth most noteworthy housing shortage in India estimated at 1.25 million out of nationwide housing shortage 18.78 million in 2012. This paper reviews the affordable housing scenario in Tamil Nadu as well as various programmes being implemented in the State including the PMAY-HfA(Urban) and some of the emerging issues which need to be addressed for promotion of affordable housing in the State.

INTRODUCTION

In India, as per Census 2011, 31.16 % of the total population i.e. about 377 million is urban population, living in 7,935 urban centers including 53 cities with populations above 1 million and 3 mega cities (Delhi, Kolkata and Mumbai) with population above 10 million. The increase in urban population has been due to various factors. Important among them are the natural increase in population in urban areas and migration of rural population to urban areas.

With rapid pace of urbanization, one of the biggest challenges is the availability of affordable housing in urban areas. It has been observed that due to a number of factors, the growth in demand is not being met by supply of affordable housing units leading to housing shortages in the cities. The trend in urban population increases are accompanied by increases in housing shortage. This shortage has been increasing despite numerous housing programs implemented every 5-10 years.

URBANIZATION IN TAMIL NADU

Urbanization in Tamil Nadu state has been on the increase since 1901. With more than 48% of urban population, Tamil Nadu is one of the most urbanized states in the country. Tamil Nadu ranks first among the large states in the country and third in absolute terms on share of urban population in total population of

the State. While the percentage of urban population in the country increased from 10.29% to 31.2% during 1911-2011, Tamil Nadu registered a much higher percentage increase i.e., from 15.07% to 48.5% during the same period.

It is the eleventh-largest state in India by area and the sixth most populous. According to Census 2011, the population of India is around 1210 million and that of Tamil Nadu is 72 million thus, accounting for approximately 6% of country's total population. Further, the state has higher proportion of urban population at about 48% as compared to national average of 31%.

The urban profile of the state of Tamil Nadu is given in Table 1.

At present, Tamil Nadu tops the list of urbanised States with 50% of the population in urban areas and will remain the most urbanised state for the next 15 years and by 2026 about 75% of the population of Tamil Nadu will live in Cities. The urbanisation trend has necessitated affordable housing towards improved quality and better standard of living for the people.

URBAN HOUSING IN INDIA

In India, rapid urbanisation has given rise to development challenges in the form of urban congestion, pressure on basic amenities like water and

Table 1: Urban Profile of Tamil Nadu as per Census 2011

S,No.	Subject	Tamil Nadu (in millions)	Percentage
1	Population	72.15	5.96 % of national population
2	Urban Population	34.92	48.4% of state population 9.3 % of national urban population
3	Slum Population	5.8	16.6 % of state urban population 9% of national slum population
4	Urban Households	8.93	16.6% of national urban households
5	Slum Households	1.5	16.8% of state urban households 11% of national slum households

Source: Census, 2011 and Reports of Department of Housing and Urban Development, Govt. of Tamil Nadu

sanitation and most importantly, housing shortages in cities, especially, for the economically weaker sections. As per the Report of the Technical Group (TG-12) on Estimation of Urban Housing Shortage (2012), there has been a huge gap in demand and supply of urban housing in India. The economically weaker sections (EWS) and low income group (LIG) accounted for 96 per cent of the total housing shortage in India.

The Federation of Indian Chambers of Commerce (FICCI) estimates that by 2050, the country's cities would witness a net increase of 900 million people. Real estate developers and private players tend to focus on middle income and high income segments due to higher returns. In addition, issues relating to high land costs, delay in project approvals, increasing raw material costs and low profit margins have made low cost housing projects less attractive for private realty investors and

developers.

Rapid urbanisation and migration to cities have caused severe urban housing shortages in India, particularly for the economically weaker sections. In this context, the Government and the Reserve Bank of India have undertaken a number of initiatives to boost affordable housing. Loan disbursements as well as launch of new projects in the affordable housing segment have risen sharply since 2016-17.

While efforts to provide low cost housing have been made for many years by launching a number of schemes/programmes like Jawaharlal Nehru National Urban Renewal Mission, 2005; Rajiv Awas Yojana 2012. Recently, the Pradhan Mantri Awas Yojana (PMAY) (Urban) launched in 2015 provides a ray of hope for homeless people. The PMAY-Urban (PMAY-U) subsumes all the previous urban housing schemes and aims at 'Housing for All' to be achieved

by the year 2022. The total housing shortage envisaged to be addressed through the PMAY-U is 20 million. The Mission has four components.

RICS (Royal Institution of Chartered Surveyors) in association with international property consultant Knight Frank released a report "Brick by brick- Moving towards 'Housing for All' in June, 2019 which estimates that the current housing shortage in urban areas is around 10 million units. Most of the housing shortage lies in the Economically Weaker Section (EWS) and Lower Income Group Segment (LIG). It quotes that as of July 2019, 8.36 million houses have been sanctioned under the "Housing for All by 2022" initiative. Construction for 4.9 million units has begun and 2.6 million units of which have been completed.

POLICY FRAMEWORK FOR AFFORDABLE HOUSING

Over the years, the Central Government has formulated many policies for housing and has assisted in the delivery of affordable housing for the EWS, LIG and lower MIG. Housing schemes by the Central Government are implemented by the Ministry of Housing & Urban Affairs (MoHUA).

The policies of urban development and housing in India have come a long way since the 1950s. In the First Five Year Plan (1951-56), emphasis was given on institution building and on construction of houses for Government employees and weaker sections. Subsequent plans focused on provision of services along with shelter, and mobilizing private sector efforts for low cost housing. The first National Housing Policy was formulated in 1988.

National Housing and Habitat Policy (NHHP) in 1998 aimed at ensuring "shelter for all" and better quality of life to all citizens by using the unused potential in public, private and household sectors. Subsequent programmes include the National Slum Development Programme (NSDP), night Shelter for urban shelterless, and Valmiki Ambedkar Awas Yojana (VAMBAY). Further, bodies like the National Housing Bank (NHB) and Housing & Urban Development Corporation (HUDCO) had also been created to facilitate the implementation of such policies.

In 2007 National Urban Housing and Habitat Policy was formulated by the Government of India with the aim of providing 'Affordable Housing for All'. In order to define affordable housing, the Govt. of India set up a Taskforce under the Chairmanship of Deepak Parekh in 2008. The Taskforce defined the affordability as mentioned below:

1. Carpet area of the dwelling Unit should not exceed 300 sq.ft for EWS, 600 sq.ft for LIG and 1200 sq.ft. for MIG;

2. For both EWS and LIG, cost of the dwelling unit should not exceed four times of the household's gross annual income; and for MIG it is 5 times;

3. For both EWS and LIG, monthly repayment obligation/EMI should not exceed 30 percent of the household's gross monthly income, whereas for MIG it could be upto 40%.

As per "Pradhan Mantri Awas Yojana", Housing for all scheme launched in 2015 by the Ministry of Housing and Urban Poverty Alleviation, criterion for EWS and LIG was categorized in terms of income level and unit area as defined below:

1. In terms of income level for EWS, annual household income should not exceed 'Rupees three lakh' per annum;

2. In terms of unit area for EWS, carpet area of the dwelling unit should not exceed 30 sq.m;

3. In terms of income level for LIG, annual household income should be ranging from 'Rupees Three Lakh One to Rupees Six lakh'

4. In terms of unit area for LIG, carpet area of the dwelling unit should not exceed 60 sq.m.

HOUSING SCENARIO IN TAMIL NADU

While the urban population in Tamil Nadu has grown by 27% between 2001 -2011, the slum population has grown from 28.38 lakh to approximately 59 lakh i.e, growth of 105%. The rapid urbanization being witnessed by the State reflects the economic growth achieved by the State and at the same time the challenge of creating sustainable urban infrastructure and need to cater to the growing housing needs in the urban areas. Tamil Nadu has the fifth most noteworthy housing shortage in India estimated to 1.25 million out of nationwide housing shortage 18.78 million. Housing shortage is majorly driven by LIG and EWS segments as majority of the development in Tamil Nadu caters MIG and HIG.

The Government of Tamil Nadu announced the "Vision 2023", a long term plan for infrastructure development for rapid economic growth. This envisages, among others, the provision of houses with basic infrastructure facilities for all urban slum families in Tamil Nadu to make the cities / towns slum free before 2023 at an estimated cost of INR 65,000 crore. The programme is being implemented by utilizing the grants from Government of India under various programmes especially Pradhan Mantri Awas Yojana (PMAY), State Government funding through budgetary support and by availing loan by Tamil Nadu Slum Clearance Board from various financial institutions.

Tamil Nadu Slum Clearance Board (TNSCB) has been designated as the Mission Directorate for 'Housing for All' in Tamil Nadu and State Level Nodal Agency (SLNA) for implementing housing projects under the verticals of (i) "In-situ" Slum Redevelopment, (ii) Affordable Housing in Partnership and (iii) Subsidy for Beneficiary-led Individual House Construction under 'Housing for All' programme. A memorandum of agreement has been entered between the State Government and Government of India to implement the 'Housing for All' programme in Tamil Nadu.

AFFORDABLE HOUSING IN TAMIL NADU

Providing housing for the urban poor is always a priority. Tamil Nadu Housing Board was established in 1961 and Tamil Nadu Slum Clearance Board in 1970. 1.50 million houses have been constructed since inception. In-situ developments together with land tenure were provided under World Bank aided Madras Urban Development Project (MUDP) and Tamil Nadu Urban Development Project (TNUDP). State Government has implemented various Centrally Sponsored Schemes like Nehru RojgarYojana, Cash Loan Scheme, VAMBAY, JNNURM, RAY etc. Schemes so far implemented have limited reach, targeting the slum dwellers only. PMAY(U)–Housing For All Mission is the only scheme that assures a house not only to the houseless slum dwellers, but to the urban poor, LIG and MIG categories as well.

The housing policies and schemes are being successfully implemented through the Tamil Nadu Housing Board (TNHB), Tamil Nadu Slum Clearance Board (TNSCB), Registrar of Co-operative Societies (Housing), Directorate of Town and Country Planning (DTCP) and Chennai Metropolitan Development Authority (CMDA) which function under the administrative control of Housing and Urban Development Department.

Tamil Nadu Housing Board and Tamil Nadu Slum Clearance Board are mandated to provide housing units for various sections of society at an affordable cost. The function of Registrar of Co-operative Societies (Housing) is to form layouts and sell them at lower cost to their members and also to provide Housing Finance to them. "Housing for All" Mission is being implemented through these agencies in order to realize the Vision 2023. The Vision 2023 document also aims at achieving slum free status for the cities in Tamil Nadu.

The Directorate of Town and

Table 2: Assessed Housing Demand in Tamil Nadu

S.No.	Programme/ Scheme	Number
1	In-situ Slum Redevelopment	47,309
2	Credit Linked Subsidy scheme	4,84,105
3	Affordable Housing in Partnership	3,41,832
4	Beneficiary Led Constructions	5,18,363
	Total Requirements in all vertical	13,91,609

Source: Reports of TNSCB, TNHB

Country Planning and Chennai Metropolitan Development Authority prepare Master Plans in a phased manner for various towns and cities for regulation of land use. Development Regulations are already in place for growing urban centres for regulating the development, on the planning side. PMAY-HFA is being implemented in 12 municipal corporations, 124 municipalities, 528 town panchayats and 2 cantonment boards in Tamil Nadu.

As per report of the Technical Group study on Urban Housing Shortage 2012 –2017, TNSCB has registered 1.39 million applications requesting affordable housing (as per demand survey under PMAY-HFA and online registration). Housing shortage in urban India is 18.78 million, whereas Housing shortage in urban Tamil Nadu is 1.25 million.

Tamil Nadu Vision–2023 launched in 2012 envisages long term plan for infrastructure development for rapid economic growth in the State which makes provision of 1 million houses with infrastructure for all urban slum families in Tamil Nadu to make the State slum free by 2023 with estimated investment of INR 65,000 Crore.

STATE POLICY ON LAND TENURE FOR AFFORDABLE HOUSING

The State Government regularizes the unauthorized hamlets on unobjectionable lands by issuing house site Pattas. The State has issued 20.00 lakh House site Pattas to the eligible beneficiaries since 2011. Besides, under Madras Urban Development Project (MUDP) and Tamil Nadu Urban Development Project (TNUDP), the State has allotted 1.08 lakh house sites possessed by the beneficiaries and issues land tenure to them.

Every year, the State Government issues 3.50 lakh Pattas and now the Government has proposed to acquire even private lands for issuing Pattas to poor beneficiaries. 10% plots are reserved for EWS category under Land Bank Scheme in the developed layouts. House site Pattas are provided exclusively for Scheduled Caste beneficiaries by acquiring private lands by Adi Dravidar Welfare Department.

HARNESSING HOUSING UNDER BLC

Under VISION–2023, the State Government ensures construction of 1 million houses at an estimated cost of Rs.65,000 crore. Out of total demand of 13,91,609 houses, the demand under BLC vertical is 5,18,363. The State has, so far, sanctioned 4,08,622 Dwelling Units under BLC (78.83% of total demand), the highest figure in the country under this vertical. The people are contacted at their door steps and the details of implementation of the vertical and benefits are explained. The documents are verified and with their consent, they are proposed under this vertical for construction of houses.

After approval by the Central Sanctioning and Monitoring Committee (CSMC), the beneficiaries are informed and directed to take up construction work. The beneficiaries are provided with technical assistance for construction of technically sound, durable and disaster resistant houses. Bulk supply of building materials is arranged and shared according to their requirement, which reduces the cost. Financial assistance for those who are unable to invest initially is arranged through

Micro Financial Institutions. Beneficiaries are successful and satisfied by their new houses.

Major Programmes executed by the Department of Housing and Urban Development during 2016-17 are:

1. Tamil Nadu has been ranked No.1 State in the country in terms of number of housing units sanctioned under Pradhan Mantri Awas Yojana (PMAY) and number of units for which work has started.

2. As part of Vision 2023 programme, approval of Government of India has been obtained for 1,87,679 housing units at a project cost of Rs.6,414.97 crore under Housing for All, with committed State Budget Estimate of Rs.826.80 crore.

3. Tamil Nadu Slum Clearance Board has constructed 7,144 Green Houses in various Town Panchayats of Tamil Nadu.

4. As part of Community Development Programme, Skill development training has been imparted to 8,873 slum youths.

5. 3,013 numbers of new residential units were constructed /developed at a cost of Rs.727.91 crore by Tamil Nadu Housing Board.

6. The Tamil Nadu Co-operative Housing Federation has introduced "Online Payment Services" for the Primary Societies and their members to pay their loan dues through net banking to the Federation and get the accounts reconciled in real time.

7. An amount of Rs.237.62 crore has been released to Tamil Nadu Slum Clearance Board as additional State share for construction of tenements in 11 alternate locations in Coimbatore from Infrastructure and Amenities Fund.

ACHIEVEMENTS FOR AFFORDABLE HOUSING

Tamil Nadu Housing Board has constructed 4,15,740 dwelling units from its inception, which includes the major housing schemes implemented under Madras Urban Development Project (MUDP) and Tamil Nadu Urban Development Project (TNUDP) schemes with assistance of World Bank, Subsidised Industrial Housing Scheme, Slum tenements, Government and Board Rental Schemes. During the year 2016-2017, TNHB has constructed / developed 3,013 numbers of residential units at a cost of Rs.727.91 crore in Chennai, Cudallore, Villupuram, Erode, Hosur, Madurai, Ramanathapuram and Tirunelveli which is distributed among various sections of people. According to Policy Note of Housing and Urban Development Department 2019-20, at present, works are in progress for 18,765 units at an estimated cost of Rs.3,100.81 Crore in Chennai and other major cities under the Self Finance Scheme, Area Development Scheme, Tamil Nadu Government Servants Rental Housing Scheme and Slum tenements Scheme.

Since its inception, Tamil Nadu Slum Clearance Board (TNSCB) has constructed 1.84 lakh tenements/houses, provided developed plots to 1.31 lakh families in 504 slums through Madras Urban Development Project (MUDP)/Tamil Nadu Urban Development Project (TNUDP) and invested Rs.5,569.73 crore to implement various capital works for the urban slum families till March, 2017. TNSCB has constructed 74,224 tenements houses and spent Rs.3,855.28 crore on various programmes implemented from 2011 to March 2017. According to Policy Note of Housing and Urban Development Department 2019-20, Tamil Nadu Slum Clearance Board has constructed 1,55,328 tenements / houses and spent Rs.7,622.87 Crore on various programmes implemented from 2011 to March 2019.

Observations for housing for Tamil Nadu as per the minutes of the 50th meeting of the Central Sanctioning and Monitoring Committee (CSMC) for Pradhan Mantri Awas Yojana (Urban)-

Housing for All, held at the office of the Ministry of Housing & Urban Affairs, Govt. of India, Delhi on 22nd January, 2020, are:

1. Against the total demand of 13,91,609 houses in 4 verticals, 7,25,540 houses have been sanctioned under PMAY(U).

2. PMAY(U)-MIS: Out of 6,95,245 houses sanctioned, 5,05,930 beneficiaries have been attached and 4,84,270 houses are geo-tagged in BLC and AHP verticals.

3. In order to meet demand of houses within the Mission period, at least 1.00 lakh houses per month need to be proposed for consideration by the CSMC.

4. Beneficiary contribution is on higher side. The State should ensure consent of the beneficiaries in this regard.

5. All pending issues like change of beneficiaries, gender modifiation etc. may be proposed in the next CSMC meeting for consideration.

6. The State is required to take necessary measures to ground all the non-started projects immediately.

7. Out of 6,95,245 houses sanctioned earlier, beneficiaries attached with valid Aadhaar are 4,98,568. The State should expedite all MIS entries and beneficiary attachment.

EMERGING ISSUES

Availability of affordable housing in urban areas is hampered due to rising land cost as well as cost of construction. Tamil Nadu's real estate sector continues to grapple with the issue of manpower shortage. This shortage has adverse impact on the delivery and cost of affordable housing projects particularly to the LIG/EWS sections of the society.

In Tamil Nadu, minimal access to housing finance and minimal income households coupled with lack of available housing option in the market really influences the LIG/EWS sectors. Majority of the LIG and EWS segment household doesn't have a formal income proof or document to establish solvency for securing a housing loan from Housing Finance Companies. The LIG/EWS segments of the people do not show willingness to own a property due to various reasons mainly additional cost attached to the unit such as VAT, Service Tax, Stamp duty, registration and other cost which constitutes approximately around 15% to 25% of the home cost.

Due to lack of public transit systems to peri-urban areas which are likely to be the affordable housing catchments, prices of affordable homes are primarily driven by the cost of construction. Construction costs form nearly 40 percent to 60 percent of the total selling price in affordable housing projects

compared to HIG/ luxury projects which generally vary from 18 percent to 30 percent. It has been observed that in Tamil Nadu as in other parts of India, private developers are forced to develop an affordable housing project in the urban periphery due to lack of affordable and adequate land parcel within the urban centers.

CONCLUSION

The state Government took the decision for constituting 'Shelter Fund', dedicated to finance housing projects to rehabilitate the urban poor. Simultaneously the Tamil Nadu Infrastructure Fund Management Corporation Limited (TNIFMC), promoted by Tamil Nadu Infrastructure Development Board (TNIDB) also mooted an idea to register Tamil Nadu Shelter Fund as category-I social Fund registered with Securities and Exchange Board of India (SEBI) which will develop its initial Corpus through sponsor funding of 5 % each from Tamil Nadu Slum Clearance Board and Tamil Nadu Housing Board with a targeted rate of return and another funding of 20 % from National Housing Bank (NHB). It was also proposed to generate resources through various other measures such as floating of housing infrastructure bonds, tapping social venture funds and borrowing internationally on London Inter-Bank offered Rates (LIBOR), etc.

The Government constituted Tamil Nadu Shelter Fund having the following two-tier financial structure:

1. The Tier-I Shelter Fund shall be constituted as a Government regulated fund, wherein the proceeds through various sources like levy of fees and other collections approved by the Government shall be transferred and credited. This fund will be maintained by Tamil Nadu Slum Clearance Board and administered by Housing and Urban Development Department in consultation with Finance Department. A part of the Tier-I Shelter Fund shall be used for catalysing the Tier-II Shelter Fund to tap various hitherto untapped sources of funding at a cheaper blended cost to promote affordable housing by the Government through TNIFMC. The substantial portion of the Shelter Fund pooled in Tier-I shall be used for housing projects by government through Tamil Nadu Slum Clearance Board including Grant component of State Government share in in centrally sponsored scheme. 2. The Tier-II Shelter Fund shall be registered with the Securities and Exchange Board of India as Category-I Social Alternative Investment Fund and maintained by TNIFMC.

Affordable housing development continues to be a challenging proposition for builders and developers and further policies need to be formulated by the Government to encourage greater participation from the private sector in the form of technological solutions, project financing and project delivery. Making affordable housing a viable business model can motivate private real estate developers to participate actively and aggressively in this segment. The Government can direct urban local bodies (ULBs) to incentivise private developers in the affordable housing segment by allowing them access to cheaper land, awarding higher FSI, reduction in the number and the time taken for approvals, assisting with infrastructure development, easier home loans and interest rate and tax subsidies. The builders/developers should use low-cost technologies such as pre-fabrication, which can be used to construct affordable houses quickly and cost–effectively.

In order to develop a sustainable affordable housing project, apart from the infrastructure facilities offered with in the project, the connectivity to urban centers should be adequate. The Government of Tamil Nadu is in the process of introducing a new housing policy, which would aim at reducing the construction cost and offering more housing facilities for the economically weaker sections of the society. It would also deal with the development of standard urban infrastructure, facilitate basic amenities and bring in amendments to the existing regulations to ease the process. It would also bring in time frames for the approval process.

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INTERNATIONAL TRAINING PROGRAMME FOR OVERSEAS PROFESSIONALS ON 'REALIZING THE RIGHT TO ADEQUATE HOUSING IN THE CONTEXT OF HABITAT III NEW URBAN AGENDA - POLICIES, PLANNING AND PRACTICES" FEB 24 TO APRIL 03, 2020

HUDCO's Human Settlement Management Institute (HSMI) organized the 43rd International Training Programme on 'Realizing the Right to Adequate Housing in the Context of Habitat III New Urban Agenda - Policies, Planning and Practices" sponsored by the Ministry of External Affairs (MEA), GoI under its ITEC Programme during February 24 to 3 April, 2020, which was prematurely closed on 19th March 2020 due to Covid19 pandemic. The training programme was inaugurated by Mr. M. Nagaraj, Director Corporate Planning & CMD, HUDCO, in the presence of Mr. D. Guhan, Director Finance HUDCO, Dr. S.K. Gupta, EDT HSMI; Mr. Surendra Singhai, GM(P); and Dr. Akshaya Kumar Sen, JGM(Eco.) & Course Coordinator on 25th February 2020.

This Training Programme was attended by 23 participants from 15 countries namely, Afghanistan, Botswana, Democratic Republic of Congo, Ethiopia, Iraq, Kenya, Madagascar, Malawi, Myanmar, Niger, Sri Lanka, Tanzania, Uganda, Vietnam and Zimbabwe. The programme was highly interactive and various experts and resource persons in the subject domain were invited to impart training and interact with the participants. Key modules covered during the course include: Housing and Urban Development Policy frameworks in the context of Urbanization, SDGs and New Urban Agenda; Rights-based Approaches to Planning for Affordable Housing at City Level; Regulations and Design Guidelines for Sustainable and Affordable Housing; Financing of affordable housing projects; and Learning from Global experiences, Case Studies, Indian best practices and field examples of Affordable Housing Projects. The unfinished modules were completed later through live online sessions.

AFFORDABLE HOUSING:
-Policy and Scope

MR. ABHYUDAY SINGHAL

In June, 2015, the Govt. of India launched the World's largest Affordable Housing Scheme, namely Pradhan Mantri Awas Yojana -Housing for All (Urban), in Mission mode which envisions the provision of housing for all' by 2022, when the nation completes 75 years of its Independence. The PMAY(Urban) is being implemented during 2015-2022 and provides central assistance to implementing agencies through States and UTs for providing houses to all eligible families/beneficiaries by 2022.

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Affordable housing is one of the key requirements under sustainable habitat domain. Though different countries have different definitions for affordable housing, the objective is to address the housing needs of the lower and middle income households. Affordable housing becomes a key issue especially in developing nations including India, where a majority of the population can't afford to buy houses at the market price and at the same time have income below the median household income level. As such, there is an urgent need to provide for affordable housing. In this article, emphasis has been laid on the measures to tackle the supply and demand side challenges in providing affordable housing and the policy & fiscal initiatives taken by the government of India to achieve the goal of Housing for All by the year 2022. The article also discusses the importance of Pradhan Mantri Awas Yojana (PMAY) for achieving the goal and the role played by Real Estate Regulation Act (RERA) to improve the efficiency and transparency in the real estate sector of India.

INTRODUCTION

World over all the developing countries and under developed countries be it Republic or Federal form are emphasizing on provision of affordable housing. In Indian context also over a period, each regime in the federal system, both Centre and State Goverments have come out with one or the other housing schemes and policies to address the need of the poorer people. Earlier schemes provided subsidy intervention by just giving money or skill upgradation or even supply of housing stocks. These interventions were limited.

Currently, India is going through an economic transition characterized by demand for better housing facilities. However, there is a widening gap between the demand and supply. Policy makers at national, regional, and municipal levels are responding to the issue with a myriad of policy initiatives. The Government of India has set 2022 as the target year to realize the objective of "Housing for All'. As per the Report of the Technical Group of 2012, the estimated number of urban households is found out to be 81.35 million and urban housing shortage to be 18.78 million in the year 2012. Ninety six percent

of the total housing shortage is attributed to the housing needs of Economically weaker section and Low – income groups. By the year 2030, around 40% of the country's population is expected to live in urban areas. Housing supply should match this rapid pace of urbanization.

Housing Shortage is typically calculated by adding excess of households over housing stock, the number of households residing in unacceptable dwelling units, those residing in unacceptable physical and social conditions due to overcrowding and congestion factor and the houseless households.

WHAT IS AFFORDABLE HOUSING?[1]

Affordability is about not only capital but also accessibility to work area, schools, hospitals and other social infrastructure. UN-HABITAT defines affordable housing as "housing which is adequate in quality and location and does not cost so much that it prohibits its occupants from meeting other basic living costs or threatens their enjoyment of basic human rights."

Affordable housing is a key issue in developing countries because access to decent shelter intricately woven with the better opportunities for kids and better facilities for parents paves the path of economic freedom and social stability of any community. Lack of it, results in loss of jobs and equal opportunities. The need for affordable housing and its lasting impact on nations' economic progress is undeniable. Affordable housing in rural and urban sector needs differently tailored policies as land is the main constraint in the urban areas.

CHALLENGES IN AFFORDABLE HOUSING

The sector is fraught with innumerable challenges like high cost of land, access to competitive financing. Financing land is a major challenge faced by Developers/ Builders in delivering affordable housing. The absence of a clear title is also a serious deterrent for participation by financial institutions and real estate developers in new as well as redevelopment projects of real estate. In the absence of redevelopment and densification of available lands, it remains underutilized - further contributing to shortage of land and to high land prices.

Measures to address Supply-side Challenges[2]

To address the challenges for more supply of affordable houses, some of the supply-side measures that are being considered are the following:

- land-pooling, where an undeveloped piece of land is exchanged for a smaller, developed piece of land, and tradeable land rights, in which agricultural land on the periphery of a city can be converted if other land is opened up for agriculture beyond the city's boundaries.

- focusing on ensuring property rights – for example, the right not to be forcibly evicted – rather than formalizing property titles.

- partnerships between community land trusts, which own and steward land on behalf of a community, and municipal land banks, which acquire vacant land and prepare it for development.

- Transit-oriented development (TOD), in which growth of cities is planned around new urban transport infrastructure.

- algorithmic zoning, with incentives for developers based on assessment of what is needed to maximize the vibrancy of a community.

- mixed-use development and inclusionary zoning, to ensure neighborhoods have a mix of income levels and proximity to jobs and services.

[1]Indian economy.net Economy and Finance. March 3, 2019 Available from: https://www.indianeconomy.net/post/affordable-housing-govt-measures-promote/
[2]World Economic Forum. Insight Report Cities, Urban Development & Urban Services Platform in Collaboration with PwC. June 2019. Available From: http://www3.weforum.org/docs/WEF_Making_Affordable_Housing_A_Reality_In_Cities_report.pdf

- taxation solutions, such as taxing the underlying value of land rather than the value of the property on it, and imposing a tax on vacant land or properties.

- government provision of tax incentives, grants or exemptions for private developers to develop certain types of property or develop in designated areas.

- government-guaranteed bonds providing cheap, long term finance to community-based organizations to develop and manage affordable housing.

- employing investment models such as microfinance, real estate investment trusts (REITs), impact investing.

- minimizing bureaucracy, as the fees and costs of complying with complicated building codes can add significantly to project cost. There is potential for technology to provide solutions here.

- Public-private partnerships on training to address skills shortages in the construction sector.

Measures to address Demand-side challenges

To address the demand-side challenges for enabling the demand for affordable houses, some of the measures which are being considered are the following:

- different forms of tenure, going beyond a binary choice between rental and homeownership, can offer more options to city residents struggling to afford a house. They include Build-to-rent, Rent-to-own, Ownership and Shared equity ownership.

- rent controls offer the potential to protect tenants, but must also take care not to restrict the future supply of properties to rent by unfairly disadvantaging the landlords, which necessitates rationalization of rental laws.

- demand-side interventions need to guard against the risk of helping in the short term but not the long term. Mechanisms to keep units affordable on resale include subsidy recapture and subsidy retention.

- availability of low-cost home loan by providing interest subvention or any other means.

GOVERNMENT MEASURES TO SUPPORT AFFORDABLE HOUSING

There are several recent government of India initiatives, some of which could work for helping poor people to build new houses. Many of the supporting measures were launched in the recent union budgets.

Union Budget provisions

In the Union Budget 2017-18, the government:

a) granted infrastructure status to affordable housing, which is likely to help affordable housing developers to avail funds from different channels, like external commercial borrowings (ECB), foreign venture capital investors (FVCI) and foreign portfolio investors (FPIs).

b) increased the time for project completion to affordable housing promoters from three years to five years;

c) provided one-year time to developers to pay tax on notional rental income on completed but unsold units;

d) reduced the tenure for long-term capital gains for affordable housing from three to two years;

e) revised the qualifying criteria for affordable housing from saleable area to the carpet area;

f) enhanced the refinancing facility by National Housing Bank (NHB) for individual loans for the affordable housing segment;

g) encouraged proactive role of private developers in affordable housing sector by providing several incentives including subsidies, tax benefits and most importantly, institutional funding.

h) created a dedicated Affordable Housing Fund (AHF) with the National Housing Bank, which will be funded from priority sector lending shortfall and fully serviced bonds authorised by the Government of India.

In the Interim Budget of 2019-20, the government made several supportive measures for the housing sector including exemption on levy of income tax on notional rent on a second self-occupied house and increased the TDS threshold on rent to Rs.2,40,000.

GST rates reduced for affordable housing

The GST Council has reduced tax rates for affordable housing and it has been brought down from 8% to just 1%. The Council has also enhanced the ceiling value of affordable housing to Rs. 45 lakh which implies that houses below Rs. 45 lakh will be charged with a GST rate of 1%.

New carpet area limit: Affordable houses in terms of carpet area is defined as 90 square meter in non-metropolitan cities and 60 square meter in metropolitan cities with a ceiling value of Rs 45 lakh in both the cases.

RBI efforts in affordable housing: As per the RBI incentive measures, the cost of affordable residential property should be less than Rs. 65 lakh in metro cities and Rs. 50 lakh in non-metros. The central bank's definition is based on the loans given by banks to people for building a house and buying flats. The RBI also gives loans to affordable housing under priority sector lending. RBI allowed banks to issue long term bonds (of minimum 7 years' maturity) to finance loans to affordable housing.

INDIA'S URBAN MISSION FOR AFFORDABLE HOUSING

Recognising the importance of providing housing to the poor sections, government has initiated a group of measures over the last fifteen years. As a beginning, the National Urban Housing and Habitat Policy (NUHHP), 2007 has set the objective of Affordable Housing for All as a key focus. Later, the government has set 2022 as the target year to realize this objective by making specific initiatives for the promotion of housing.

Pradhan Mantri Awas Yojana (Urban)[3]

In June, 2015, the Ministry of Housing and Urban Poverty Alleviation (MoHUPA), Govt. of India launched the World's largest Affordable Housing Scheme, namely Pradhan Mantri Awas Yojana -Housing for All (Urban), in Mission mode which envisions the provision of housing for all' by 2022, when the nation completes 75 years of its Independence. The PMAY(Urban) is being implemented during 2015-2022 and provides central assistance to implementing agencies through States and UTs for providing houses to all eligible families/ beneficiaries by 2022. The present regime of scheme of PMAY (U) is created out of learnings of past schemes i.e. ISHUP, RRY etc. It covers the entire gamut of people who are in need of house and hence named as Housing for All.

The goal of government is to make all the section of people not only to open Jan dhan account in Banks, but also to make them aware and bring them in to the main activity of economy by properly exposing them to processes such as availing loan, initially for housing and later they can get used to getting access to funds for all their activities.

The Mission seeks to address the housing requirement of urban poor including slum dwellers through following four verticals, giving option to beneficiaries, ULBs and State Governments:

- Slum rehabilitation of Slum Dwellers with participation of private developers using land as a resource - In Situ Slum Redevelopment (ISSR)

- Promotion of Affordable Housing for weaker section

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[3]https://vikaspedia.in/social-welfare/urban-poverty-alleviation-1/schemes-urban-poverty-alleviation/pradhan-mantri-awas-yojana-housing-for-all-urban

through credit linked subsidy - Credit Linked Subsidy Scheme (CLSS)

• Affordable Housing in Partnership with Public & Private sectors (AHP)

• Subsidy for beneficiary-led individual house construction /enhancement (BLC)

Three of the verticals dwell on supply side intervention and the other most important vertical of CLSS deals with demand side intervention.

This Mission is being implemented as Centrally Sponsored Scheme (CSS), except for the component of Credit Linked Subsidy Scheme (CLSS) which will be implemented as a Central Sector Scheme.

In Situ Slum Redevelopment (ISSR)

This vertical will be implemented with a concept "Land as a resource" with private sector participation for providing houses to eligible slum dwellers. Slums, whether on Central Government land/ State Government land/ ULB land, Private Land, should be taken up for "in-situ" redevelopment for providing houses to all eligible slum dwellers. Slum rehabilitation grant of Rs. 1 lakh per house, on an average, would be admissible for all houses built for eligible slum dwellers in all such projects.

Credit Linked Subsidy Scheme (CLSS) for EWS and LIG

Under CLSS, beneficiaries of Economically Weaker Section (EWS) and Low Income Group (LIG) can seek housing loans for new construction and enhancement to existing dwellings as incremental housing from Banks, Housing Finance Companies and other such institutions called as Primary Lending Institutions (PLIs). The credit linked subsidy will be available only for loan amounts upto Rs 6 lakhs and such loans would be eligible for an interest subsidy at the rate of 6.5 % for tenure of 20 years or during tenure of loan whichever is lower. Interest subsidy will be credited upfront to the loan account of beneficiaries through lending institutions resulting in reduced effective housing loan and Equated Monthly Installment (EMI). Total interest subsidy available to each beneficiary under this component maybe calculated for EWS and LIG by examining two different cases.[4]

Case 1 is considered for EWS i.e. annual income upto Rs. 3.0 lakh, carpet area upto 30 sq. mt. and beneficiary identification to be furnished can be Aadhar, voter card or any other unique ID. Since, the loan amount is upto Rs 3.0 lakh, the initial EMI is calculated @10 % for a 20 years tenure totaling 240 monthly

installments of Rs 2,985. Since 6.5% interest subsidy amounting to Rs. 1.34 lakh is credited upfront to the loan account, the balance loan repayable is Rs. 1.66 lakh. This transforms to Rs 1,605 EMI after subsidy which leads to a monthly saving of Rs. 1,290 and annual saving of Rs 15,480. Any additional loans beyond Rs. 6 lakh, will be at non-subsidized rate.

Case 2 is considered for LIG i.e. annual income upto Rs. 6.0 lakh, carpet area upto 60 sq. mt. and beneficiary identification to be furnished can be Aadhar, voter card or any other unique ID. Since the loan amount is upto Rs 6.0 lakh the initial EMI is calculated @10% for a 20 years tenure totaling 240 monthly installments of Rs 5,790. Since 6.5% interest subsidy amounting to Rs 2.67 lakh is credited upfront to the loan account, the balance loan repayable is Rs 3.32 lakh. This transforms to Rs 3,211 EMI after subsidy which leads to a monthly saving of Rs 2,579 and annual saving of Rs 30,948.

This saving due to decrease in EMI can be dove tailed for next set of economic activity of say education to their children. This means the sphere of economic activities gets expanded.

Credit Linked Subsidy Scheme (CLSS) for Middle Income Groups

The window of fulfilling the aspiration of owning a pucca

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[4]http://www.myhudco.org/site/pdf_docs/credit-linked-subsidy-scheme-(clss).pdf

house for the large tax paying middle class population, has been made operational from January 1, 2017. Under this, the Middle Income Groups (MIG) with annual income of above Rs.6.00 lakh and up to Rs.18.00 lakh per year are eligible for interest subsidy on housing loans under the new CLSS (MIG). Those who have been sanctioned housing loans and whose applications are under consideration since 1st January 2017 are also eligible for interest subsidy. Beneficiaries are eligible for an interest subsidy of 4% on housing loans of up to Rs.9.00 lakh for those with an income of Rs.12.00 lakh per year and of 3% on housing loans of up to Rs.12.00 lakh for those earning Rs.18.00 lakh per year. Total interest subsidy available to each beneficiary under this component maybe calculated for MIG-1 and MIG-2 by examining two different cases.[5]

Case 1 is considered for MIG-1 i.e. annual income upto Rs. 12.0 lakh, carpet area upto 160 sq. mt. and beneficiary identification to be furnished can be Aadhar. Since, the loan amount is upto Rs 9.0 lakh the initial EMI is calculated @10% for a 20 years tenure totaling 240 monthly installments of Rs 8,685. Since 4% interest subsidy amounting to Rs. 2.35 lakh is credited upfront to the loan account, the balance loan repayable is Rs. 6.65 lakh.

This transforms to Rs 6,417 EMI after subsidy which leads to a monthly saving of Rs. 2,268 and annual saving of Rs 27,216. Any additional loans beyond Rs. 9 lakh, will be at non-subsidized rate.

Case 2 is considered for MIG-2 i.e. annual income upto Rs. 18.0 lakh, carpet area upto 200 sq. mt. and beneficiary identification to be furnished can be Aadhar. Since the loan amount is upto Rs 12.0 lakh the initial EMI is calculated @10% for a 20 years tenure totaling 240 monthly installments of Rs 11,580. Since 3% interest subsidy amounting to Rs 2.30 lakh is credited upfront to the loan account, the balance loan repayable is Rs 9.70 lakh. This transforms to Rs 9.359 EMI after subsidy which leads to a monthly saving of Rs 2,221 and annual saving of Rs 26,652.

Beneficiaries eligible for interest subsidy under CLSS can directly apply to Primary Lending Institutes PLIs and PLIs after due verification of applications will sanction loans and there after claim subsidy from Central Nodal Agencies (CNAs). No processing fee will be charged by PLIs from the applicants under CLSS. The National Housing Bank (NHB) and Housing and Urban Development Corporation (HUDCO) have been designated as Central Nodal Agencies (CNAs) for implementation of CLSS for both EWS/LIG and MIG and these CNAs would reimburse interest subsidy to Primary Lending Institutions (PLIs) based on the loans advanced to beneficiaries by PLIs. Later vide Notification dated 06.08.2019 the State Bank of India (SBI) has also been added as the third CNA for implementation of CLSS.

The CLSS vertical acts as a booster to economy, as first time there is a huge set of people of poorer section to get into not only having Bank account, but also to learn the nuances of servicing the loan. Thereby, GoI is making them think and act on availing loans which was not easier in earlier days. Even FIs and Banks have come forward especially considering the fact that GoI is taking part burden of EMI of poorer people by infusion of CLSS subsidy upfront in the beneficiary home loan account. Banks are happy that part recovery happens simultaneously on release of loan.

Major Impediments in successful implementation of CLSS

EWS/ LIG Category:

i. The major issue in this category is the valid Income Proof without which the subsidy can not be granted by CNAs. As the majority of this category is having

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informal source of income, which can not be documented easily and because of lack of documentary proof of the Income, most of the Banks are reluctant to sanction housing loan. Such as Auto/ Taxi Drivers, Fruit and Vegetable Sellers, Ice Cream, Pan Vendor, Tailor, Saloon etc. This results that this category is deprived from the benefit of the CLSS scheme.

ii. The Title documents of the properties are not easily verifiable, because of which the Banks are reluctant to give housing loan and subsidy to this category.

MIG Category:

i. Majority of people falling under this category, are at that stage of life where they are already in possession of house either through self-acquisition done earlier or through inheritance, because of which they become ineligible for subsidy.

Further, one of the reasons for not giving subsidy by Banks/ HFIs is that the moment CLSS subsidy gets adjusted against the outstanding loan, the loan amount gets reduced, which results in decreasing the outstanding loan of that branch, hence act as disadvantage to the Branch Manager.

Affordable Housing through Partnership (AHP)

The Mission provides financial assistance at the rate of Rs. 1.5 lakh per EWS dwelling unit being built under different partnerships by States/UTs/ Cities. An affordable housing project can be a mix of houses for different categories (EWS, LIG, MIG and HIG etc.) but it will be eligible for central assistance, if at least 35% of the houses in the project are reserved for EWS category and a single project has at least 250 houses.

Subsidy for Beneficiary-led individual house construction (BLC)

BLC subsidy is assistance provided to individual eligible families belonging to EWS categories to either construct new houses or enhance existing houses on their own, to cover the beneficiaries who are not able to take advantage of any other component of the mission. Such families may avail of central assistance of Rs. 1.5 lakh and should be part of HFA. A minimum addition of 9.0 sq.mt of carpet area to the existing house will be required to be eligible for Central assistance under the 'Beneficiary Led Construction' component of the housing mission.

A beneficiary desirous of availing this assistance shall approach the urban local bodies (ULBs) with adequate documentation regarding

availability of land owned by them. Such beneficiaries may be residing either in slums or outside the slums. Beneficiaries in slums which are not under ISSR can be covered under this component, if beneficiaries have a Kutcha or semi Pucca house. Central assistance will be released to the bank accounts of beneficiaries identified in projects through States/UTs as per recommendations of State/ UT.

Pradhan Mantri Awas Yojana (Gramin)

Recognizing the need of housing in rural areas, the Govt. of India under the ambit of Ministry of Rural Development (MoRD) has launched Pradhan Mantri Awas Yojana (Gramin), the PMAY (Gramin) in 2016 to construct affordable houses in rural areas and complete it by 2022 (date extended). In February 2019, the Cabinet has redefined target for PMAY-G to 1.95 crore houses under PMAY-G Phase-II upto 2022.

Role of Real Estate Regulatory Authority (RERA) Act[6]

On 1st May 2017, the Government incorporated the Real Estate Regulatory Authority (RERA) Act. The goal of RERA is to improve the efficiency and transparency in the real estate sector of India. Before RERA, home buyers were facing many

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[6]BW BusinessWorld. Affordable Housing To Gain From RERA Registered Brokers. May 09, 2020. Available from: http://www.businessworld.in/article/ Affordable-Housing-To-Gain-From-RERA-Registered-Brokers/21-07-2019-173593/

issues regarding purchase of properties the most prominent among them were delayed project completions & deliveries, unfair pricing, bad quality of the construction. RERA is meant to rectify these problems and thereby streamline the real estate sector of India.

After the enactment of RERA transparency has been brought to the industry by setting up RERA committees across India to regulate the real estate sector. RERA has brought about a positive change in every facet of the real estate sector. Here's how:

- RERA aims to reduce project delays and in order to do so, authorities have made it mandatory for all builders/developers to carry out RERA registration before they start any project.

- RERA Authority has been sub-divided into smaller regulatory bodies, each of which look after the real estate development in a single state or union territory in India.

- RERA rules are applicable to both residential and commercial properties.

- The RERA Act has brought about more accountability and transparency within the real estate industry.

With the implementation of RERA's rules, builders have to disclose every detail of the project they have undertaken on RERA's official website. More importantly, they have to update this information on a regular basis. This assures buyers of transparency regarding project timelines.

RERA benefits homebuyers in a number of ways such as the following:

- As per RERA rules, the buyer has to pay for the property on the basis of the carpet area or the area enclosed by walls. Builders cannot charge for the super built-up area that includes lifts, balconies, stairs and lobbies.

- Builders have to put 70% of the money they collect from homebuyers into a separate bank account, called as Escrow account, which can only be used for construction purposes.

- After handing over, the buyer can report construction defects for up to 5 years and have the developer rectify them.

- Developers have to resolve disputes with buyers within 120 days of it being filed.

- The developer or builder cannot make alterations or additions to the building plan without informing two-thirds of the owners about such a change. It can only proceed if a majority of homebuyers' consent.

- The Act prohibits developers from taking more than 10% as advance from homebuyers.

- If at the time of possession, a discrepancy is noticed in title deed, the buyer can immediately ask for compensation from the developer.

After the enactment of RERA, the real estate has experienced a surge due to already implemented PMAY scheme, as well as increasing demand for properties by home buyers. According to a survey, the affordability of houses in the major cities of India has improved. This study was done in the top eight metropolitan cities of India, including Mumbai, Hyderabad, Pune, where they noted a visible shift towards making houses affordable.

RERA and PMAY are improving the face of Indian Real Estate. RERA also requires registration by big and small brokers to prevent them from cheating buyers by selling houses that were at high risk for the sake of higher commission. Now the property developers in affordable housing segment work with registered brokers, and they have noticed a sharp decrease in customer complaints. Builders are now obliged to keep the process transparent under the guidelines of RERA. The Indian Government is also anticipating GDP to grow sharply with the contribution of the housing sector and several

co-dependent industries.

WAY FORWARD

City governments have to define their long-term plans for increasing the supply of affordable housing, balancing the need to minimize urban sprawl with the limits of the viability of building denser and taller. They need to address political considerations that could hold back the development of new affordable housing, ensure that housing developments have adequate infrastructure, explore ways to improve the situations of those living in informal housing, and create a strong regulatory enabling environment for the private and non-profit sectors. Private sector players need to keep abreast of emerging solutions in construction techniques and materials, work with governments to ensure an adequate flow of skilled labor, and consider new solutions in financing and innovative tenure models. Non-profit organizations such as community land trusts, housing cooperatives and microfinance institutions have a critical role in bridging the gap between governments and the private sector to improve the affordability of housing, as well as working with individuals to help them understand their options and make informed decisions.

HUDCO MARKS ITS GOLDEN JUBILEE

On the occasion of HUDCO's Golden Jubilee, more than 1000 officials and stakeholders from across the country joined a live webcast event on 27th April 2020 to mark 50 years of its distinguished service to the nation. In the wake of the corona pandemic, the use of information technology to enable virtual celebration of the foundation day, was a historic first. Shri Durga Shanker Mishra, Secretary, Ministry of Housing and Urban Affairs, the Chief Guest on the Occasion, addressed the officials and appreciated HUDCO's stupendous contribution towards nation building. He urged HUDCO to continue to dream big and strive innovatively to address the challenges in the habitat sector and to develop as a knowledge hub among the SAARC and Commonwealth nations, particularly post the COVID pandemic.

Shri Shiv Das Meena, Additional Secretary, MoHUA and Chairman & Managing Director, HUDCO congratulated the employees for their commitment and dedication over decades, that has made HUDCO a continuously profit making enterprise with a unique business model of 'profitability with social justice'. Shri. M. Nagaraj, Director (Corporate Planning) welcomed the participants and Shri D.Guhan, Director (Finance) proposed the vote of thanks.

HUDCO's Golden Jubilee Celebrations webcasted on 27th April 2020 at 4:30 p.m.

-: Chief Guest :-
Shri Durga Shanker Mishra, Secy (MoHUA)

Shri M Nagaraj
DCP HUDCO

Shri Shiv Das Meena
Addl Secy (MoHUA) & CMD HUDCO

Shri D Guhan
DF HUDCO

RENTAL HOUSING FOR LOW INCOME HOUSEHOLDS

-The Nexus between Economic Development, Informality and Labour Mobility in Indian Cities

MRS. BANASHREE BANERJEE

Rental housing is often the first choice of shelter for new migrants and it stands to reason that a high rate of migration into a city is directly related to the high demand for rental housing and its production. The informal rental housing market in Ludhiana provides cheap accommodation for more than 200,000 migrant workers in the city.

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Literature shows that despite commonalities across cities, there is no homogenised model of rental housing for low income households that exists in all cities. The dynamics of supply and demand are specific to each city, and influenced by its economy, growth rate and housing market, leading to diverse and distinct typologies which are specific to context. It is of vital importance then to understand these contexts and differences in order to articulate responsive policies and practices towards rental housing for the urban poor. This article aims to contribute to the policy dialogue on rental housing by sharing findings from the city of Ludhiana in the Indian state of Punjab. The focus is on a particular form of informal rental housing, locally known as "vehra", which provides cheap accommodation for more than 200,000 migrant workers in the city. The article illustrates how this particular sub-market works in its particular context of the city's economy, its governance and land and housing settings on one hand, and in the context of livelihood strategies of migrant workers on the other. In doing so, it raises wider issues of supporting rental housing for the poor through policy and local practice.

RATIONALE BEHIND INFORMAL RENTAL HOUSING

The Draft National Urban Rental Housing Policy of India argues that rental housing can play a significant role in meeting the shelter needs of many of the urban poor (MoHUPA, 2018). This is confirmed by research findings, which elaborate a number of cross-cutting features of rental housing across cities of the developing world (UN-Habitat, 2003; Kumar, 2001; Mahadevia, 2011, Desai, 2012, Naik, 2015; Sinha, 2014). Rental housing is more than just a fill-in-the-gap solution for shortage of affordable housing and constitutes a large market in itself. It is a preferred option among many because it offers price flexibility and locational mobility to respond to economic opportunities. Cheap rentals reduce housing expenditure in favour of remittances back to the village for migrants. They offer an appropriate housing solution both for those who are undecided about their long-term plans and come without the intention of settling down in the city, and others who aspire to build up savings for owning property in the city (UN-Habitat, 2003).

Informality is a defining feature of rental housing which

is accessible to the poor. An estimated 60–90 per cent of low-income rentals in Asia are informal (UN-Habitat & UNESCAP, 2008). This informality plays out in two ways. A large number of the working poor rent accommodation in informal or "unplanned" areas of cities, such as squatter settlements, unauthorised colonies, urban villages and old city neighbourhoods. The second feature of informality lies in the unwritten arrangement between landlord and tenant (UN-Habitat, 2003; Sinha, 2014; Kumar, 2001). 27% of urban residents in India are living on rent (Census, 2011), 95% of which do not have formal agreements or registration (NSSO, 2010a). This is true when informal landlords rent for supplementing their household incomes rather than for profit, as well as for speculative rental practices (Lee Smith, 1990; UN-Habitat, 2003).

Rental housing is often the first choice of shelter for new migrants and it stands to reason that a high rate of migration into a city is directly related to the high demand for rental housing and its production (Desai, 2012). Statistics show increasing rural to urban labour mobility in India, ensuring a demand of rental housing for some time to come. According to the Economic Survey 2016–17, inter-state migration increased to from about 6 million per year in 2001-11 to nine million per year in 2011-16 (Department of Economic Affairs, 2017). 67% of urban households migrate for employment related reasons (NSSO, 2010) and are most likely to seek rental housing solutions. Rental housing is also significant for those with volatile income streams and older residents amongst the urban poor who are unable to make the shift to home ownership (Mahadevia, 2011) or prefer to remain in certain locations in the city.

Despite these common features across cities, literature shows that there is no homogenised model that exists in all cities. The dynamics of supply and demand are specific to each city, and influenced by its economy, growth rate and housing market, leading to diverse and distinct typologies which are specific to context. For instance, the *chawls* of Mumbai and *chalis* of Ahmedabad originated as rental housing for migrant textile mill workers and are not found in other cities. It is then of vital importance to understand these contexts and differences in order to articulate responsive policies and practices towards rental housing for the urban poor.

This article aims to contribute to the policy dialogue on rental housing by sharing findings from the city of Ludhiana in the Indian state of Punjab[1]. The focus is on a particular form of informal rental housing, locally known as "*vehra*", which provides cheap accommodation for more than 200,000 migrant workers in the city. The article illustrates how this particular sub-market works in its particular context of the city's economy, its governance and land and housing settings on one hand, and in the context of livelihood strategies of migrant workers on the other. In doing so, it raises wider issues of supporting rental housing for the poor through policy and local practice.

LUDHIANA: CITY SHAPED BY INDUSTRIALISATION, MIGRATION AND UNPLANNED GROWTH

Ludhiana has a population of 1.62 million (Census, 2011) and is the largest city in Punjab and a major industrial centre of northern India. The growth of employment in large, medium and small industries and linked commercial and service activities resulted in an exceptionally high growth rate of 51% in the decade 1951-61 and even higher at 71.77% in 1981-91 because of accelerated industrialisation and expansion of city boundaries. The growth rate in the next decade reduced but was still

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[1]Based on (1) field work conducted by the author while preparing the report on "Integration of the Poor and Marginalized in Ludhiana" in 2014 for the World Bank and followed up in 2018.

high at 32.5%, finally settling at 16% in 2001-2011 (Banerjee, 2014).

Formal and informal industries account for the maximum employment in Ludhiana and this trend is expected to continue with strong state backing for industries. Construction and real estate is the second most important employment sector, increasing in importance since the mid-90's with the growth of private sector housing estates, hospitality industry, shopping malls, educational institutions, hospitals and large government infrastructure works.

Both industries and construction sectors in Ludhiana depend on migrant workers, most of whom are from Uttar Pradesh (UP) and Bihar. The total number of migrant workers in these sectors in 2007-08 was 672,600. Of these 29,000 were intra-state migrants and 304,000 were inter-state migrants (NSSO, 2010). Thus, more than half the total workers in Ludhiana are migrants and the proportion would be much higher if short-term migrants are taken into account. The recent reduction of growth rate is largely attributed to reduction in migrant inflow from Bihar, triggered by the success of government employment guarantee programmes in the state. Jobs both in the formal and informal sectors have kept the poverty level down with only 9.7% of the population

below poverty line, consistently declining from 12.95% in 1991, and much lower than the average of 23.6% for urban India. But these figures do not reveal the multiple deprivations and poor quality of life faced by a large number of urban dwellers both below and above the poverty line.

The rapid development of employment opportunities and high rates of growth have not been matched by planned urban development and formal solutions for housing and civic infrastructure. During its peak period of growth Ludhiana did not have a legally valid master plan to guide and control development. Only 52% of the municipal area has had the benefit of planned development in the form of town planning layouts and residential and industrial projects implemented by various agencies of Government of Punjab, 2010. The remaining area has developed informally with uncontrolled expansion of informal industry, trade and commerce, slums around workplaces and unauthorised colonies. These areas suffer from poor sanitation, traffic congestion; severe air and water pollution; deficiency of road networks and lack of space for recreation, schools, health facilities and other social infrastructure. This pattern spreads beyond municipal boundaries into the peri-urban areas, where more than 40% of

the urbanisable land delineated for urban expansion in the Master Plan- 2021 is already occupied by unauthorised colonies, slum settlements and informal industry (Sharma, 2012).

Informality dominates low-income housing

A high demand for housing by the flow of migrants and the poor record of providing formal solutions for affordable housing have led to the growth of informal housing. Public housing efforts are limited to 4832 housing units completed in 2014 for resettling slum dwellers under the Basic Services for the Urban Poor (BSUP) programme and 2500 units for EWS (Economically Weaker Section) and LIG (low income group) prior to that (MCL, 2015). Prime Minister's Awas Yojana is yet to produce any results (The Tribune, 01 Nov 2019).

Most of the informal housing in Ludhiana is in the form of down-market private land and housing supply, where quality is compromised to make profit and deliver land and housing very quickly. The most predominant are unauthorised colonies, where farmlands or village common lands are subdivided into a gridiron pattern of plots and streets and sold. No services are provided by the seller. 280 unauthorised colonies are within MCL limits and 845 in the area administered

by GLADA (Greater Ludhiana Area Development Authority) outside the municipal limits. Unauthorised colonies have repeatedly been regularised and provided with services. It is interesting that 128 layouts similar to unauthorised colonies have been notified as slums for their lack of essential services. So, of the 182 notified slum areas, only 54 are jhuggi jhompris or squatter settlements on public or unclaimed private land. The cumulative population of the 182 slums is about 2.6 lakhs, many of whom have benefited from slum upgrading programmes (MCL, 2015).

The most remarkable of informal housing solutions in Ludhiana are the vehras, or rental housing built by private land owners exclusively for migrant workers. These consist of rooms built around a narrow courtyard with minimal shared services. According to MCL estimates there are about 850 vehras with a population of about 2.0 lakhs living in more than 36,000 rooms (Banerjee, 2014; MCL, 2015). Although nine of the notified slums have vehra dwellings in them, vehras as such are not considered as slums in Ludhiana. Apart from vehras, informal rental housing also exists in slums, where 18,500 or 14% are tenants (MCL, 2015). Unauthorised colonies and old city neighbourhoods also accommodate a sizable population of renters, with

neighbourhood specific dominance of inter and intra state migrants, but the numbers are not known. This kind of information haziness around informal renting is not particular to Ludhiana alone and reflects the fluid and hidden nature of the market (UN-Habitat, 2003). Nevertheless, that does not undermine it's importance in the city, but rather flags up the need for further research to understand the nuances.

Figure 1 gives an overview of the distribution of the 283136 houses in Ludhiana (Census, 2011). 18% of the houses are in slums (jhuggi jhompri and unauthorised colonies notified as slums) and 13% are rental tenements in vehras.

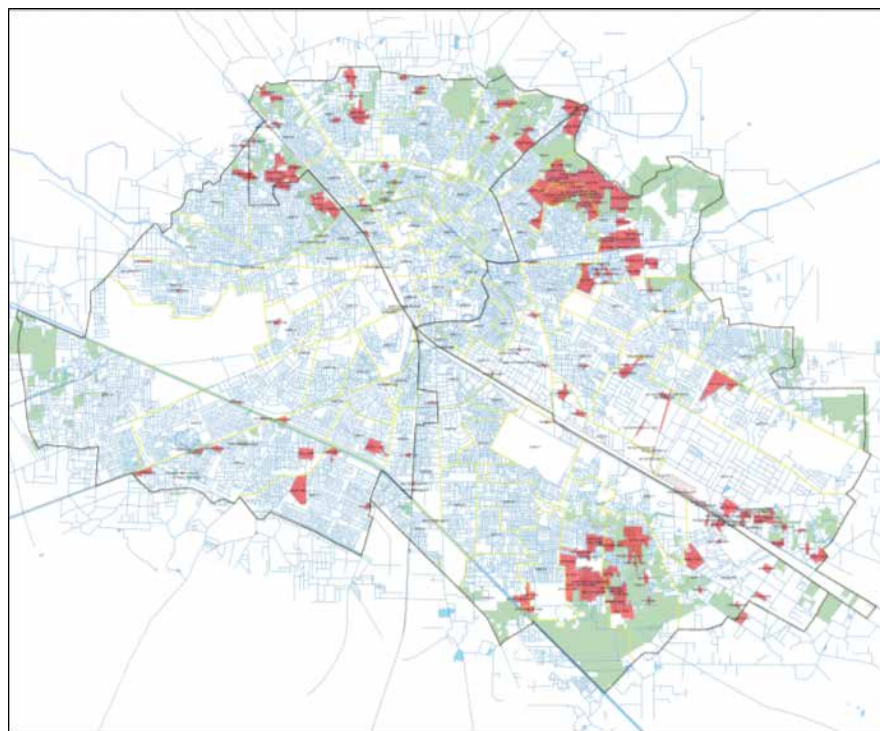*Figure 1: Distribution of houses in Ludhiana*
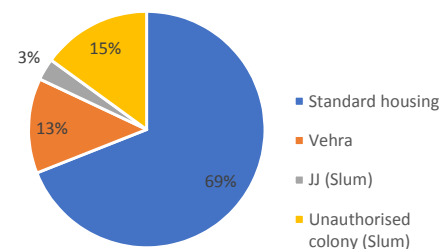
Source: Census 2011 quoted in Slum Free Plan of Action, (MCL, 2015)

Vehras, the city and the land owners

Vehras are extensively used in rural Punjab to house migrant agriculture workers. In the case of Ludhiana it was a natural

Figure 2: Map of Ludhiana showing location of slums, vehras and industrial areas

Source: Based on Slum Free Plan of Action (MCL, 2015)

progression for land owners to start catering to migrant industrial labour with the same kind of housing when the opportunity arose. The intensive development of industries to the south east of the city left villages, farmlands and low-lying areas in between, which converted into a web of unauthorised colonies, urbanised villages, slums and informal places of manufacturing and commerce. Vehras originally constructed for farm labour in these areas started being rented out to single male migrant industrial workers. Very quickly vehras turned into a lucrative business for land-owners who did not have income from agriculture any more. Single storeyed kutcha construction gave way to poor quality pucca structures going up to three storeys and the number of vehras grew rapidly, especially from the 1970's to the 1990's when migration from UP and Bihar was at its peak.

The proximity to industries and markets was the main reason for the clustering of vehras in certain localities such as Giaspura, Jugiana, Sherpur (Figure 3), Lohara, Dhandari Kalan, and Tajpur Road. This clustering has stimulated the growth of shops, eating places and other facilities catering to the "Purvanchal"[2] lifestyle of migrants from Eastern UP and Bihar, turning these city neighbourhoods into cultural

[2]Eastern region
[3]From the author's field visits to 4 vehras.

Figure 3 : Caption: Sherpur market; Credit: B Banerjee

precincts very different and distinct from the surrounding Punjabi city. A continuous stream of people from those states sustains a demand for rental rooms and catalyses the transformation of the city into a multi-cultural place.

Interviews with local village leaders revealed that many of the landlords are "big people" who have managers for rent collection, allotment of rooms and repairs. Tenants may not even be aware who the landlord is, but it is different for small landlords, who are quite accessible and some of whom live and own shops in the neighbourhood. It was not possible to speak to any of the landlords as they were suspicious and guarded, which is not surprising considering the informal nature of operations

and sub-standard housing.

Living conditions in vehras

Vehras range in size from 10 to more than 100 rooms. Smaller vehras have single or double storeyed construction and larger ones go up to four storeys. The typical pattern consists of rows of rooms built on the long sides of plots with a narrow courtyard in between. Rooms are 10 to 12 square meters in size and shared between four to six single males or occupied by a family. The room is used for all living activities, including cooking and in many cases has no window. Shared latrines, water taps and bathing enclosures are located in the courtyard or at the end of the corridor on upper floors. The number of latrines is highly inadequate with up to 35 persons per latrine[3].

Figure 4: Vehra Construction; credit: B Banerjee

Figure 5: Vehra Quality; credit: CURE

Problems of overcrowding and too many people sharing poor quality services are exacerbated by waterlogging during the rainy season and general lack of drainage in the areas where vehras are located. Choked sewer pipes, overflowing septic tanks and drinking water contamination are endemic.

MCL records show that vehras have the highest occurrence of water borne and respiratory diseases in the city. There have been frequent instances of outbreak of gastroenteritis in the past caused by drinking water contamination. The reaction of the MCL is to issue warnings to vehra owners and disconnect water supply to affected vehras[4]. The vehra owners are then required to pay a fine for resumption of supply. In the opinion of MLC, these are private properties and it is the

onus of the property owner to maintain hygienic conditions.

All the vehras have been constructed (Figure 4) without any approval from MCL, but municipal water supply and sewerage are available, although not commensurate with the high plot occupancy levels of vehras and not always legal. Several vehras have also been regularised retrospectively by paying the required "composition fee". In the absence of a specific state policy on vehras, the MCL is constrained to take only punitive action[5] when problems arise and to treat structures like any other unauthosised private construction according to the municipal act. Vehras are not considered as slums because they are on private properties even though their environmental conditions are far worse than in the notified slums. Perhaps things

will improve for the better with two initiatives in the pipeline: MCL is set to carry out a survey of housing and infrastructure conditions in vehras; and MCL has requested the Punjab state government to formulate development standards and byelaws for vehras.

The vehra dwellers[6]

Despite poor conditions (Figure 5), vehras continue to be the favoured housing option for 2 lakh migrants mainly from eastern UP and Bihar. Most of them work as informal industrial labour as daily wagers or piece-rate workers in both formal and informal establishments. A sizable number are employed in the industrial waste recycling business and in warehouses for loading and unloading goods. The monthly incomes range from Rs 5000 to 11,000 and most workers are employed

[4]For example, MCL disconnected water supply to 40 vehras In August 2010 after an outbreak of gastroenteritis and issued 27 challans to owners of the vehras for spreading unhygienic conditions. (The Tribune, August 30, 2010). Such steps always come after an outbreak of disease and sometimes deaths.
[5]According to Clauses 292 to 295 of the Punjab Municipal Corporation Act, MCL can make it mandatory for a property owner to keep premises fit for human habitation by maintaining sanitation etc.
[6]Information based on focus group discussions by author where references are not specified

in the same establishment for a number of years (Sinha, 2018). Own account workers are rickshaw pullers, hawkers and vendors. About 80% of the workers come alone to the city, leaving their families back in the village. Migrants usually rely on kinship networks to find a place to rent. Once in the city, there is a tendency to form neighbourhood or work-place based affiliations and networks, breaking down the caste and village barriers (Kunduri, 2019) but still maintaining regional identities. This creates a sense of shared identity and fosters social security and wellbeing.

Rented rooms at Rs. 1500 to 2000 per month are shared between 4 to 6 single males, an arrangement which they find quite satisfactory because of a similar cultural background or work place affiliations. Moreover, they work in shifts so only two or three persons occupy the room at a time. The priority is to minimise expenditure in the city so that remittances can be sent to the family in the village for clearing debts, day to day expenses and buying property (Sinha, 2018). Children's education has a high priority, even though 80% are illiterate or semi-literate themselves (Sinha, 2018). Families occupy single or at times two rooms and many of the women do piece rate work from home for garment industries or work as domestic help. Most of the vehra

dwellers think of the vehra as a temporary place of stay, even though some of them have been living there for more than ten years. This mind set perhaps helps them to deal better with poor living conditions. 77% want to return to their native place after working in Ludhiana for a few years while others have ambitions of settling down in the city (Sinha, 2018). Many of them go back to the village during the harvest season or work in rural areas in Punjab.

Vehra dwellers complain about the limited and poor toilet facilities and are concerned about falling ill during the rainy season but vehra owners are not willing to improve things. Even approaching trade unions and Purvanchali representatives in the MCL has not helped. Being "outsiders" they do not want to push too much and be considered as trouble-makers. In any case the convenience of low rent, closeness to place of work, markets and other facilities and the possibility to live safely with their "own people" outweigh the inconveniences.

Relations with the landlord or his manager are not conflictual; written agreements are unheard of but vehra dwellers are regular about paying the rent, and most landlords are usually not harsh with tenants even if there is a few days' delay. Incidents of eviction are not unknown but few and far between. Landlords are also

known to protect tenants against harassment from locals and help them to procure identity documents.

REFLECTIONS ON VEHRAS AND RENTAL HOUSING POLICY

Ludhiana's vehras offer a number of advantages to migrant workers who come to the city to earn a living with little ambition to settle there permanently. Their location close to workplaces and cheap rents are instrumental in reducing expenditure in the city – a strategy to maximise remittances back to the village. Savings are also useful for the few who look forward to eventually own a house in the city. Vehra dwellers consider poor quality housing, overcrowding and poor sanitation, which take a toll on heath as problems but they are willing to suffer some hardships in the city with the aspiration of a better lifestyle back in the village. A number of scholars have come to similar conclusions from other Indian cities (Kumar, 2001; Mahadevia, 2011, Desai, 2012, Naik, 2015), pointing towards building a better understanding of housing choices in the context of urban-rural economic and poverty linkages.

It is very clear that vehras of Ludhiana have consolidated into a well-entrenched housing option for informal migrant workers. They constitute 13% share of the city's housing market and

their perpetuation is assured by a number of interlinked factors. There is a continuing demand for cheap labour in industries, warehouses, workshops and services of the economically buoyant city. This demand keeps up a flow of migrants, who need cheap housing and job-related mobility. The vast areas of informal development close to industries are ideal locations, and already existing vehras built for agriculture labour a good starting point. Landowners make profits from low rents by keeping their investments low. Escaping the scrutiny of authorities has made it possible to get away with poor quality structures and inadequate services.

However, unhygienic conditions and repeated outbreaks of waterborne diseases in vehras have brought in the realisation that they cannot be ignored and mere punitive action during a health emergency cannot improve living conditions. More informed and better directed state action is needed. The proposed survey of vehras by the Municipal Corporation of Ludhiana and specification of service standards are steps in that direction. This may need to be supplemented by area-wide augmentation of service networks, particularly drainage works to prevent water logging which is the main cause of unhealthy conditions.

It must be mentioned that Ludhiana is not alone in its neglect of living conditions in informal rental housing. The informality of so much of the process limits policy intervention (Naik, 2015) although informal rentals are expected to continue to supply affordable housing in Indian cities. Just as vehras are particular to Ludhiana, other down-market informal rental housing practices have developed in the specific contexts of cities in which they are located. Much of their problems relate to the need to compromise on quality to keep rents low. Under these circumstances, the role of rental housing policy can be questioned in bringing about improvements in living security in all these different informal arrangements. A social policy which guarantees universal access to basic minimum services is perhaps more appropriate and more actionable by local government.

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CO-LIVING SPACES AS AN AFFORDABLE RENTAL HOUSING OPTION

- A Study of Pune

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> Due to increased demand in rental residential market the residential market is also reaching to the skyline rental rates which are also becoming not affordable to the common people. Therefore, alternate options like 'Co-living Spaces' that are based on group rented housing are emerging to cater to the need.

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With the rising levels of urbanization, providing affordable housing is increasingly becoming a challenge in large Indian cities. Rental housing is considered as an appropriate housing option to address this challenge. Due to limited supply of individual rental housing units, group rental housing in the form of 'Co-living Spaces' is emerging as an important means of providing affordable housing in some large Indian cities that are rapidly growing. Pune is one such Indian city that has been witnessing the emergence of co-living spaces, particularly in the suburban areas that have been experiencing industrial and service sector growth. This paper provides an understanding of the co-living spaces in Pune by analysing the supply and demand side characteristics of co-living spaces that are provided in the form of the paying guest accommodations. The study insights are useful to the policy and decision makers on promoting such affordable rental housing options in other Indian cities.

INTRODUCTION

As urbanization is inevitable for the economic growth and transformation of the nation, it is important to sustain it with the necessary support civic infrastructure services and with the provision of affordable housing options. Affordable rental housing is touted as an important means of providing affordable housing in rapidly growing Indian cities. The earlier policy of the Government of India (GoI 2007) has also encouraged the rental housing in urban areas. This was quickly adopted by some of the Indian states e.g., GoM (2007). However, a major impediment to the promotion and development of rental housing is the prevalence of rent control acts in large Indian cities, which froze/restrict the house rents to arbitrary low levels, thereby discouraging their supply by landlords. They also gave far too much protection to the tenant. Mumbai is a very good example of how the restrictive Rent control act has led to the decline of rental housing in the city and reduced it to almost negligible share of total housing (Tandel et al 2015). The Government of India has recently brought out the Draft Model Tenancy Act to correct the imbalance in order to promote rental housing options in Indian cities (GoI 2019). A recent Asian Development Bank ADB Report (2013) also advocates the revival of rental housing in Indian cities but by considering alternate models that target to produce

group rental housing in Indian cities. In this context, the rental housing options need to expand from individual rental housing to group rental housing in the form of co-living spaces, which is an important phenomenon that is not studied much. This particular segment of housing is also expected to be an important driver of the housing market growth in India (Parekh 2019).

INTRODUCTION TO PUNE

Pune is the second largest city in Maharashtra, after Mumbai, and it is the ninth largest city in the country with an estimated population of 35.3 lakhs in 2011. Pune Urban Agglomeration Area (PUA) has a combined population of 50.5 lakhs while the population of the Pune Metropolitan Region is estimated at 72.7 lakhs. Pune is considered to be the cultural capital of Maharashtra state. It is an educational hub with the presence of several well-known higher educational and research institutions. In 2006, it was reported that nearly 200,000 students from across India study in Pune at nine universities and more than a hundred educational institutes. Such large number of student community is looking for affordable housing options at any time in Pune.

Pune is also a strong economic hub of the State and country– it is the eighth largest metropolitan economy and ranked sixth on per capita income in the country. The key sectors of the local economy are education and research, manufacturing industries and Information Technology (IT). Pune has been the major industrial centre with strong presence of manufacturing, automobiles, automotive, engineering, chemicals, IT and ancillary industries. In 2014-15, the manufacturing sector provided employment to over 500,000 people. Pune has also emerged as a new hub for tech startups in India, co-working space for city based startups under its 10,000 startups initiative.

Rapid industrialization since after the 1960s and the IT sector growth in recent past has led to large influx of people to the city. Housing supply has not kept pace with demand, causing the number of slum dwellings to increase. Approximately 36% of the population lives in 486 slum areas thus, housing sector requirement is large. Since the 1990s a number of landmark integrated townships and gated communities have been developed in and around the city, which paved the way for the development of ownership housing in a big way. However, much of the housing supply in the market has been as 'ownership housing', which has its own limitation of catering to the existing population but not being able to cater to the in-coming population. Most of the people come to Pune to become skilled through the pursuit of higher education and/or by working in industrial enterprises. They have limited income/ financial resources, which restricts their access to formal housing finance, which is required to acquire ownership housing units. Rental housing, on other hand, can act as a means for such population to find suitable accommodation and it also suits to their time horizon of stay i.e., short to medium term stay. Apart from conventional individual rental accommodations, the group rented accommodations are rising in Pune, which provide the 'Co-living Spaces'.

RENTAL HOUSING MARKET IN PUNE

The Census 2001 data show that about 67% of houses are owned and about 29% rented. A small share of about 4% is contributed by other i.e. for the public housing by the government. Pune's rental housing market is governed by a huge amount of in-migrants to the city for various purposes many of them are being for the purpose for

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[1]The report also mentions the working models like that of MMRDA rental housing scheme in Mumbai and CHB housing scheme in Chandigarh. See Nallathiga and Dharmasi (2016) and Nallathiga (2019) for details.

employment and education. As new comers to the city, the individuals have no other option than reaching out a real estate/ property broker while looking for a housing unit on rental basis. Pune's rental housing market can be divided into two broad categories: Organised and Unorganised rental housing.

a) Organized Rental Housing Market

These are the rental housing units which are provided by the various registered companies for their employees as an accommodation/ facility to them. But, these kinds of units are very less in number and are mainly reserved for the employees who are working at higher positions in the company and who are mostly on tour/ visits on behalf of the company. These units are normally a block of apartment which is owned or leased by the company on contract basis for their employees or it may be a serviced apartment leased by it. But, there is a segment of young bachelors who work for companies after migrating from different parts of the country for which the accommodation facility is not provided by the company; hence, they have to take care of the accommodation on their own. As these individuals are newly migrated to the city, they look for rental housing in the early stage of their life by accessing unorganized rental market with the help of

housing/ property brokers – both individual and institutional.

b) Unorganized Rental Housing

Pune residential housing market is governed by the investors and end users. Investors attempt to make large gains by investing in residential markets in the wake of increasing demand for housing units due to urbanization and economic development. Many investors buy housing units/ property to retain for some time before earning profit. Usually, such investors wait until the time when value gains are high i.e., property value is much more than that at the time of development, and during this period they earns profit by renting them. Further, if the owner of housing has moved to another house in same city or other city, then the old unit is rented out to earn income from it. Sentimental attachment to the house/ property ownership is also one of the reasons why properties are placed in the rental market rather than selling them. This type of housing units holds the major share of the rental residential market and rented to the user with the help of real estate/housing broker – both individual and institutional. Real estate/ housing brokers normally charges high fees (two months rent) for making available a housing unit, which is very high for many people as they cannot afford the fees.

Drivers of Rental Housing

Pune city has witnessed rapid growth since after 2007 due to the development of IT sector. Much of the development has taken place in the peripheral regions due to lack of large land parcels in central city locations. Of this, the majority has been concentrated in eastern and western part of the city like Karadi and Hinjewadi. Rapid residential construction which had been taking place in various newly developed pockets like Baner-Balewadi started to slow due to an increase in vacancy rates combined with increasing prices. As anticipated, IT development in the city did not match the rapid residential development, resulting in lower occupancy rates. With an increase in the interest rate and still high capital value of residential market, the cost of individual housing units is beyond the reach of most populations and affordability is of major concern. Hence, the end users shifted to rental housing market. But, due to increased demand in rental residential market the residential market is also reaching to the skyline rental rates which are also becoming not affordable to the common people. Therefore, alternate options like 'Co-living Spaces' that are based on group rented housing are emerging to cater to the need. Figure 1 shows the various types of housing in Pune.

Figure 1: Types of Housing in Pune
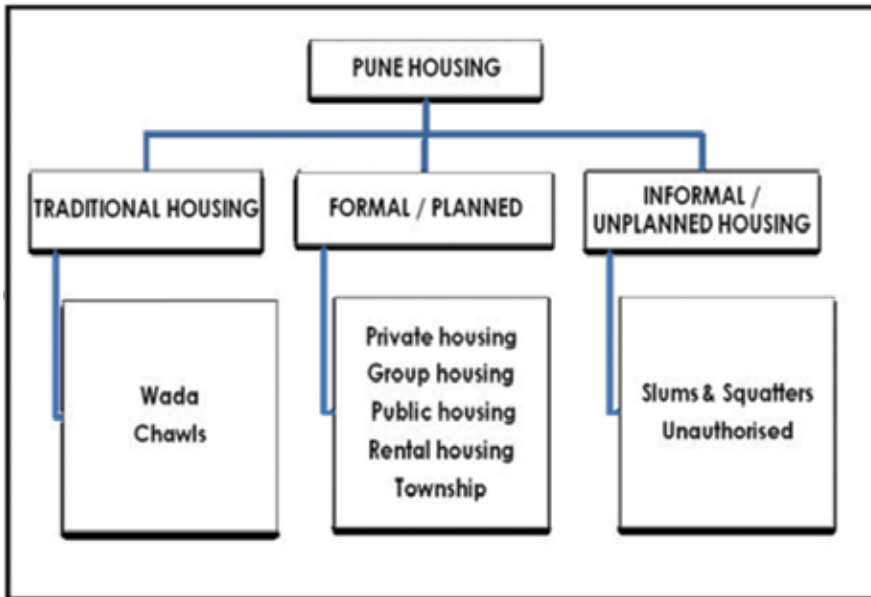
Source: MASHAL

Co-living Spaces/ Group Renting

With a rise in the number of in-migrants for education and employment to the city, the demand for rental housing is on the rise, as new migrants to city always demand for rental residential units. While traditional housing does not cater to the in-migrant population, the employees in modern sectors like IT and student population do not want to live in informal housing. This class of people are not permanent migrants but want to remain in the city so long they complete their project/ course/work commitments. This group of people resides in a given location for a certain amount of time and for various reasons but do not get in the official census count. It is this population that demands formal rented accommodation that can be shared by a group of individuals. Such group rental accommodations are provided as 'Co-living spaces' by the property owners in the form of Paying Guest (PG) accommodations or hostels. The demand for such co-living spaces is increasing with the rising influx of people from various parts of the country, given education and employment opportunities in Pune.

Co-living spaces are assuming a lot of importance in Pune when house values have risen faster than the incomes and, therefore, are less affordable to new migrants. For many rentees, co-living spaces offer the flexibility of renting only for the period they plan to remain the city and at the same time do not end up in informal housing due to the un-affordability of formal rental housing in the form of rental apartments/homes. The working professionals coming to Pune for short duration find co-living space like PG accommodations as the best living option as they do not have to worry about furniture and kitchen items for short stay. Most of the co-living spaces are nearer to offices/ working centres or education institutes. The students generally prefer paying guest near the educational institutes. Students preparing for competitive exams can save lot of time by staying in paying guest accommodations.

Co-living spaces offer several benefits which are normally not provided in the conventional renting options like an apartment. They offer fully furnished rooms with all the basic needs taken care by the owner of the provider e.g., daily cleaning service, laundry, ironing of clothes, food and beverages and internet connectivity that are generally a part of the guest houses. It is the bundling of housing and services which makes the co-living spaces like the PGs as appropriate choice for the younger population moving to the city for a better future.

CO-LIVING SPACES IN PUNE: A STUDY

Given the emergence of co-living spaces as an important segment of rental housing in Pune, a Study was undertaken

to understand the current status as well as structure of co-living spaces in Pune, which are provided primarily in the form of the Paying Guest (PG) accommodations. The Study confines to the co-living spaces in the form of the PGs located in the Western part of Pune covering the areas of Baner-Balewadi, Wakad and Hinjewadi. It is these areas in Pune that have been witnessing a lot of demand for rental housing not only in the form of individual accommodation but also for groups of individuals in the form of co-living spaces. These areas have a large number of higher educational institutes as well as large IT firms located in them, which attract a lot of young people from all across various parts of Maharashtra and also other States. Co-living spaces in these areas are attractive for them, as they look for accommodation options closer to the work place or study centres. Therefore, this part of the city boasts of having wider options of co-living or PG accommodations for students as well as employees in the various MNC's and other firms. There has been a lot of research work on rental accommodations – both formal and informal. However, group rental accommodations like co-living spaces has not been studied much, which prompts us to study this particular segment of rental housing market in Pune.

The methodology of the study initially involved collecting primary data from the sampling units – co-living spaces in Pune – while resorting to convenience sampling. In convenience sampling, the survey is administered to available and accessible and willing respondents. The method is appropriate where sufficient information on population size is not available. Its findings may not be generalizable with small samples (<30 units), but with large respondents, the findings could be representative. A questionnaire each was designed to conduct survey of both the suppliers of co-living spaces i.e., landlords who are property owners/managers, as well as the demanders of it i.e., tenants living in co-living spaces. Both qualitative and quantitative data were collected from the tenants and landlords of co-living spaces. This study was conducted on the sample space of 25 similar co-living spaces (PGs) located in the Balewadi-Baner region of Pune (including Wakad and Hinjewadi). A total of 100 responses were drawn from the above mentioned sample of co-living spaces. The findings from the sample survey of co-living spaces in Pune in the form of descriptive statistics and their analysis that give insights of this particular segment of rental housing are described in the following section.

Demand-side Characteristics of Co-living Spaces:

a) Gender of Tenants: Figure 2 shows that most of the tenants of co-living spaces are males. The percentage of male tenants is 73%, whereas the percentage of female tenants is 27%. The interaction with tenants indicated that the female respondents prefer institutional rental accommodations like hostel facility over co-living spaces like PG, as hostels tend to provide better facilities along with providing security to them.

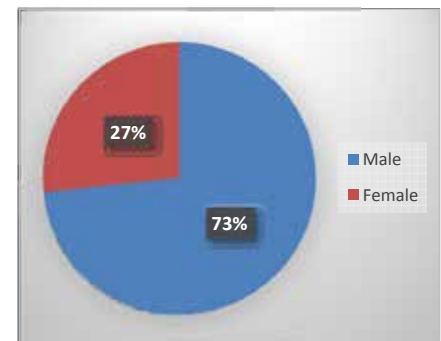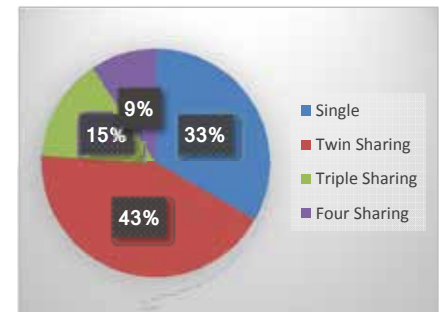*Figure 2: Gender of Tenants in Co-living Spaces*

Figure 3 Tenants by the type of sharing

b) Type of co-living/sharing: Figure 3 shows the type of co-living or sharing of space by tenants. It is found that a majority of the tenants live in twin

sharing room accommodation. Few of them live in multiple sharing rooms. A good number of the tenants (one-third) also live in single sharing room accommodation in the co-living spaces. It is learnt from the tenants that the living costs of city are driving them to share a room with strangers. With two-thirds of the tenants preferring shared accommodation also indicates that they are willing to live in shared room rental housing due mainly to it being cheaper.

c) *Amenities/services:* Co-living spaces are sought after by the tenants as a means of securing low-cost rental housing in well-located parts of the city close to services and employment or education centers. It is also an option most likely to appeal to young and mobile populations due to the various amenities/services offered within and nearby such units. Figures 4 & 5 show the preference of tenants for such amenities/services. A large proportion of tenants live with WIFI connectivity providing in the living space, indicating the importance of digital connectivity in the living of modern times. Also, a very large proportion of them lives in close proximity to facilities like supermarkets, where they do shopping at their convenience.

Figure 4 WIFI connectivity
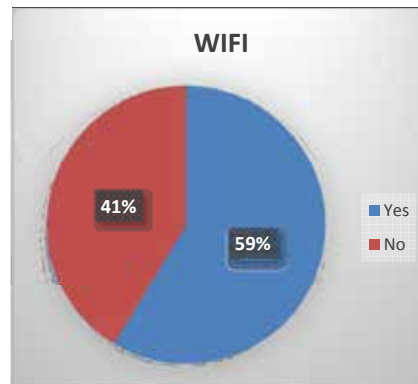
Figure 5 Supermarket nearby

Figures 6 & 7 depict the service preference of tenants living in co-living spaces. It can be seen that the restaurants remain a prime in priority list for the tenants, who are usually the young working class and student groups. Also, the vicinity to hospital holds importance.

Figure 6 Hospitals nearby
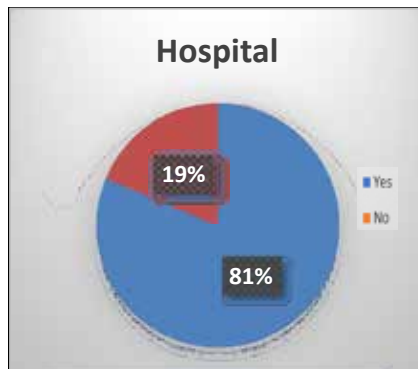

Figure 7 Restaurants nearby

Figures 8 & 9 indicate that almost all the tenants in co-living spaces realized the importance of fitness and, hence, they do give a high priority to the vicinity of gymnasium. A significant number of the tenants turned out to be movie buffs who love to spend weekends watching latest flicks and hence they consider proximity to Cinema hall as important.

Figure 8: Gymnasium nearby

Figure 9: Cinema Hall nearby
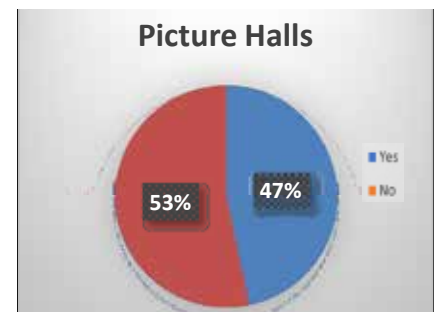
Figures 10 & 11 also imply that the co-living space tenants realized that parking facility within premises is an important preference, as many use their own vehicles to commute. CCTV monitoring though is not significantly available, but interactions with the respondents shows that it is also preferred by some of them.
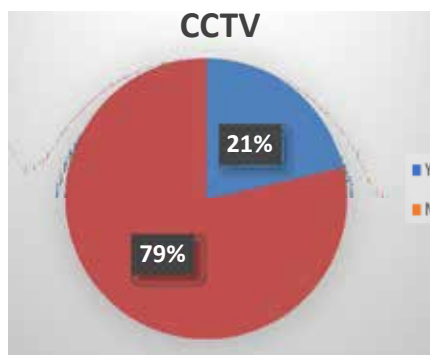
Figure 10: CCTV coverage

CCTV

Figure 11: Availability of parking

Parking

Figures 12 & 13 reflect that the tenants love to play indoor games like Carom board, Table Tennis and socialize with others, and thus prefer co-living spaces with such facilities. As most of the co-living spaces are in the high rise apartments, lift becomes essential as well.

Figure 12: Facility of lift

Lift
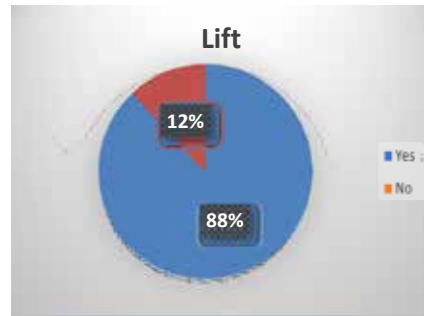
Figure 13: Space for indoor games

Indoor Games

From the above Pie Charts, it is found that there are certain amenities that play a significant role in the attracting potential tenants to co-living spaces. Other than basic amenities like water supply, electricity etc, facilities like CCTV coverage, Parking space, vicinity from hospital, Supermarket, Gym, Restaurant and Wi-fi connectivity are also being checked before finalizing the choice of co-living space.

d) Tenants' Origin distribution

Pune acts as 'magnet' for the migrant population and attracts people from various parts of the country. This is evident from Figure 14 that opportunities in Pune appeals to migrants from almost all the parts of the country with majority coming from the

West Zone (37%) (including Maharashtra State itself) and the North zone (37%). In other words, Pune pulls people from other areas due to the presence of industries, services and institutions.

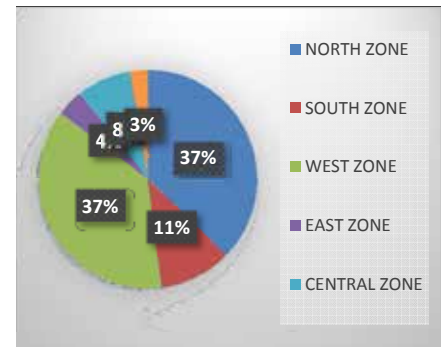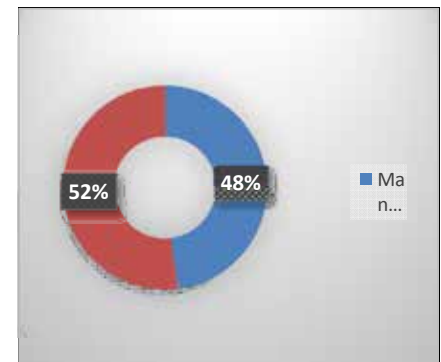*Figure 14: Zone wise Tenants' place of origin*


Figure 15: Type of Land lord

Supply-side Characteristics of Co-living Spaces

a) Type of Landlord: The supply of co-living spaces in the form of shared rental accommodations are provided by two categories of land lords – (a) Property/ House Owners, who own the entire rental housing unit as well as run the PG facility on their own, (b) Property/House Managers, who lease the space from the property/house owner

as well as run the PG facility like business managers. It is evident from Figure 15 that the Owner-run co-living accommodations are dominant, but the number of Manager-run group rented accommodations are also becoming significant in number with the rising knowledge of supply shortage and profit rent. This substantiates that the trend is to lease out the property/house to third party, as it dilutes the risks of raising finance (to run the PG facility) and assures good secure income to the property owner.

b) *Supply capacity of spaces:* Figure 16 shows frequency distribution graph of the number of co-living spaces available according to their room/supply capacity. Only two co-living spaces have a supply capacity of less than 10 rooms and most of them have the supply capacity of more than or equal to 10 rooms. Almost 72% of the co-living

Figure 17: Type of sharing and the number of such rooms available
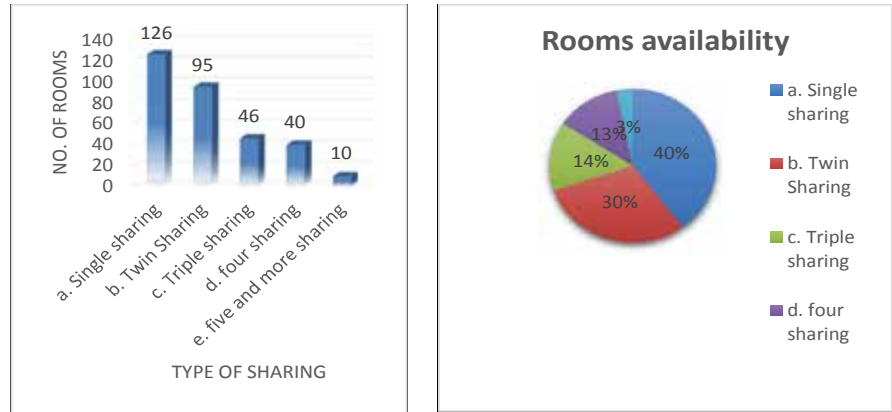
spaces have the capacity of 10 to 15 rooms and another 20% have the supply capacity of more than 15 rooms.

c) *Types of co-living/sharing:* Figure 17 shows the types of co-living spaces/room sharing made available by the suppliers. We observe that most of them are available in the descending order of single-sharing (40%) to five or more (3%) sharing. Except one or two rental properties, all have single and double type of sharing, as these types of co-

living/room sharing are more in demand in comparison to other types of co-living/room-sharing; also, they add more income to landlord in comparison to others. Demand and availability of triple and four sharing spaces are moderate and almost same for both.

d) *Cost of co-living spaces:* Table 1 shows the monthly rent statistics of the different types of co-living spaces. Evidently, the single-sharing spaces command a higher rent followed by twin-

Figure 16: Frequency distribution of co-living spaces according to supply capacity
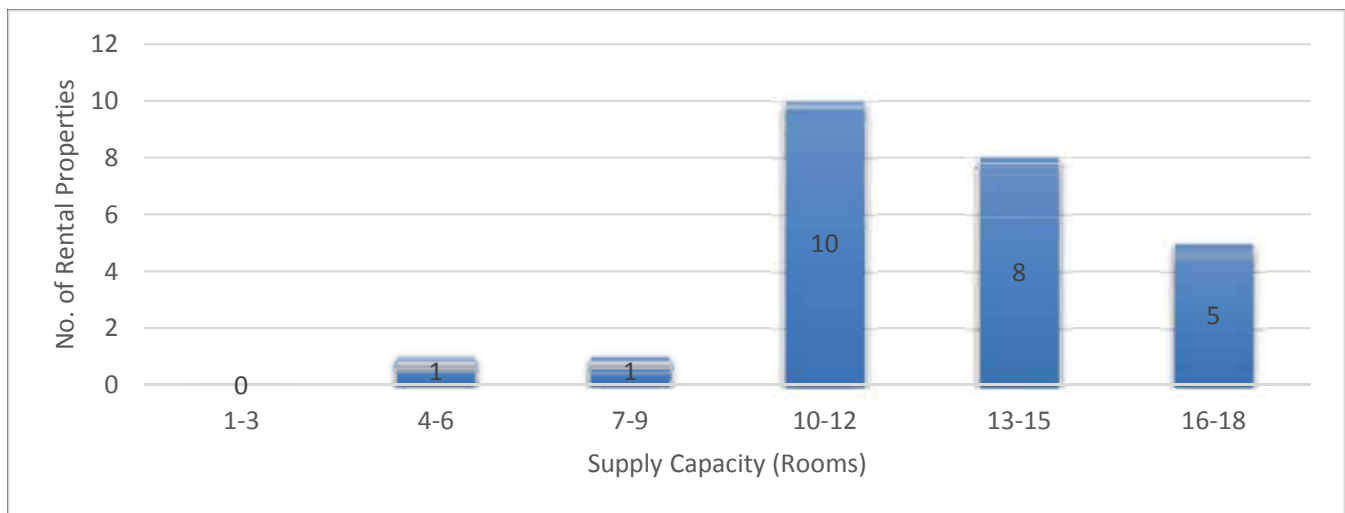
Table 1 Central Tendency Statistics of Co-living Spaces Rent (Rs/ month)

TYPE OF ROOM SHARING	MEAN	MEDIAN	MODE	RANGE
SINGLE	7113	6600	7500	5500-8000
TWIN	5788	6000	6000	4800-6600
TRIPLE	4652	4500	5000	4000-5400
FOUR	3835	3500	3500	3000-5000
FIVE or MORE	3250	3200	3200	3000-3600

sharing spaces. Five and more sharing spaces command a low rent. The maximum average rent is charged for single sharing type and minimum average rent is charged for five or more sharing type. Most demanded rental accommodation is double and triple sharing type of co-living with the rental cost of Rs 6000 per month.

e) Age of Co-living spaces: An important aspect of the co-living spaces is the age of rental housing/property – whether they are older units that are recycled/ reused or they are newer units coming into the market. It can be interpreted from Figure 18 that most of the properties (80%) are constructed within ten years and are in good condition, with a minimum of recycling/ reuse of very old properties. An advantage of newer living

spaces in these housing/property units is that they involve less maintenance charges without much repair expenses as well. Further, the new properties are designed deliberately for the rental purposes and their carpet area is efficiently utilized.

f) Rental income from co-living spaces: Figure 19 shows the rental income share of different co-living spaces to the landlord. It is evident that maximum income accrues from double sharing type of space followed by single, triple and four; the least from five or more type of sharing. So, double sharing type of accommodation is favorable option for landlords supplying such co-living spaces. The income share from five or more type of sharing is very less, forming just 5% of total income, and it is least in vogue and

found in 6 rental properties of the survey sample.
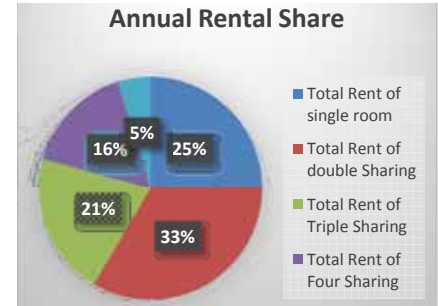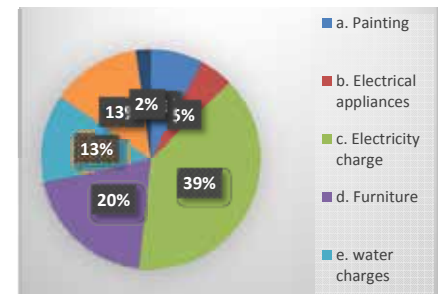
Figure 19: Rent contribution

*Figure 20: Maintenance Expenses share of various categories*

g) Co-living spaces maintenance expenses: Figure 20 shows the maintenance expenses of co-living spaces shown in pie chart on annual basis. Maximum share of the expenses is that of electricity charges, as electricity is required for providing and running various services to the occupants. Furnishing and providing water supply to the occupants also have a good share of maintenance expenses of co-living spaces. The least share of maintenance expenses is that of housekeeping, as it involves engaging manual labour on part-time basis.

Co-living Tenants' Perception:

a) Quality of Accommodation: It can be seen from Figure 21

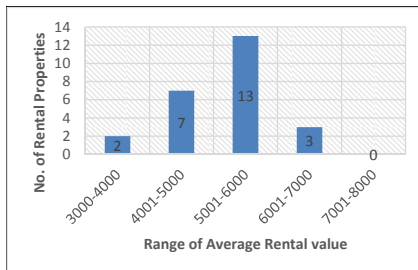Figure 18: Distribution of co-living spaces by age of rental housing units
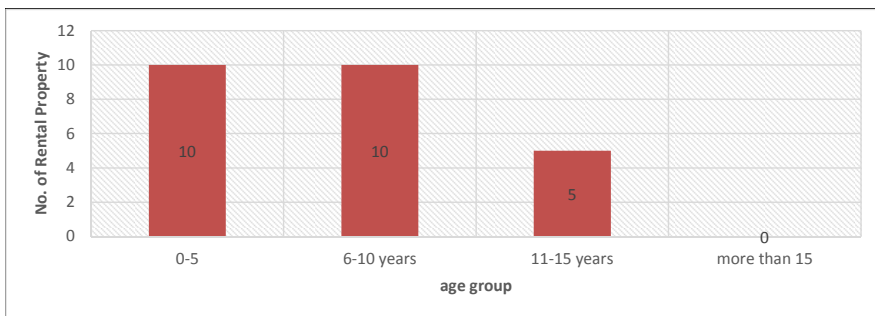
that most of the tenants of co-living spaces find their current co-living space accommodation is good enough (80% rated their accommodation as Good) and as per their expectations.

Figure 21: Quality of accommodation provided

Figure 22: Distribution of Average rent of Co-living spaces

b) Affordability of Spaces

Affordability of co-living spaces in terms of monthly rent per shared room/unit is also an important indicator of suitability of such spaces for younger population. Figure 22 shows the distribution of average rent per shared room space per person in all 25 rental properties. It is evident that in Pune anybody looking for rental property on sharing basis (or, co-living space) can negotiate for the monthly rent in the range of Rs 4000 to 7000. This is very affordable for the younger population, as the rental costs of such co-living spaces are about 25% of their monthly income. Further, even for those who are in pursuit of education, this comes close to rental charged by institutional accommodations like hostels.

c) Service Provision

As discussed earlier, the co-living spaces are provided by two categories of landlords - property owners as well as property managers. The survey of tenants of co-living spaces indicates that the property managers tend to provide them better, as evident from a greater satisfaction of tenants when compared to those provided by the property owners. Figures 23 & 24 clearly indicate that the tenants prefer manager-run co-living spaces when compared to owner-run co-living spaces. This is majorly due to the following factors:

- Earnings from PG is the only source of income for the managers whereas, same is not the case with most of the Owners.

- Managers generally have experience in such businesses whereas Owners are usually laymen who want to make decent earnings from their own property.

- Managers usually bear more financial risk as compared to Owner.

Figure 23: Manager– Quality of management

Figure 24: Owner– Quality of management
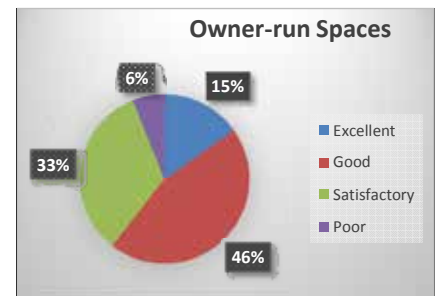
CONCLUSIONS

The challenge of providing affordable housing is only rising in large Indian cities, which have a large share of urban population and which continue to receive more and more people. With the rising un-affordability of ownership housing in the Indian cities, it is becoming imperative to look for alternates in the form of rental housing. While the conventional rental housing continued to play the role, it is confronted with other challenges of rent control and landlord discretion. Moreover, it is not suitable for the in-coming population with lesser income/ financial capacity and shorter time horizon of stay. Group rented accommodations in the form of Co-living spaces

are assuming importance in this context and Pune city clearly shows the way forward through the supply of a good number of co-living housing units. Therefore, other Indian cities also need to promote co-living spaces as an affordable housing option for the benefit of their own economies.

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GENERAL GUIDELINES: CHECKLIST FOR SUBMISSION OF ARTICLES

The following checklist should be used when preparing an article for submission. Please be sure to follow the specifications exactly and completely to ensure that your article is reviewed in a timely manner and any delays avoided further along in the publishing process should your article be accepted for publication.

1. The paper should be created using a word-processing program (such as Microsoft Word) and should be between 3,000 and 5,000 words in length. The file may be in .docx or.doc format.

2. The paper is typewritten, double-spaced, and formatted to print on 8.5" x 11" (or A4) size paper. It is written in the third person in a clear style, free of jargon.

3. The first page of the article includes the following:
   i. the paper's title; and
   ii. an approximately 200-word abstract that emphasizes the paper's contribution to the field and its practical architectural/ planning social/ economic implications.
   iii. the name(s), position(s), professional or academic affiliation(s), and email address(es) of the author(s), as well as the full postal address of the corresponding author;

4. The body of the paper should include the following:
   i. an introduction to the subject,   ii. background information,
   iii. discussion of procedure,   iv. results,
   v. conclusions,
   vi. implications for practice and advancement of research,
   vii. references,
   viii. acknowledgments (optional; if funding for the research was received from non-personal sources, the sources must be identified in this section), and
   ix. an autobiographical sketch.

5. Please ensure that:

i. References are complete, have been arranged alphabetically by author surname and checked for accuracy.

ii. Reference citations in the text are referred to by author name and year. If there are more than two authors, the name of the first author followed by ", et al." has been used.

iii. References contain the following information, in the order shown: names of all contributing authors (last name followed by first initial), date of publication, title of article, names of editors (edited books only), title of journal or book, volume and issue numbers (journals only), location and name of publishing company (books only), and inclusive pages (journals and articles in edited books).

iv. Figures/ pictures/ graphs submitted are:
a. Large enough to be readable when reduced to fit the journal page size (approximately 5.25" x 8.25").
b. A brief caption is provided for each figure/ picture/graph.
c. The figure is cited in the text.
d. Please ensure that scanned images are of a high resolution to ensure good quality printing (not less than 640 x 480)

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6. If your paper is accepted for publication, you will be provided with information on where to send the hard copies of any figures if required.

7. The manuscript and any table/picture files should be sent via email to hsmishelter@gmail.com ONLY original works neither published nor under review elsewhere will be considered.

LINKING CONSERVATION OF HERITAGE, URBAN CHANGE AND SUSTAINABILITY
-A Case of Delhi

MR. A K JAIN

The starting part of urban heritage conservation is a sound, geo-referenced and comprehensive database of heritage resources. A detailed digitized database is very important for informed decision making. The database must be comprehensive, open-ended and compiled from detailed inventories. It must be organized systematically providing multiple criteria queries. Subjectivity has to be minimum and any qualitative judgement has to be supported by a detailed description of the approach.

Heritage is the result of interaction of people, places and time through which the culture, buildings and cities evolve. The built and natural heritage is the manifestation of India's cultural diversity. The built heritage includes cities, villages, heritage structures/buildings, gardens, water structures, forts and citadels, places of worship, tombs and memorials. Cultural heritage includes crafts, textiles, jewellery, languages, literature, food and trade. The natural heritage includes the rivers, hills, mountains, waterfront, streams, canals ponds, tanks and lakes. The conservation of heritage is not freezing a place, but it has to occur in relation to the local people, ecology and socio-economic development. The conservation of heritage and urban transformation go hand in hand. Their integration is crucial for sustainable development.

INTRODUCTION

India is characterised by a rich cultural diversity and heritage, together with wide variations of geography and demography. With about 8000 cities and towns, it is poised to have 600 million urban population by 2031. With rapid demographic and socio-economic changes, the urban areas are faced with variety of challenges such as conservation of built heritage, urban transformation, sustainability,

climate change and pollution. Accordingly, the Government of India has launched several Missions, viz. Smart Cities Mission for developing 100 smart cities, Atal Mission for Rejuvenation and Urban Transformation (AMRUT) for provision of sustainable basic urban infrastructure and services for 500 cities with population of above 1 lakh, Pradhan Mantri Awas Yojana (PMAY) for facilitating provision of 20 million urban houses by 2022 and Heritage City Development and Augmentation Yojana (HRIDAY) for 12 heritage cities. These Missions target the provision of sustainable infrastructure services like water supply, sanitation and solid waste management, urban transport, housing for all, renewable energy and heritage conservation.

From the heritage conservation perspective, the HRIDAY Mission launched in 2015, covers 12 heritage cities, viz. Ajmer, Amravati, Amritsar, Badami, Dwarka, Gaya, Kanchipuram, Mathura, Puri, Vellankanni, Varanasi and Warangal. With 100 per cent central government funding, it aims at improving

the quality of life with focus on sanitation, security, tourism, cultural and heritage revitalization and livelihoods. Overall, the mission focuses on Physical, Institutional, Economic and Social Infrastructure. As a result, there is an impetus towards conservation of heritage in many other cities in India.

HERITAGE INFORMATION MANAGEMENT

The starting part of urban heritage conservation is a sound, geo-referenced and comprehensive database of heritage resources. A detailed digitized database is very important for informed decision making. The database must be comprehensive, open-ended and compiled from detailed inventories. It must be organized systematically providing multiple criteria queries. Subjectivity has to be minimum and any qualitative judgement has to be supported by a detailed description of the approach. A building can be understood as a process that covers the description of the plans, spaces, number of floors, the fabric, structure in terms of supports, roofing systems, the use of materials, structural devices, style of decorations and ornamentation.

The heritage structures can be categorized and documented as per an inventory. A set of formats should be carefully designed for three categories of built heritage, viz. city/ settlement, zone/ precinct, and building level. The INTACH's inventory of Delhi's built heritage also covers the ownership details, survey and plans, land use and transport network, infrastructure services, open areas, etc. The key elements of documentation of heritage management system should include: location and history; population; area; density; number of households ; social and physical facilities/amenities; historic, tourist, economic and cultural importance; threats/ status of protection; review of policies, legal framework and institutional structure; conservation significance; and references. As far as possible, information should be authenticated by historical or literary evidence, chronology of developments and changes and significant dates.

The database of heritage starts from the level of properties, which goes to include heritage clusters, precincts and heritage zones. These assimilate into historic settlements and districts. It is necessary to identify critical issues and problems such as, land use, local population, pollution, congestion, services (toilets, sanitation, drainage, solid waste disposal, water, electricity, etc.), mobility conditions, safety and security, open spaces, parks and playgrounds, hoardings, buildings and structural dilapidation.

GRADING OF HERITAGE AREAS OR BUILDINGS

Criteria for grading depends on its age, state of preservation and archaeological, historical and architectural value. Broadly the categorization is based on the following criteria:

Grade I: Areas or buildings which can be recommended for protection as monument of national importance or regional importance, which need to be saved and kept in a permanent state of preservation.

Grade II: Areas and buildings of special interest which need to be upgraded, restored, repaired and preserved.

Grade III: Areas and buildings, which may not qualify for permanent retention but are nevertheless, of some historical or architectural importance.

HERITAGE COMPONENTS

As per the International Council on Monuments & Sites (ICOMOS) Charter, the qualities to be conserved include '*all the elements that express the character of the place*'. Identified as Heritage Components, these have been categorised as under:

- Urban pattern, plots and streets;
- Relationship between buildings, greens and open spaces;

- The formal appearance, interior and exterior of buildings, scale, size, style, construction, materials, colour and decoration;
- The relationship between the urban area and its surrounding setting; and
- Various functions that the area has acquired over time.

It is critical to identify the ownership and demarcate the exact boundaries on a map. The delineation of heritage zones has to be based on understanding of the historic, cultural and natural integrity. For example, the historic cities and villages are interlinked with the river, water bodies and streams, which should be considered in entirety.

THE ISSUES

Old heritage areas usually house the poor. These areas consist of mixed land uses, micro-businesses and small industries. The encroachments and increasing density adversely affect the quality of the urban environment and cultural heritage. The urban services and health facilities, public safety, especially of women, are under tremendous pressure.

In the old cities, the residences are usually converted into shops, warehouses and factories, with illegal extensions. The courtyards are often covered. This has led to an overcrowded, unhealthy and polluted environment, with severe lack of sanitation,

ventilation and electricity. There is a serious deterioration of urban heritage and environment due to building alterations, new construction, carbon emissions, increasing traffic, use of fossil fuels, insanitation, poor drainage and inadequate solid and liquid waste disposal. The structures are usually old, fire prone and illegal. Similar is the situation in the unauthorised colonies, urban villages and other unplanned areas.

SOME HERITAGE PROJECTS IN DELHI

Delhi, India's capital is a unique city, a kaleidoscope of old traditions and new forces. It is believed to be one of the oldest cities of the world, full of heritage sites such as Red Fort, Jama Musjid, Qutab Minar, Purana Quila, and many other historical buildings. During the last decade some of the heritage conservation projects have been undertaken in Delhi, which include: (i) Humayun Tomb-Nizamuddin- Sunder Nursery; (ii) Mehrauli Archaeological Park; (iii) Jama Masjid precinct; and (iv) Chandni Chowk. The Humayun Tomb-Nizamuddin-Sunder Nursery Conservation Project was taken up by Aga Khan Foundation in partnership with the Ministry of Culture, Archaeological Survey of India (ASI), Municipal Corporation of Delhi (MCD), and Central Public Works Department (CPWD) and major work has been completed.

Mehrauli Archaeological Park has been taken up by the DDA and ASI in partnership with the INTACH. The Jama Masjid project of the MCD/ Government of National Capital Territory of Delhi (GNCTD) is yet to take off. Some details of heritage conservation of Humayun Tomb-Nizamuddin- Sunder Nursery; and Chandni Chowk redevelopment projects are given in the following sections.

Conservation of Humayun Tomb-Sunder Nursery-Nizamuddin Basti

The conservation project of Humayun Tomb- Sunder Nursery-Nizamuddin Basti covers the Humayun Tomb (16th Century)- Sunder Nursery (20th Century) and Hazrat Nizamuddin Basti (14th Century). It integrates conservation, socio-economic development, environmental improvements and improving the quality of life for resident population. More than 100 monuments have been identified, which involved the careful removal of concrete from the monuments, including domes and restoration of the stone paving on pavements and flooring, repair and marble cladding of pillars, walls, ceiling and domes/roof and restoration of water bodies, baoli and fountains. The 70 acre Sunder Nursery has several monuments including the sixteenth century Sunder Wala Mahal, eighteenth

century Mughal-era garden pavilion, Sunderwala Burj, Lakdawala Burj and Azimganj Sarai.

In Hazrat Nizammuddin Basti the conservation of monuments and the rehabilitation of open spaces have been taken up which include fourteenth century *baoli* (step-well). Ground Penetrating Radar Survey, High Definition 3D laser scans and geotechnical assessments have been used for conservation planning. Seven centuries of accumulations were removed from the *baoli*. The conservation works include Isa Khan's Tomb, Mughal tomb known as Chaunsath Khamba and the tomb of Mirza Ghalib. They also have the large open spaces. Landscape works at Ghalib's tomb have enhanced its historic character and dignity. The Cultural Revival programme encompasses performing arts, classical music, poetry and traditional crafts. The efforts are to revive the Qawwali music traditions (thirteenth century) of Amir Khosrow by performances, festivals, discussions, recordings, theatre, workshops and heritage walks.The project combines conservation with socio-economic development through a community-cantered, collaborative approach. The project has improved environmental conditions and urban services including Life-skills Education, Vocational Training, Pathology Laboratory and medical facilities. The

project has helped to improve the roads, streetlights, playgrounds, provision of public toilets, etc. The project mandates a good template of partnership in conservation of urban heritage and an inclusive, participatory approach.

Figure 1: Non-invasive Conservation, Nizamuddin Basti

Before

After Conservation
Source: Aga Khan Trust for Culture, 2003

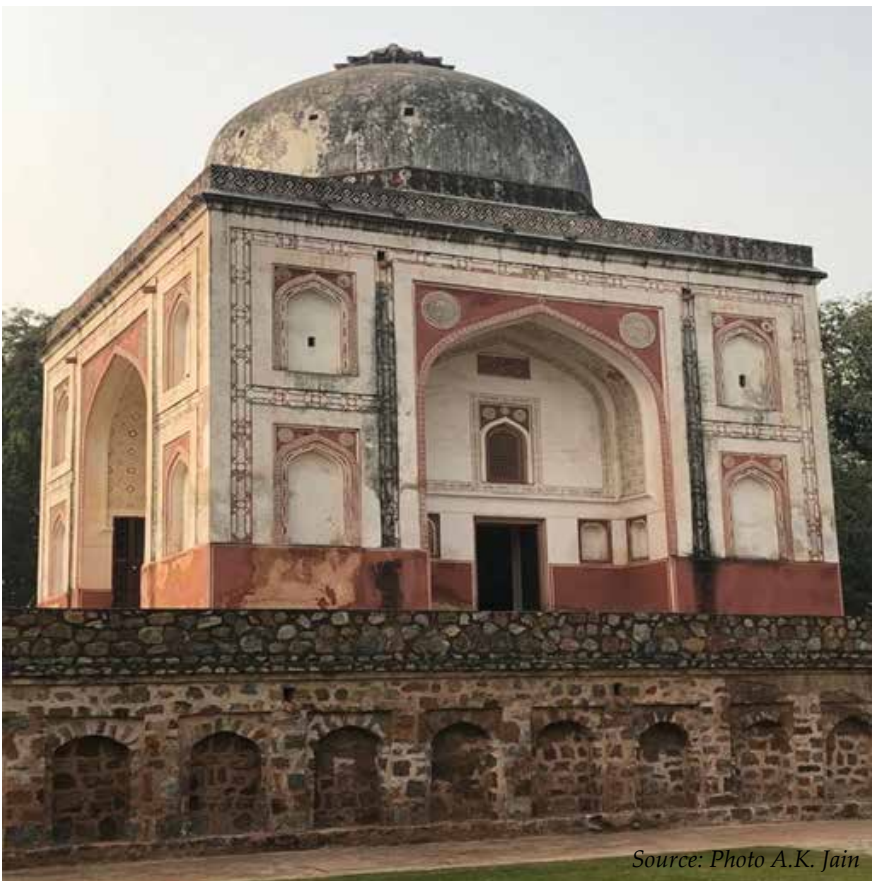*Figure 2: Arial View of Sunder Burj and Paradise Garden*

Source: Sunder Nursery Management Trust, AKTC, New Delhi

Figure 3: Water Cascade, Sunder Nursery

Source: Photo A.K. Jain

Figure 4:: Lakkarwala Burj, Sunder Nursery

Source: Photo A.K. Jain

Chandni Chowk Redevelopment

Chandni Chowk covering a stretch of 1.5 kilometre is the centrepiece of Shahjahanabad. The redevelopment plan visualises a pedestrianised heritage, upgradation of sanitation and drainage, improvement of roads and pathways, laying of underground electric wires. It addresses the challenges of conservation of historic buildings and their adaptive reuse, accommodating a large number of hawkers and street vendors, safety of pedestrians, reducing handcarts, vans, cars, motor bikes, rickshaws, non-motorised transport and goods vehicles, parking, camouflaging unsightly air-conditioning units, putting underground overhanging fire prone electric cables, de-silting of drains, provision of public toilets and water points. The Shahjahanabad Redevelopment Corporation (SRDC) is the implementing agency.

Figure 5: Chandni Chowk
Overtaken by Vehicular Traffic

Source: Jain A.K., Conservation of Cultural Heritage, 2015

Figure 6: Chandni Chowk Redevelopment Plan visualises a recreating pedestrianised heritage boulevard in its 1.5 km stretch
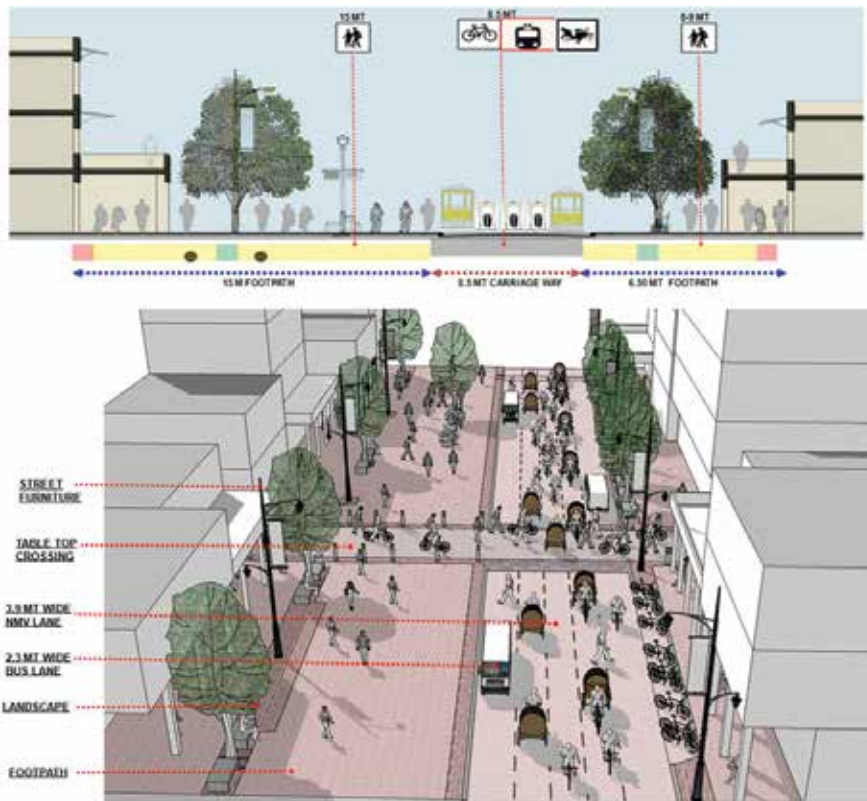
Source: Down to Earth, Where is Chandni, 9th August 2015

URBAN TRANSFORMATION

The Special Area in Delhi, covering 2600 Ha, comprises Walled City of Shahjahanabad and its extensions like Paharganj, Sadar Bazar and Karol Bagh. These areas are characterised by mixed land use, compact buildings, narrow lanes and high density, residential, commercial and industrial units. These are often fire prone, dangerous and hazardous.

The revamp of some pockets in the Special Area has been initiated by the MCD under the framework of the Master Plan of Delhi 2021. A katra in Sitaram Bazaar has been taken up as a pilot. Sitaram Bazar is full of narrow lanes, dilapidated buildings, hanging wires and rampant encroachments. The katra taken up for redevelopment covers an area of 3092 sqm and has 96 houses and 46 shops. While nearly 43% of the area is residential, another 31% is under mixed land use and the remaining 26% comprises open space. Parking facility is not available and the area lacks toilets, sanitation, sewerage and other services.

For the redevelopment of illegal colonies, the Ministry of Housing & Urban Affairs (MoHUA), Govt. of India, vide its notification dated 29th October 2019, enacted the NCT of Delhi (Recognition of Property Rights of Residents in Unauthorised Colonies) Regulations, 2019 for grant of land ownership in illegal colonies on government and private lands. However, the approach is individual plot-centric and lacks a long-term vision, towards a composite development with safe structures, open spaces, facilities, better roads and infrastructure development.

The Master Plan of Delhi (MPD 2021) provides a framework for redevelopment of Special Area by allowing the amalgamation of the plots to a minimum combined area of 1670 square meter with an FAR up to 400 and a minimum street width of 7.5 m. Additional floor area ratio (FAR) will attract developers and the owners/tenants to form a small cooperative. This would facilitate self-financed redevelopment together with the following:

- Widening of roads and removing encroachments
- Structures conforming to fire and structural safety standards
- Redevelopment with additional built up area at an FAR up to 400, with enhanced number and sizes of residential and commercial units

● Provision of parking in basement with soft green thereupon.

Delhi Urban Art Commission, in its study of Chandni Chowk and Kashmere Gate Area (Consultant Ashok B Lall, 2015), suggested a revitalisation strategy comprising: i) edge redevelopment; ii) adaptive reuse; iii) redefining urban fabric; iv) inducing urban relief spaces; and v) redefining mobility. It proposes optimising the use of land resources by redevelopment strategies, as under:

i. Redevelop existing buildings through plot amalgamation;

ii. Provision of amenities by identification of spaces lying vacant or underused;.

iii. Identification of spaces to provide parking in the basement with retail activities as the incentive;

iv. Removal of warehouses to reduce congestion and free space in building envelope to induce higher residential density;

v. Adaptive reuse of historical buildings and improvement of the façade to conserve architectural and cultural heritage, lending legibility to the area;

vi. Developing the circulation network, para-transit and pedestrian movement, improve last mile connectivity/restricted access

Figure 7: Proposed Redevelopment of Kashmere Gate Area

Source: DUAC/Ashok B Lall, Chandni Chowk and Kashmiri Gate- Guidelines and Redevelopment Strategies, Delhi Urban Art Commission, New Delhi, New Delhi

for vehicles on the internal lanes.

Encroachments to be removed to provide access to emergency vehicles and seamless connectivity. By plot amalgamation, the existing streets can be widened to a minimum standard of 3.5m. This would also create open spaces, refuge areas for residents in emergency and social nodes.

KEY PILLARS OF HERITAGE PROJECT IMPLEMENTATION

No heritage management plan can be successful without three key pillars:

i)Institutional and organizational capacity; ii) Finances; and iii) Legal framework. Many local bodies and heritage property owning agencies/trusts do not have in house specialists in urban heritage planning and conservation. They have no option but to outsource the work or partner with the consultants or NGOs. This needs a cautious approach, where emulating consultancy process of architectural jobs or contracting procedures may not work. This needs institutional capacity building of the urban

Figure 8: Proposed Redevelopment of a Katra in Sitaram Bazaar

Source: Times of India, How a Courtyard in Walled City May Show A Way for Revamp, 30th December 2019

local bodies, which can provide expertise and dedicated attention to urban heritage.

Mobilising the finances for heritage conservation is a critical issue. This needs a phased approach, prioritisation and developing partnerships. For example, in most of the inner cities discernible improvement can be made by regulating, removing and or redesigning the hoardings, banners and billboards on the building and roads. Façade, refurbishment, repair and painting can be the starting point. Funds can be mopped up from various schemes such as HRIDAY, National Culture Fund and Plan Funds. State government budgets are also available for maintenance of old heritage buildings, repairs and reconstruction, including infrastructure development-drainage, sanitation, toilets, roads and streets, etc. Partnerships with the private sector, NGOs and Corporate Social Responsibility (CSR) funds can be other sources of financing the heritage projects.

All public schemes need a legal framework, regulations, standards, operating procedures, controls and enforcement. It also involves compliance with the legal frameworks, such as Archaeological Survey of India, State Departments of Archaeology and other regulations, Environment (Protection and Control) Act, 1986 and its amendments (1991), The Environment (Protection) Rules, 1986, Environment (Siting for Industrial Projects) Rules, 1999, Coastal Regulation Zone Act, Wildlife Protection Act, Forest Conservation Act, Bio-diversity Act, Town and Country Planning Acts, etc. The most of urban heritage comes under the jurisdiction of the Urban Local Bodies (ULBs)/ Municipal Bodies. These can be in the form of Town Planning laws, Development Control Regulations, Heritage Acts, Rules and Regulations, Hoarding and Anti-defacing Law and Building Bye-laws. Codes and para-legal tools, such as architectural controls, PPP guidelines, social audit, community and gender empowerment and heritage toolkit can help in effective heritage management.

CONCLUSION

The built heritage is the

manifestation of cultural identity and diversity. However, due to misplaced notions and lack of resources, there has been continuous decay of the built heritage, historical properties and the expulsion of vulnerable social groups by the extraneous commercial interests. Ambitious heritage projects often marginalise the informal settlements, Old City, unauthorised colonies and urbanised villages. The conservation of heritage and urban transformation go hand in hand. Their integration is crucial for sustainable development, i.e. environmental, economic and social.

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URBAN INDIA 2050: COROVADIS ?

- Some Rambling Thoughts

PROF. RANGANATHAN NARAYANASWAMI

> **This calls for a New Urbanisation Policy with a two pronged strategy. The first is to keep the rural surplus labour in the villages; and the second to move people and activities out of big urban centres into a large number of new dispersed community cells .**

Key Words: Tsunami, WfH, CIVILLAGE, New Urbanisation Policy, Digital Technology, National Transport and Communication Corridors, Connectivity.

Prof. Ranganathan Narayanaswami (jayaranga8@gmail.com), is retired Professor, Department of Transport Planning, School of Planning and Architecture, New Delhi'.

CHANGE TSUNAMI

'Old order changeth yielding place to new ......' So wrote Tennyson in his famous poem Morte d' Arthur. The world has got used to experience change in all aspects and has now gone complacent to change which has been slow, imperceptible, incremental and evolutionary.

Covid19, an invisible virus, has dealt a hard blow to that complacency and has brought evolutionary changes in the way we live, think, move and interact. Lifestyle, norms, values, mores and behaviour have all changed drastically. How does this augur for Urban India in the coming decades?

THE NEW NORMS

The ruling norm under Covid19 is isolation, distancing and confinement. Stay at home, Work from Home, Learn at Home, Shop from Home ,Meet virtually (no face to face), even bid final adieu in absentia are the new practices and behaviour.

URBAN POLICY

The paradigm change in Urban Policy will be the shift away from big cities to small cellular communities. Aggregation and large urban agglomerations are history. The directional change is from RURBAN (from rural to urban)(urbanise rural areas) to CIVILLAGE (term coined by Kakodkar) (city to village) (ruralise Cities).

DETERMINING FACTORS

What are the determining/ conditioning/constraining factors that will shape Urban India ? The main factors and the associated characteristics are:

1. **Demography:** large size; zero growth rate; young; highly educated; aspirational; innovative; highly skilled; technology savvy; diligent; industrious; innovative;.

2. **Economy:** good; moderate; mostly introverted; equitable;

3. **Social:** integrated family of large size; limited face to face contact with community; virtual contact and interaction; limited size at social events;

4. **Technology:** digital; AI; robotics; drones;

5. **Transport:** Reduced physical accessibilty and

better connectivity being more important; physical systems more for regional and international movement mainly for freight; limited people movement reduced in number and distances; high priority for pedestrian movement and human propelled modes; Speed of passenger movement no more an obsession; High priority for Digital Network over Physical Network;

6. **Energy.** A farewell to fossil fuels; increased usage of Solar, Nuclear, Hydrogen based system;

7. **Communication:** digital; smart; full access to internet and smart phones ; free Wi-Fi 24/7 at all places; decline of print media and dominance of electronic media;

8. **Urban Form:** Low density, dispersed, detached; small communities; high degree of self containment; decline of Central Business District; reduced commercial space; higher space standards for homes (need for personal space for all members of family under WFH, Distance learning, Online shopping); Higher share for residential, health and recreational use; No mass moving public transport (no metro, no BRTS, no urban expressways); Personal mode ownership and use discouraged and penalised.

The implications of these factors will reflect on the society and most prominently in the following:

1. **Environment:** Clean, pollution free, healthy; harmonious with nature;

2. **Government:** smart, lean, resilient, agile, responsive; less government, more governance; democratic; high autonomy for third level local authorities; efficient, just, corruption free, humane; keeps pace with change and national priorities.

NEW URBANISATION POLICY

This calls for a New Urbanisation Policy with a two pronged strategy.

The first is to keep the rural surplus labour in the villages; and the second to move people and activities out of big urban centres into a large number of new dispersed community cells .

Indiresan's idea of PURA (provision of urban facilities in rural areas), then much touted, but completely misapplied, needs to be revisited.

A group of villages to be selected to contain about 5000 people and amongst which the supportive urban facilities are distributed and the villages connected amongst themselves so that the people walk /cycle amongst the villages.

Only about 15% of the labour in these villages would be in primary activities and the rest in the secondary, tertiary and the emerging quintenary sectors.

It is forecast that by 2050, the population of India would be 1600 million; urbanisation 50%; Class I towns 1000; Metropolitan Cities 100; and Urban Centres about 10,000. A drastic change in this envisaged Urbanisation pattern would occur. Metropolitan cities will no more be the ideal and agglomeration economics will give way to health and welfare precepts. High Density High Rise concept will be obsolete. All PURAs will be GEMs. Of the six lakh villages, even if half of them are transformed into PURAs, they can contain about 1500 million people !

WHAT ARE THE ENABLING FORCES?

Digital Technology, WfH precept, Online trade and business, Home delivery of services, and such other technologies and practices are potential enablers. The changed parameters indicate that Accessibility is no more the rule, while Connectivity is the mantra. Agglomeration will be frowned upon and movement of people amongst PURAs/ Urban Clusters will be almost nil. Speed (of people movement) will no more be a determining criteria as High Speed Train and Expressway projects will be

abandoned. Capacity of rail and road systems will , in a large part, be available to freight movement. Speed of freight will increase manifold and productivity of regional transport systems will increase resulting in resource optimisation and economic benefits. Inter -PURA/ Urban Centres people movement will be mainly within a radius of 30km or less and will be by small individual vehicles based on solar/hydrogen based energy. Consumption of fossil fuel energy will be minimum, may be even nil! Environment quality will be clean and healthy.

One Village unit will contain about 5000 -6000 people with a core of a few urban facilities. Four to five of such units will form a PURA The urban facilities in each unit will be different necessitating people move amongst units to satisfy their needs The units in a PURA will be interconnected but not merged The movement would be by walking / cycling. Four PURAs will constitute a "Ci" Village with a core Wellness Spot. A group of four to five Ci Villages , forming a "CV" Complex (CVC), would be serviced by special functional complexes of higher specialised facilities including Education, Health, Financial Services, Information Technology, Media etc. Between the two CVCs, will be placed the industrial and Freight Centres.

The above integrated complexes will be strung along the National Transport and Communication Corridors (Road, Rail, Water and Air), linking to ports and other international gateways. Air transport for cargo movement will also get importance. There will be a large number of airports at short intervals.

The PURA based human settlements will account for about 10% of the country's land area. However about 60 to 70 % of this land will not be built up. The housing standards will undergo change such that minimum house size will be about 100sq meter with 50 sq meter of open land for home gardening. The share of settlement land by commercial and other uses will reduce. Urban form will be dispersed and structure diffused. The redesign of urban pattern will rationalise the supply-demand equilibrium of real estate,stabilise land prices and enable access to housing to all.

TASKS BEFORE PLANNERS AND MANAGERS

The tasks are:

1. Full digitisation of latest technology, smart phones and full access to internet.

2. Programmes for distribution of part of the population in urban areas and all of the new increase of population in PURAs.

3. Redesign of the present urban centres into cellular structure.

The tasks call for the 3C process: Comprehensive , Coordinated and Continuous on a long range basis.

## COVID -19: A CAUSE FOR DESPAIR OR HOPE

No doubt C19 has been a cause for disaster and despair. But can it be turned into an opportunity? Depends on the prudence and ingenuity of the people and their leaders. The choice is whether we want to go back to the old order of dire poverty, high inequity, pervasive pollution, crippling disease, and oppressive fear of climate change.

In conclusion, the paradigm shift can occur and as Mohammad Yunus says the profit maximisation economy needs to give way to one driven by social business and environment consciousness. Needless to say, Redesign of our human settlement form and structure is an integral part of such an adventure.

HOUSING AND COMMUNITY PLANNING:
-DESIGN, CONSTRUCTION AND INFRASTRUCTURE

AUTHOR: MR. A.K. JAIN, 2020, DISCOVERY PUBLISHING HOUSE, NEW DELHI, P 306, RS. 3,000/-

Reviewed by Mr. JDS Sodhi (jds@sodhis.org), Fellow-Town Planner & Architect, New Delhi
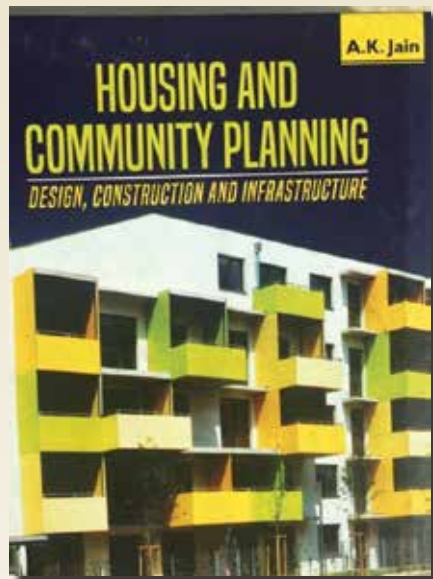
Housing is an expression of human civilisation, community organisation and economic development. The subject of housing remains one of the outstanding ethical, economic, social and physical imperatives. Although, the governments have undertaken various social housing programmes, paradoxically the homeless and slum dwellers continue to grow.

It is often said that the slums and squatter settlements are the solutions rather than the problem. They manifest the housing process of the communities. However, there is a serious lack of shelter for the poor, while the policies disproportionally safeguard the elite segment of the society. As the power comes from the people, housing is as a socio-economic-political issue. The book 'Housing and Community Planning' by A.K. Jain in its 13 chapters provides a comprehensive narrative, which begins with a global overview of the housing. It discusses various housing programmes and draws a distinction between affordable housing and adequate housing. The author gives particular attention to housing issues of special groups such as the elderly, disabled, homeless, migrants and transit workers, students and single women. The issues of social and physical infrastructure, construction technologies and building systems, rental housing, land and regulatory reforms have been dwelled upon .

According to A.K. Jain, the housing should be inclusive, adequate, affordable and sustainable for the disadvantaged and marginalized groups. Housing should have a close linkage with livelihoods and employment, health-care services, schools, childcare centres and other social facilities. It should relate to local culture, climate and sustainability. In-situ upgradation of slums is always preferred due to its linkages with the local communities and jobs, even with limited space. Existing housing, even in poor condition, serves the residents better by social connections and access to employment.

According to the author, housing for the poor has to be gender sensitive, community led, participatory and based on the principle of equitable allocation of resources, space, land and services. To this end, several approaches can be adopted.

Mr. A.K. Jain, an architect-planner with extensive field experience, provides an incisive and practical conversation on housing and community planning. More than 174 visuals and flowing simple language make the book reader friendly. The book is a valuable addition in the literature on the subject and deserves the attention of the organisations, architects, planners, engineers, researchers and all those involved with the field.

CLIMAX CITY: MASTER PLANNING AND THE COMPLEXITY OF URBAN GROWTH

Authors: David Rudlin and Shruti Hemani

June 2019, RIBA Publishing along with URBED, The URBED Trust and The Academy of Urbanism.
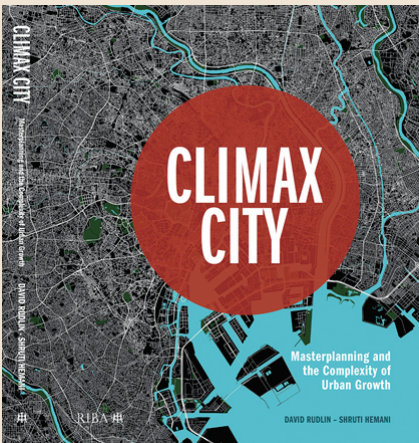
Cities are consequence of a mix of natural and planned development. Urban planners are trying to bring order in the informal and formal urban systems. In the context, this book based on years of international research on review of natural urban growth and master planning is timely, fascinating and most relevant. It is authored by David Rudlin, urban planner based in Manchester, UK and Shruti Hemani, urban designer from Jaipur, India. The book is divided into four parts.

First part of the book explores how all over the world, societies have created the towns and cities without the help of planners. These self-planned settlements are efficient, socially and economically successful and often beautiful. It has extensively studied many urban towns and cities including such as a village in Mali, old neighbourhoods of Ahmedabad (poles), Trafalgar square of Westminster, London, Manchester's Gay village, areas around Imperial Palace of Tokyo, Todi (Italian town), Old Market Place of Nottingham, old town of Amer, traditional neighborhoods of Sanganer. Second part of the book looks at the subtle art of master planning. It analyses development schemes in Brighton, Glasgow, and Belgravia, London. The detailed study of Jaipur city concluded that this city planning was not only concerned with layout and infrastructure but also distribution of the city's people. However, it stopped at the level of a neighbourhood which in turn grew naturally based on social structure, cultural practices, economic and safety needs of the people. There are also discussions on other planned cities like Washington DC, Palmanova, and St. Petersburg. The third part of the book deals with Unruly City. The explosive growth of places like Mumbai and Lagos has not led to innovation but to dysfunctional systems and segregation of rich and poor. One does not know once rapid growth slows down, whether the city will evolve into diverse urban places or continue to be segregated. In contrast to rapidly growing cities, the chapter explains process of development in shrinking cities of Detroit and Manchester. Fourth part of the book is on City and Planner. It describes the birth of modern town planning system as part of social reforms. It has analysed how urban planners have tried to impose order in cities of London, Frankfurt/ Offenback, Liverpool/Anfield, Leeds/Holbeck, Nottingham/ Garden City Estates and South Birmingham.

The book has identified four principles: (a) planning is essential but it is one of the mechanisms that sets parameters of growth; (b) art of master planning should guide/ shape natural growth (and not control); (c) poor quality of urban development not necessarily a result of planning but market forces and political interest play key roles; and (d) the 21st century city is likely to be more urban and compact than its 20th-century development and this will require changes in planning systems.

The final concluding section could have identified the constraints faced by planners while balancing private benefits and social costs. Moreover, it may had given some more detailed guiding principles to practicing planners to improve master planning. Urban planners, practicing professionals, policy makers and academicians must read this book. It is hoped that the book will provide more meaningful and systematic dialogue on urban planning reforms in India.

Reviewed by Prof. Chetan Vaidya (vaidya.chetan@gmail.com),
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